Flyback-Mains Transformers General-Purpose FXC Assemblies

BOOK DC05 1990

Philips Components

PHILIPS

FLYBACK TRANSFORMERS, MAINS TRANSFORMERS AND GENERAL-PURPOSE FXC ASSEMBLIES

SELECTION GUIDE

RECOMMENDED COMBINATIONS FOR COLOUR TELEVISION

90 °

Picture tube	A36EAM00X	A38EAC00X
Screen diagonal	36 cm	38 cm
Degaussing coil		
Sleeved type		
single insulation	3122 138 60361	3122 138 60361
double insulation	3122 138 61181	3122 138 61181
Tape-wound type	3128 138 30521	3128 138 30521
Mains filter choke*	AT4043/90	AT4043/90
Switched mode driver transformer	–	AT4043/29
Synchronous transformer	–	AT4043/76
Switched mode transformer	AT3010/90L or /110LL	–
Driver transformer	AT4043/01	–
Choke	AT4043/11	AT4043/81
Synchronous power pack transformer	–	AT2077/80
Line output transformer	AT2079/10A or AT2079/00	–
Linearity control unit	AT4042/04A or AT4042/91	AT4042/91

110 °

Picture tube	A51EAK01X	A59EAK00X
Screen diagonal	51 cm	59 cm
Degaussing coil		
Sleeved type		
single insulation (IEC)	3122 138 60341	3122 138 60341
double insulation (BSI)	3122 138 61161	3122 138 61161
Tape wound type	3111 108 29361	3111 268 29501
Mains filter choke*	AT4043/55 or /90	AT4043/55 or /90
Switched mode transformer	AT3010/110LL or AT3010/110LS	AT3010/110LL or AT3010LS
Mains transformer	TS561 or AT3006/300	TS561 or AT3006/300
Bridge coil	AT4043/100	AT4043/100
East/West choke	AT4043/60	AT4043/60
Line output transformer	AT2077/81, /83 or AT2078/83	AT2077/81, /83 or AT2078/83
Linearity control unit or linearity corrector	AT4042/08A or AT4042/90	AT4042/08A or AT4042/90

* See mains filter selection guide.

A41EAM00X 41 cm	A48EAC00X 48 cm	A51EAL00X 51 cm
3122 138 60351 3122 138 61171	3122 138 60351 3122 138 61171	
–	–	3111 108 29361
AT4043/90	AT4043/90	AT4043/90
–	–	–
–	–	–
AT3010/90L or /110LL	AT3010/90L or /110LL	AT3010/110LL or AT3006/300 or AT4043/01
–	–	–
–	–	–
–	–	–
AT2079/10A or AT2079/00	AT2079/10A or AT2079/00	AT2078/83 or /20
AT4042/04A or AT4042/91	AT4042/04A or AT4042/91	AT4042/04A or AT4042/91

A66EAK50X 66 cm
3122 138 60381 3122 138 61201
3111 268 20301
AT4043/55 or /90
AT3010/110LL or AT3010/110LS
TS561 or AT3006/300
AT4043/100
AT4043/60
AT2077/81, /83 or AT2078/83
AT4042/08A or AT4042/90

RECOMMENDED COMBINATIONS FOR COLOUR DATA GRAPHIC DISPLAYS

	line frequency			
	16 kHz			24 kHz
	medium resolution	high resolution		high resolution
	14 inch	10 inch	14 inch	14 inch
Colour monitor tube assembly	M34EAQ00X01 M34EAQ10X01	250ARB22N-TC03 (M25-100X/N/4130)	M37-103X/N/1020 M37-108X/N/1020 M37-118X/N/1020	M37-103X/N/1020 M37-108X/N/1020 M37-118X/N/1020
Inductance of line deflection coils	1,9 mH	1,93 mH	1,2 mH	1,2 mH
Line output transformer	AT2077/81	AT2077/81	AT2077/81	AT2077/32
Linearity control unit	AT4042/34	AT4042/04A or AT4042/08A	AT4042/08A	AT4042/08A
Driver transformer	AT4043/01	AT4043/01	AT4043/01	AT4043/01
Shift transformer	–	AT4043/09 or AT4043/09B	AT4043/09 or AT4043/09B	AT4043/09 or AT4043/09B
Dynamic focusing transformer	–	–	–	–
Bridge coil	AT4043/68	AT4043/68	AT4043/68	AT4043/68

line frequency			
32 kHz		45 kHz	64 kHz
high resolution		high resolution	high resolution
14 inch	20 inch	14 inch	20 inch
M37-103X/N/1030 M37-108X/N/1030 M37-118X/N/1030	M51-107X/N/7171	M37-103X/N/1050 M37-108X/N/1050 M37-118X/N/1050	M48JFJ58X32
0,3 mH	0,71 mH	0,14 to 0,16 mH	0,18 mH
AT2077/32	AT2077/32	AT2077/85 or 85A*	AT2077/60 or 85A*
AT4042/32A	AT4042/32A	AT4042/32A	AT4042/32A
AT4043/01	AT4043/01	AT4043/87	2 x AT4043/87 1 x AT4043/01
AT4043/09	AT4043/09	AT4043/09	AT4043/09
–	AT4043/67	–	–
AT4043/68	AT4043/68	AT4043/13	AT4043/08A

* Separate EHT generation.

RECOMMENDED COMBINATIONS FOR MONOCHROME DATA GRAPHIC DISPLAYS

Design designation		C6E, C6E-FS	C9, C9-FS	C64, C64-FS	C64, C64-FS	C64-LITZE
Deflection angle		90	90	110	110	110
Format		landscape	landscape	landscape	portrait	landscape
Tube	9-inch	M24-306	–	–	–	–
	12-inch	M31-340	M31-340	M31-326	–	–
	12-inch FS	M29EAA	M29EAA	–	–	–
	14-inch	M32EAA	M32EAA	–	–	–
	14-inch F	–	M32EBL	–	–	–
	15-inch	–	–	M38-328	M38-328	–
	15-inch FS	–	–	M36EAB	M36EAB	–
	17-inch	–	–	M41EAA	–	M41EAA
	20-inch	–	–	M47EAA	–	M47EAA
Deflection unit	9-inch	480 μH	–	–	–	–
	12-inch	480 μH	330 μH	AT1039/03	–	–
	12-inch FS	480 μH	330 μH	–	–	–
	14-inch	480 μH	330 μH	–	–	–
	14-inch F	–	330 μH	–	–	–
	15-inch	–	–	AT1039/01	AT1039/00	–
	15-inch FS	–	–	AT1039/21	AT1039/20	–
	17-inch	–	–	AT1039/09	–	AT1037/01
	20-inch	–	–	AT1039/09	–	AT1037/01
Line output transformer	1)	AT2140/16*	–	–	–	–
	2)	AT2140/17*	AT2250/14*	AT2077/84**	AT2077/84**	AT2077/84**
Linearity control		AT4042/08A	AT4042/08A	AT4042/33A	AT4042/33A	AT4042/33A
Line driver transformer		–	–	AT4043/64	AT4043/64	AT4043/64
Dynamic focus transformer		–	AT4043/67▲	–	–	–
Shift transformer		–	–	AT4043/29	AT4043/29	AT4043/29
Width control		AT4044/39D	AT4044/39N	AT4044/35	AT4044/35	AT4044/35
Characters per line		40 - 80	80	100 - 132	100 - 132	100 - 132
Supply (V)		12	12	30 - 120	30 - 120	30 - 120
EHT (kV)		12 - 13	13	17 - 20	17	18
Line frequency (kHz)	1)	15 - 22	22 - 30	15 - 50	15 - 70	15 - 70
	2)	22 - 30	30 - 40			

* EHT cable, catalogue number 3122 137 63920, to be ordered separately.
** EHT cable, catalogue number 3122 137 63370, to be ordered separately.
▲ For flat square or flat application.

Design designation		C52	C53, C54	C55	C71, C72
Deflection angle		70°	90°	90°	70°
Format		portrait	landscape, portrait	landscape, portrait	landscape
Tube	7-inch	–	–	–	M17-140
	7-inch	–	–	–	M17-220
	7-inch	–	–	–	M17-230
	15-inch	M38-200	–	–	–
	20-inch	–	227M51	230M51	–
	–	–	–	–	–
	–	–	–	–	–
	–	–	–	–	–
	–	–	–	–	–
Deflection unit	7-inch	–	–	–	AT1071/07
	7-inch	–	–	–	C12705
	15-inch	AT1991	–	–	–
	20-inch	–	AT1991	–	–
	20-inch	–	–	AT1991	–
	–	–	–	–	–
	–	–	–	–	–
	–	–	–	–	–
	–	–	–	–	–
Line output transformer	1)	AT2077/84**	AT2077/84**	AT2077/84**	AT2077/84**
	2)	–	–	–	–
Linearity control		–	AT4042/31L	AT4042/31L	AT4042/08A or/33A
Line driver transformer		AT4043/87	AT4043/64	AT4043/30L	AT4043/64
EHT stabiliser		–	AT4041/52	AT4041/52	–
Shift transformer		–	AT4043/29	–	AT4043/29
Width control		–	–	–	–
Display capability		4 x 10^6 pixels	4 x 10^6 pixels	4 x 10^6 pixels	2 x 10^6 pixels max
Supply (V)		120	100 - 150	100 - 150	20 - 105
EHT (kV)		17	20	20	15
Line frequency (kHz)	1)	125	64 - 125	64 - 125	15 - 70
	2)				

LINEARITY COILS

A wide variety of linearity coils are available, both adjustable and fixed.

Linearity correctors

The linearity correctors are non-adjustable and consist of a base magnet, a core and a coil. The base magnet, made of plastic bonded ferrite, has two mounting pins on a 4e pitch for mounting on a printed-wiring board and a locating cam to ensure mounting with correct polarity. The units use a small area of the printed-wiring board and have a low whistling level. They are designed for use in television sets where no linearity adjustment is required. They are available for both 90° and 110° applications.

Linearity control units

The linearity control units are adjustable and consist of a combination of a core and coil with 1 or 2 fixed magnets and an adjustable magnet. The units are mounted on a plastic frame which has four pins for mounting on a printed-wiring board. Adjustment of the units is possible from both sides of the printed-wiring board (through an access hole on the solder-side). The linearity control units are available with a variety of electrical characteristics, due to the use of different magnets, coils and cores. They are designed for use in monitors, data graphic displays and high-end television sets where accurate linearity adjustment is required.

All the materials used in the coils are UL-listed. The coils may operate at a maximum ambient temperature of 70 °C.

Selection guide for linearity coils

Linearity correctors

type number	deflection current	voltage	frequency
AT4042/30	5.1 A	11.8 V	16 kHz
AT4042/33N	4.5 A	16.3 V	49 kHz
AT4042/34	3.0 A	15.2 V	16 kHz
AT4042/36	5.1 A	10.9 V	16 kHz
AT4042/36FS	1.9 A	17.4 V	16 kHz
AT4042/41FS	2.1 A	12.7 V	16 kHz
AT4042/46S	4.0 A	7.9 V	32 kHz
AT4042/48	2.8 A	4.9 V	16 kHz
AT4042/49	2.6 A	5.6 V	18 kHz
AT4042/51FS	3.2 A	12.9 V	16 kHz
AT4042/90	2.9 A	9.8 V	16 kHz
AT4042/90G	2.7 A	12.8 V	16 kHz
AT4042/91	2.3 A	17.6 V	16 kHz
AT4042/92	5.5 A	14.7 V	16 kHz
AT4042/92B	5.6 A	22.5 V	16 kHz
AT4042/94	5.5 A	14.7 V	16 kHz

Linearity control units

type number	deflection current	voltage	frequency
AT4036/00A	6.0 A	0.95 – 2.15 V	16 kHz
AT4042/04A	2.8 A	13.5 – 20 V	16 kHz
AT4042/08A	6.0 A	15 – 25 V	16 kHz
AT4042/24A	2.6 A	4.3 – 13.6 V	16 kHz
AT4042/26A	5.0 A	9.0 – 16.2 V	16 kHz
AT4042/32B	4.4 A	0.65 – 3.2 V	32 kHz
AT4042/33A	8.8 A	6.0 – 10.0 V	32 kHz
AT4042/35A	6.0 A	8.5 – 12.4 V	16 kHz
AT4042/43A	8.5 A	2.4 – 6.5 V	64 kHz

DEGAUSSING COILS

Sleeved degaussing coils

Screen diagonal of picture tube	14 – 15 inch	16 – 17 inch	20 – 21 inch	24 inch	28 inch
Degaussing system	single coil	single coil	single coil	double coil	double coil
Mounting method	asymmetrical	asymmetrical	asymmetrical	top and bottom	top and bottom
Catalogue number of degaussing coil 3122 138					
single insulation (IEC)	60361	60351	60341	60371	60381
double insulation (BSI)	61181	61171	61161	61191	61201
Diameter	300 mm	330 mm	435 mm	450 & 385 mm	490 & 415 mm
Mains voltage	220 V	220 V	220 V	220 V	220 V
Resistance	21.7 Ω	26.3 Ω	19.5 Ω	24.1 Ω	16.8 Ω
Number of turns	97	107	120	52	52

Tape wrapped degaussing coils

Screen diagonal of picture tube	14 – 15 inch	16 inch	20 – 21 inch	24 inch	28 inch
Degaussing system	single coil	single coil	single coil	single coil	single coil
Mounting method	top and bottom	top and bottom	top and bottom	top and bottom	top and bottom
Catalogue number of degaussing coil	3128 138 30521	8228 001 00291	3111 108 29361	3111 268 29501	3111 268 20301
Diameter	320 mm	345 mm	730 mm	805 mm	929 mm
Mains voltage	220 V	220 V	220 V	220 V	220 V
Resistance	22.5 Ω	23 Ω	28 Ω	24 Ω	24 Ω
Number of turns	100	88	55	55	60

MAINS FILTERS

Mains filters with U15 cores

catalogue number	code	type	I_{max} (mA)	$R_{1-2} = R_{3-4}$ (Ω)	L (mH)
3112 338 30170		CU15d	480	1.9	25
3112 338 30641	AT4043/91A	CU15d	250	5	70
3112 338 31021		CU15d	290	0.08	0.7
3112 338 32181	CU15d/92b	CU15d*	500	2	20
3122 138 52862	AT4043/92	CU15d	500	2	$\geqslant 15$
3112 338 31570		CU15	500	1.4	30
3112 338 32111	CU15d3/4	CU15d3*	600	1.25	47
3112 338 31731	CU15d3/2	CU15d3	600	1.25	47
3112 338 31711	CU15d3/1	CU15d3	900	0.8	27
3112 338 32101	CU15d3/3	CU15d3*	900	0.8	27

* VDE released 0565.2

Mains filters with U20 cores

catalogue number	code	type	I_{max} (mA)	$R_{1-2} = R_{3-4}$ (Ω)	L (mH)
3111 108 33101	AT4043/90	CU20d	1000	1	⩾ 28
3122 138 53861	AT4043/93	CU20d	1500	0.4	⩾ 12
3112 338 30190		CU20d	280	0.21	3.5
3112 338 30220		CU20d	950	0.44	1.7
3112 338 30701	AT4043/08A	CU20d	1260	0.26	0.77
3112 338 30810		CU20d	53	1.7	64
3112 338 30860		CU20d	100	0.48	17.5
3112 338 31521		CU20d**	37	1.17	⩾ 33
3112 338 32431	CU20d3/0	CU20d3	2500	0.06	2.6
3112 338 31901	CU20d3/1	CU20d3	1400	0.45	30
3112 338 32032	AT4043/20	CU20d3	1000	0.65	40
3112 328 32601	CU20d3/2	CU20d3	1400	0.75	47
3112 338 32440	CU20d3/4	CU20d3*	2500	0.06	2.6
3112 338 32450	CU20d3/5	CU20d3*	1400	0.45	30
3112 338 32460	CU20d3/6	CU20d3*	1000	0.65	40
3112 338 32470	CU20d3/7	CU20d3*	1400	0.75	47
3112 338 32520		CU20d3	2000	0.145	11

* VDE released 0565.2
** With special cover.

MAINS AND SWITCHED-MODE TRANSFORMERS

output power (VA)	mains transformer	switched-mode transformer	aluminium foil transformer	core	in accordance with:
5	TS561 TS561/3	CE134h, v (note 1) CE135 (note 1) CE136 (note 1) CE137h (note 1)			
8	TS519	CU20c2			
12	TS531				
18	TS660	CU25c2 CU25 (note 1)			
25	TS522 TS670				
35	TS680	CU250			
45	TS685	CE361	AT3010/45	U 28-15	IEC65 14-3-2b
50	TS523	CE410 CE412v CE411 CE414v (note 2) CE416v CE418v CU30 (note 1)			
60	TS524		AT3010/40 AT3010/60 AT3010/90L	U 28-20	IEC65
70			AT3010/50	ETD 39	IEC65-380-950
100	TS525	CE420 CE422v CU20v			
120	TS526		AT3010/110LL AT3010/110LS	ETD 44	IEC65
140		CE440			
180		CE465			

Notes

1. Without mains protection.
2. UL version.

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CONVERSION LIST

INDEX OF TYPE NUMBERS

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AT4043/87	line driver transformer	3122 138 26063	397
AT4043/89	line driver transformer	3122 138 90072	399
AT4043/90	mains filter choke	3122 108 33100	401
AT4043/91A	mains filter choke	3112 338 30641	403
AT4043/92	mains filter choke	3122 138 52862	405
AT4043/93	mains filter choke	3122 138 53861	407
AT4043/96	filter	3112 338 30521	409
AT4043/100	bridge coil	3112 338 30831	411
AT4044/35	amplitude control unit	3122 138 56441	251
AT4044/39D	amplitude control unit	3122 138 57021	255
AT4044/39N	amplitude control unit	3122 138 59531	259
CE134h	switched-mode transformer	3112 338 30910	413
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CE136h	switched-mode transformer	3112 338 31330	421
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CE412v	switched-mode transformer	3112 338 30940	433
CE414v	switched-mode transformer	3112 338 32170	435
CE416v	switched-mode transformer	8212 840 60680	437
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CI15	bridge coil	*	457
CI20	bridge coil	*	459
CU10	line driver transformer/bridge coil/choke	*	461
CU11b2	filter	*	463
CU15	line driver transformer	*	465
CU150	current sensing transformer	*	497
CU15b2	filter	3112 338 30721	469
CU15d	mains filter choke	*	471
CU15d/92b VDE	mains filter	3112 338 32181	473
CU15d3/1	mains filter	3112 338 31711	475
CU15d3/2	mains filter	3112 338 31731	475
CU15d3/3 VDE	mains filter choke	3112 338 32101	477
CU15d3/4 VDE	mains filter choke	3112 338 32111	477
CU20	line driver transformer	*	479
CU20c2	driver transformer	*	481
CU20d	mains filter choke	*	483

* Various versions.

type number	description	catalogue number	page
CU20d3/0	mains filter choke	3112 338 32431	485
CU20d3/1	mains filter choke	3112 338 31901	485
CU20d3/2	mains filter choke	3112 338 32601	485
CU20d3/4	mains filter choke	3112 338 32441	487
CU20d3/5	mains filter choke	3112 338 32451	487
CU20d3/6	mains filter choke	3112 338 32461	487
CU20d3/7	mains filter choke	3112 338 32471	487
CU20v	switched-mode transformer	3112 338 32230	489
CU25	choke	*	491
CU250	switched-mode transformer	3112 338 32560	499
CU25c2	switched-mode transformer	3112 338 30120	493
CU30	choke	3112 338 30150	495
DL270	luminance delay line	3122 138 99422	265
DL330	luminance delay line	3122 138 96044	269
DL390	luminance delay line	3122 138 50452	273
DL470	luminance delay line	3122 138 99472	277
TS255	mains transformer	3112 348 30840	503
TS382	mains transformer	3112 348 31190	505
TS519	mains transformer	*	507
TS521	mains transformer	*	511
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* Various versions.

CONVERSION LIST

Conversion of catalogue number-to-type number

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3111 108 29361	degaussing coil		283
33101	mains filter choke	AT4043/90	401
34391	switched-mode transformer	AT3010/40	309
35401	line output transformer	AT2140/00A	169
35501	switched-mode transformer	AT3010/90L	325
35571	line output transformer	AT2140/16	173
35631	line output transformer	AT2140/17	173
35691	switched-mode transformer	AT3010/110LS	335
3111 268 20301	degaussing coil		285
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35331	switched-mode transformer	AT3010/60	321
3112 318 35730	mains transformer	TS521	511
36510	mains transformer	TS561	535
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37490	mains transformer	TS521	511
37600	mains transformer	TS525	527
38000	mains transformer	TS561	535
38010	mains transformer	TS561	535
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38710	mains transformer	TS525	527
38820	mains transformer	TS524	523
39010	mains transformer	TS524	523
39030	mains transformer	TS525	527
39190	mains transformer	TS521	511
39321	mains transformer	TS561/3	539
39410	mains transformer	TS561	535
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39470	mains transformer	TS531	531
39480	mains transformer	TS523	519
39560	mains transformer	TS522	515
39640	mains transformer	TS525	527
39700	mains transformer	TS523	519
39873	mains transformer	TS561/3	539
39990	mains transformer	TS523	519

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3122 328 32601	mains filter choke	CU20d3/2	485
3112 338 30070	line driver transformer/bridge coil/choke	CU10	461
30120	switched-mode transformer	CU25c2	493
30141	line driver transformer	AT4043/01	339
30150	choke	CU30	495
30162	line driver transformer	CU20	479
30070	mains filter choke	CU15d	471
30190	mains filter choke	CU20d	483
30200	bridge coil	CI15	457
30211	line driver transformer	CU20	479
30220	mains filter choke	CU20d	483
30231	universal horizontal shift transformer	AT4043/09	345
30320	input choke	AT4043/16A	351
30380	line driver transformer	CU20	479
30390	line driver transformer/bridge coil/choke	CU10	461
30420	line driver transformer	CU15	465
30440	switched-mode transformer	CE134v	415
30460	bridge coil	CI10	453
30521	filter	AT4043/96	409
30551	switched-mode transformer	CE411	431
30620	switched-mode transformer	CE420	441
30641	mains filter choke	AT4043/91A	403
30650	bridge coil	CI15	457
30641	mains filter choke	AT4043/91A	403
30701	east/west choke	AT4043/08A	341
30721	filter	CU15b2	469
30740	switched-mode transformer	CE440	447
30781	driver transformer	CU20c2	481
30790	bridge coil	CI20	459
30800	switched-mode transformer	CE137h	423
30810	mains filter choke	CU20d	483
30820	line driver transformer	CU15	465
30831	bridge coil	AT4043/100	411
30841	line driver transformer	CU15	465
30860	mains filter choke	CU20d	483
30880	line driver transformer/bridge coil/choke	CU10	461
30910	switched-mode transformer	CE134h	413
30920	bridge coil	CI20	459
30940	switched-mode transformer	CE412v	433
30971	switched-mode transformer	CE411	431
30980	line driver transformer	CU15	465
31001	bridge coil	AT4043/13	349

catalogue number	description	type number	page
3112 338 31011	pulse transformer	CI10d2	455
31020	mains filter choke	CU15d	471
31030	line driver transformer/bridge coil/choke	CU10	461
31040	switched-mode transformer	CE420	441
31070	switched-mode transformer	CE410	429
31090	line driver transformer/bridge coil/choke	CU10	461
31120	line driver transformer	CU15	465
31150	switched-mode transformer	CE410	429
31193	pulse transformer	CI10d2	455
31330	switched-mode transformer	CE136h	421
31581	horizontal shift transformer	AT4043/09B	347
31711	mains filter	CU15d3/1	475
31731	mains filter	CU15d3/2	475
31761	line choke	AT4043/65B	381
31871	driver transformer	AT4043/30L	357
31901	mains filter choke	CU20d3/1	485
31970	switched-mode transformer	CE422v	443
32021	E/W balance coil	AT4043/78	397
32032	mains filter choke	AT4043/20	485
32101	mains filter choke	CU15d3/3 VDE	477
32111	mains filter choke	CU15d3/4 VDE	477
32170	switched-mode transformer	CE414v	435
32181	mains filter	CU15d/92b VDE	473
32210	switched-mode transformer	CE465	449
32220	switched-mode transformer	CE361	425
32230	switched-mode transformer	CU20v	489
32251	auxiliary transformer	AT4043/32B	359
32260	switched-mode transformer	CE418v	439
32431	mains filter choke	CU20d3/0	485
32441	mains filter choke	CU20d3/4	487
32451	mains filter choke	CU20d3/5	487
32461	mains filter choke	CU20d3/6	487
32471	mains filter choke	CU20d3/7	487
32560	switched-mode transformer	CU250	499
32591	switched-mode transformer	CE136ds	417
32601	switched-mode transformer	CE136ds	417
3112 348 30000	mains transformer	TS523	519
30050	mains transformer	TS561/3	539
30110	mains transformer	TS519	507
30190	mains transformer	TS531	531
30330	mains transformer	TS519	507

catalogue number	description	type number	page
3112 348 30340	mains transformer	TS522	515
30412	mains transformer	TS531	531
30430	mains transformer	TS531	531
30560	mains transformer	TS660	543
30630	mains transformer	TS685	555
30660	mains transformer	TS670	547
30710	mains transformer	TS680	551
30840	mains transformer	TS255	503
31190	mains transformer	TS382	505
3122 137 21182	CRF block	TZ5395	187
3122 138 26063	line driver transformer	AT4043/87	397
28870	bridge coil	CI20	459
29361	bridge coil	CI15	457
29390	bridge coil	CI15	457
36563	diode-split-box line output transformer	AT2077/80	77
36575	diode-split-box line output transformer	AT2077/81	83
36661	universal diode-split line output transformer	AT2076/84	31
36871	diode-split-box line output transformer	AT2077/85	107
37013	line output transformer	AT2079/09	149
37032	diode-split-box line output transformer	AT2079/00	143
37051	diode-split-box line output transformer	AT2077/88	123
37124	line output transformer	AT2250/14	138
37363	diode-split-box line output transformer	AT2077/83	93
37383	line output transformer	AT2250/12	177
37392	diode-split-box line output transformer	AT2077/32	43
37402	diode-split-box line output transformer	AT2077/85A	117
37451	diode-split-box line output transformer	AT2077/34	59
37502	universal diode-split line output transformer	AT2077/84	99
37572	diode-split-box line output transformer	AT2077/33	53
37581	asynchronous power pack transformer	AT2077/60	71
37651	diode-split-box line output transformer	AT2078/20	131
37701	diode-split-box line output transformer	AT2077/19	37
37711	diode-split-box line output transformer	AT2079/12ZP	163
37751	diode-split-box line output transformer	AT2078/83	137
37831	line output transformer	AT2079/10A	155
37881	diode-split-box line output transformer	AT2077/44	65
50001	input choke	AT4043/81	393
50050	choke	CU25	491
50241	driver transformer	AT4043/82	395
50452	luminance delay line	DL390	273
51020	filter	CU11b2	463
52560	mains filter choke	CU15d	471

catalogue number	description	type number	page
3122 138 52862	mains filter choke	AT4043/92	405
53841	linearity corrector	AT4042/36	199
53861	mains filter choke	AT4043/93	407
54000	linearity corrector	AT4042/90	215
55261	degaussing coil		289
55311	linearity corrector	AT4042/34	197
55921	degaussing coil		291
56331	linearity corrector	AT4042/51FS	213
56441	amplitude control unit	AT4044/35	251
56491	linearity control unit	AT4042/08A	233
56661	linearity corrector	AT4042/91	219
57021	amplitude control unit	AT4044/39D	225
57031	linearity control unit	AT4036/00A	229
57051	linearity control unit	AT4042/04A	231
57061	linearity control unit	AT4042/24A	235
57071	linearity control unit	AT4042/26A	237
57091	linearity control unit	AT4042/33A	241
57761	linearity corrector	AT4042/36FS	201
58191	linearity control unit	AT4042/43A	247
58281	linearity corrector	AT4042/41FS	203
58621	linearity corrector	AT4042/92	221
59101	linearity control unit	AT4042/35A	245
59251	linearity corrector	AT4042/46S	207
59352	linearity corrector	AT4042/48	209
59531	amplitude control unit	AT4044/39N	259
59681	linearity corrector	AT4042/33N	243
60142	linearity control unit	AT4042/32B	239
60211	linearity corrector	AT4042/94	225
60341	degaussing coil		293
60351	degaussing coil		295
60361	degaussing coil		297
60371	degaussing coil		299
60381	degaussing coil		301
60541	linearity corrector	AT4042/92B	223
61161	degaussing coil		293
61171	degaussing coil		295
61181	degaussing coil		297
61191	degaussing coil		299
61201	degaussing coil		301
61531	linearity corrector	AT4042/90G	217
61541	linearity corrector	AT4042/49	211
71332	bridge coil	CI10	453
71801	bridge coil	AT4043/69	389

catalogue number	description	type number	page
3122 138 73742	line driver/DC shift transformer	AT4043/29	355
74290	bridge coil	CI10	453
74310	bridge coil	CI10	453
90072	line driver transformer	AT4043/89	399
90291	switched-mode driver transformer	AT4043/45	361
90301	current sensing transformer	AT4043/46	205
90581	thyristor trigger and transistor driver transformer	AT4043/48	209
93241	mains filter choke	AT4043/55	375
93391	current sensing transformer	AT4043/47	365
93401	thyristor trigger and transistor driver transformer	AT4043/63	369
93521	line driver transformer	CU15	465
93871	east/west injection coil	AT4043/60	377
94810	bridge coil	CI20	459
95451	line driver transformer	AT4043/64	379
96044	luminance delay line	DL330	269
96551	bridge coil	AT4043/68	387
96571	dynamic focusing transformer	AT4043/67	383
97752	linearity corrector	AT4042/30	193
98992	linearity corrector	AT4042/46	205
99422	luminance delay line	DL270	265
99460	filter	CU11b2	463
99472	luminance delay line	DL470	277
3128 138 30521	degaussing coil		303
8212 840 60680	switched-mode transformer	CE416v	437
8222 279 52121	line driver transformer	AT4043/64	379
8228 001 00291	degaussing coil		305

LINE OUTPUT TRANSFORMERS

Replaced by AT2077/84

UNIVERSAL DIODE-SPLIT LINE OUTPUT TRANSFORMER

- For monochrome Data Graphic Displays
- Three-layer EHT coil
- Aluminium foil primary winding
- Piggy-back type

QUICK REFERENCE DATA

For transistor line output stages, deflection angle 110°

	landscape	portrait
I_{eht}	max. 0,5 mA	
EHT at I_B = 0 mA	17 kV	
$R_{i(eht)}$	1.2 MΩ	
Flyback time	4 to 9 μs	3 to 8 μs
Line scan frequency range	15 to 50 kHz	15 to 70 kHz
Primary voltages	+ 94 $V_{(p-p)}$, + 188 $V_{(p-p)}$, + 540 $V_{(p-p)}$, + 730 $V_{(p-p)}$, + 990 $V_{(p-p)}$	
Auxiliary voltages	+ 85 V_p, −85 V_p, + 24 V_p, + 55 V_p, −150 V_p, heater voltage	

APPLICATION

This transformer has been designed to provide the required scanning amplitude and EHT for 110° monochrome data graphic display tubes, at line scan frequencies of 15 to 70 kHz in both landscape and portrait scan mode. A choice can be made from different flyback times.
The transformer is intended for use in conjunction with:
- deflection unit AT1039 series at line scan frequencies of 15 to 70 kHz (portrait scan mode) or of 15 to 50 kHz (landscape scan mode);
- line output transistor BUW12A;
- linearity control unit AT4042/08A or AT4042/33A
- screened EHT cable, length 1 m; catalogue number 3122 137 63370.

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube U-cores, screwed together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The transformer is moulded in flame retarding polyester, meeting the self-extinguishing requirements of IEC 65, para. 14.4 and UL492, para. 280-SE1. The transformer has 2 M3 screw-studs for mounting. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 3).

MECHANICAL DATA

Dimensions in mm

Outlines

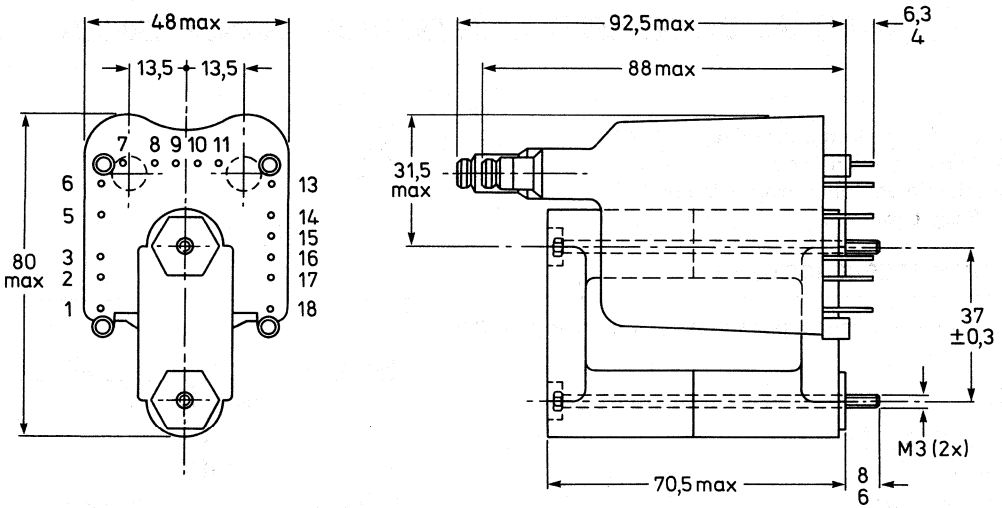


Fig. 1 Line output transformer AT2076/84.

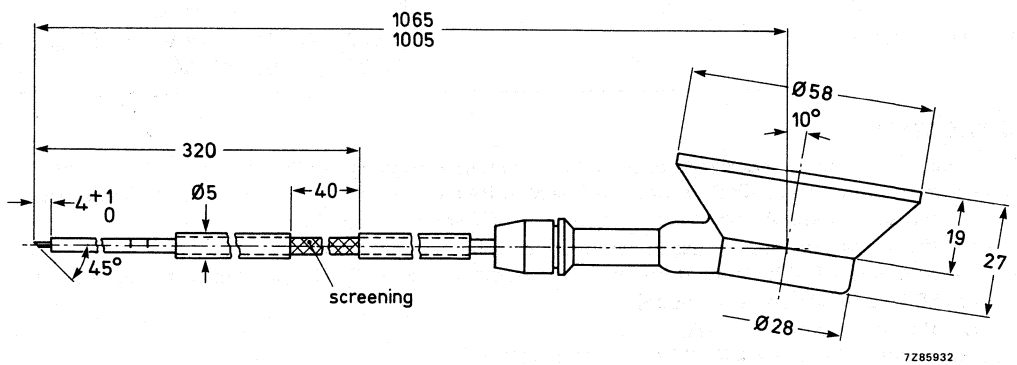


Fig. 2 EHT cable 3122 137 63370.

Mass approx. 325 g

Solderability in accordance with IEC 68-2-20, test Ta.

Mounting

The transformer may be mounted on either a printed-wiring board or, under certain conditions, on a metal chassis. Two securing studs (M3) are provided. For mounting on a printed-wiring board a washer of 20 mm outer diameter has to be used; the tightening torque on the printed-wiring board is 500 + 100 mNm. The fit of the connecting pins and the studs in a printed-wiring grid with a pitch of 2,54 mm is illustrated in Fig. 3.

Whether the transformer is board or chassis mounted, **the core must be earthed.**

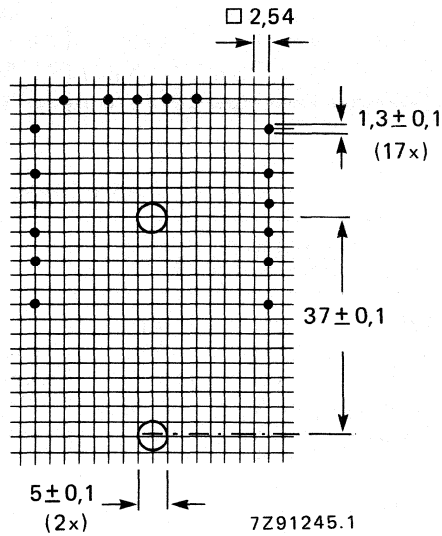


Fig. 3 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The following minimum distances between the transformer and neighbouring conductive flat surfaces must be maintained:

From the EHT coil radially, 10 mm
From the EHT coil axially, 10 mm

Sharp edges of conductive parts must have greater distances than given above.

The transformer, leads and components carrying high voltage pulses, should be kept free from metal particles, solder drops etc.

ELECTRICAL DATA (see also Figs 4 and 5)

Landscape scan mode

Line scan frequency range 15 to 50 kHz

	line deflection coils parallel connected			line deflection coils series connected		
Taps of primary winding to be used	13/17	14/17	15/17	15/18	13/17	14/17
Flyback time	4.0 µs	4.8 µs	5.9 µs	7.0 µs	8.0 µs	9.0 µs
Flyback capacitor (C1)	7.5 nF	10 nF	18 nF	7.5 nF	10 nF	15 nF
Deflection current	8.4 $A_{(p-p)}$	8.4 $A_{(p-p)}$	8.4 $A_{(p-p)}$	4.2 $A_{(p-p)}$	4.2 $A_{(p-p)}$	4.2 $A_{(p-p)}$
Deflection voltage	730 $V_{(p-p)}$	630 $V_{(p-p)}$	540 $V_{(p-p)}$	800 $V_{(p-p)}$	730 $V_{(p-p)}$	630 $V_{(p-p)}$

Portrait scan mode

Line scan frequency range 15 to 70 kHz

	line deflection coils parallel connected			line deflection coils series connected		
Taps of primary winding to be used	13/17	14/17	15/17	15/18	13/17	14/17
Flyback time	3.1 µs	4.2 µs	4.9 µs	5.9 µs	6.6 µs	7.9 µs
Flyback capacitor (C1)	3.3 nF	6.8 nF	10 nF	4.7 nF	5.6 nF	10 nF
Deflection current	6.2 $A_{(p-p)}$	6.2 $A_{(p-p)}$	6.2 $A_{(p-p)}$	3.1 $A_{(p-p)}$	3.1 $A_{(p-p)}$	3.1 $A_{(p-p)}$
Deflection voltage	730 $V_{(p-p)}$	630 $V_{(p-p)}$	540 $V_{(p-p)}$	800 $V_{(p-p)}$	730 $V_{(p-p)}$	630 $V_{(p-p)}$

Primary voltages (peak-to-peak values)

Pins 13/14	+ 94 V
Pins 13/15	+ 188 V
Pins 13/16	+ 540 V
Pins 13/17	+ 730 V
Pins 13/18	+ 990 V

Auxiliary voltages (peak values)

Pins 5/8	heater voltage
Pin 1	+ 55 V (video supply)
Pin 2	− 150 V (V_{g1})
Pin 3	+ 24 V (field time base)
Pin 10	− 85 V
Pin 11	+ 85 V

V_{g2}-circuit supply should be taken from pin 17 or 18 by means of peak rectification.

Note: For detailed information see Technical Publication 115.

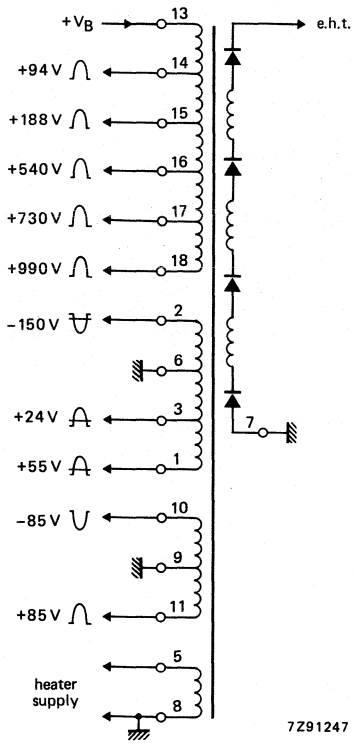

+V_B
13
e.h.t.
+94 V
14
+188 V
15
+540 V
16
+730 V
17
+990 V
18
−150 V
2
6
+24 V
3
7
+55 V
1
−85 V
10
9
+85 V
11
5
heater supply
8
7Z91247

Fig. 4.

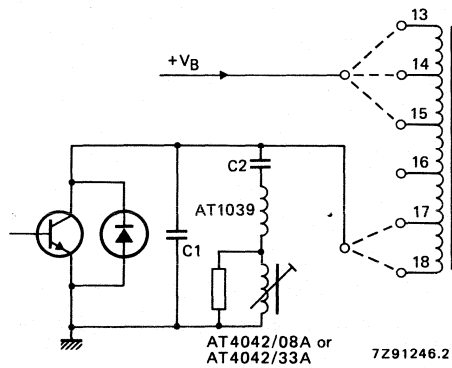

13
+V_B
14
15
C2
16
AT1039
17
C1
18
AT4042/08A or AT4042/33A
7Z91246.2

Fig. 5.

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For colour television sets.

QUICK REFERENCE DATA

For transistor line output stages.

I_{EHT}	1.2 mA
EHT	25.5 kV
$R_{I(EHT)}$	$\leqslant$ 2.0 MΩ
I_{p-p} deflection	3.05 A
Supply voltage (V_B)	115 V
Supply current at I_{EHT} = 1.2 mA	620 mA
Focusing voltage	8.6 kV
Focusing current	350 μA
Auxiliary voltages	8.3 V (RMS) (heater supply) + 186 V (video supply) + 24.8 V (frame) + 12.3 V (small signal)

APPLICATION

This transformer has been designed to provide the required scanning amplitude for colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA).

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The primary and secondary windings, together with the EHT diodes are moulded together in a box. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be mounted on a printed-wiring board. The EHT and focus contacts are fitted with plugs.

MECHANICAL DATA

Dimensions in mm

Outlines

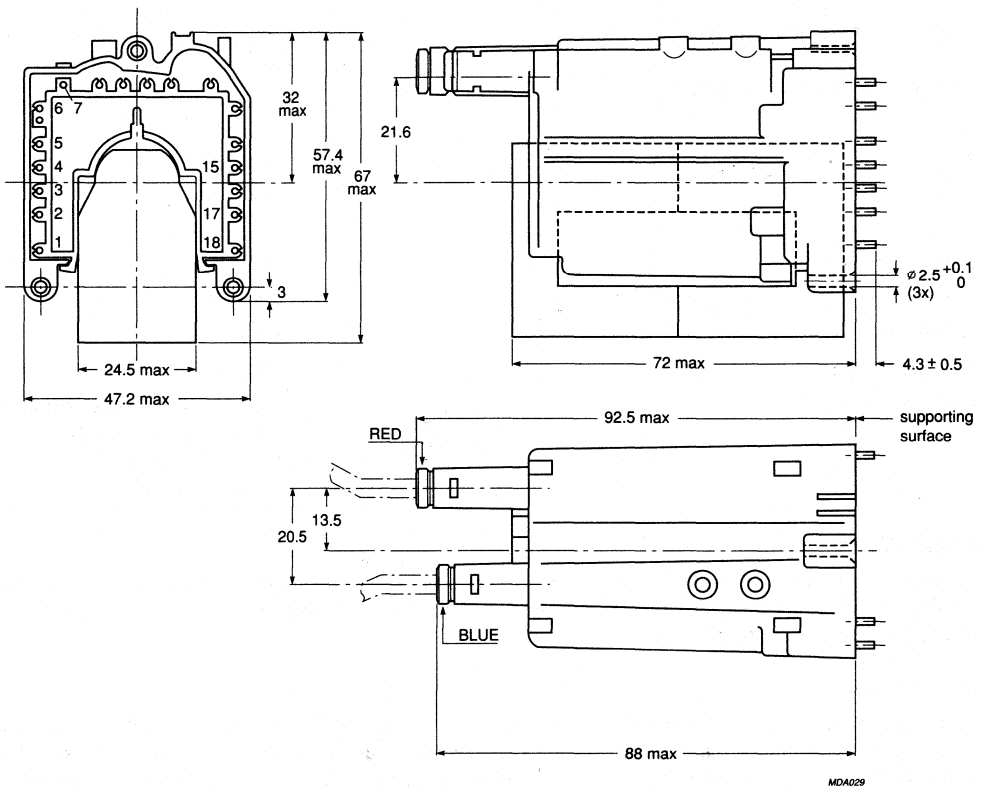


Fig.1 AT2077/19 line output transformer.

Mass : approx. 365 grams.

Solderability: in accordance with IEC 68, test Ta.

Packing : 27 transformers per box.

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

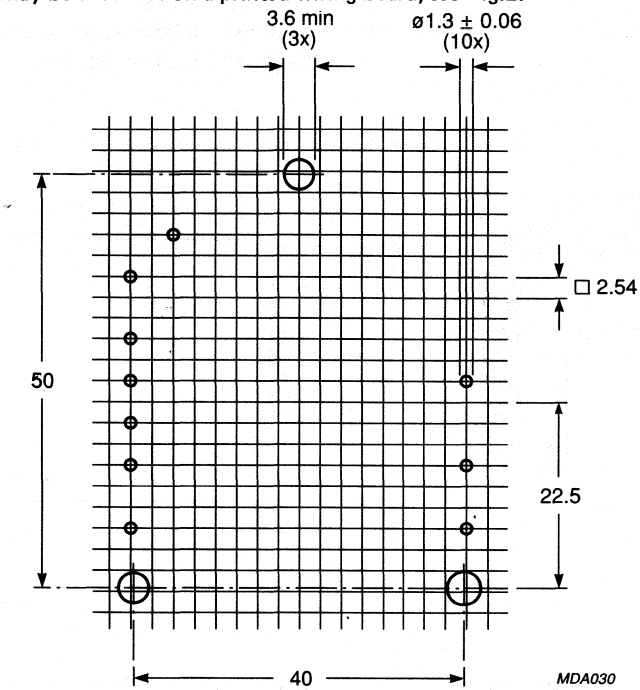


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 65 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

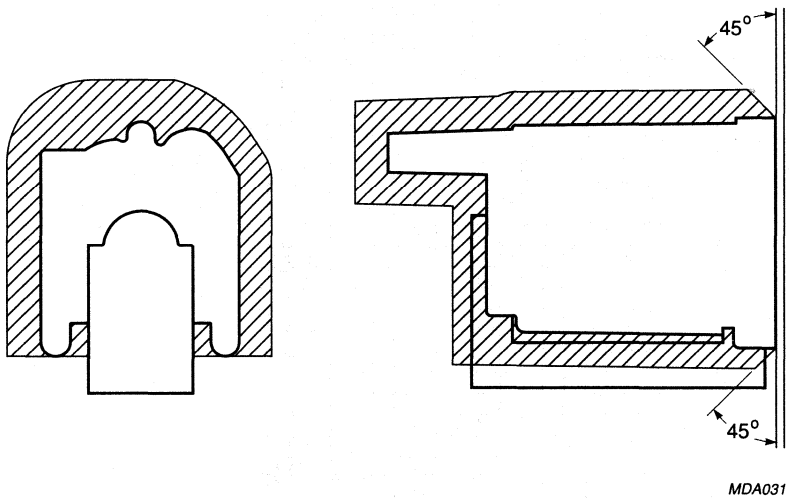
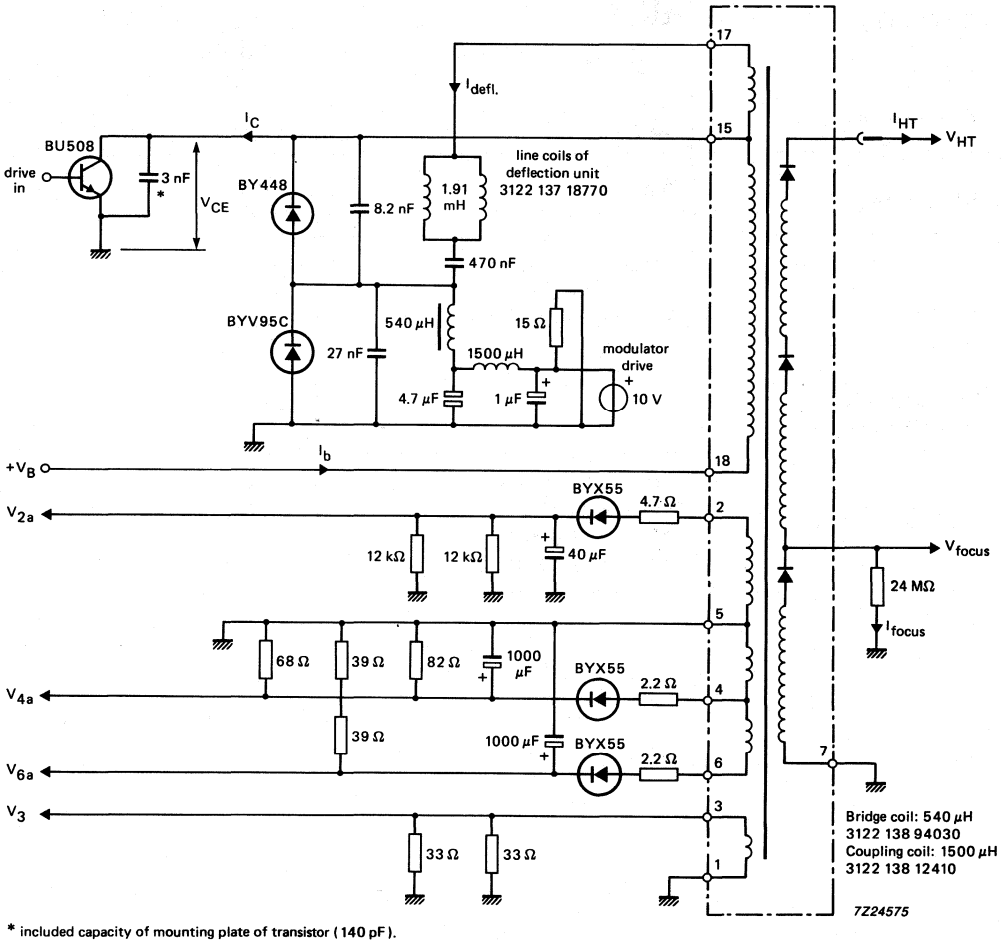


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	1.2 mA 25.5 kV $\leqslant$ 2.0 MΩ
Power supply	V_B I_B	115 V 620 mA
Output transistor	V_{ce} I_c	960 V 3.0 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	3.05 A 11.2 μs 15625 Hz 1.91 mH
Focusing voltage Focusing current		8.6 kV 350 μA
Auxiliary voltages	pin 3, V_{FF} (RMS) pin 2, V_{2a} (DC) pin 4, V_{4a} (DC) pin 6, V_{6a} (DC)	8.3 V +186 V 12.3 V 24.8 V



* included capacity of mounting plate of transistor (140 pF).

Fig.4 Application circuit.

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For 90° and 110° colour monitors and HDTV with separate power supply
- Three-layer EHT coil
- Aluminium foil primary winding
- Incorporated potentiometers for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages; 90° and 110° deflection angle	
I_{eht}	0 mA
EHT	25 kV
$R_{i(eht)}$	$\leqslant$ 1.8 MΩ
I_{p-p} deflection (6% overscan)	6.2 A
Supply voltage V_B	148 V
Voltages of primary windings (peak-to-peak values)	+ 60 V, + 120 V, + 735 V, + 900 V, + 1065 V, + 1230 V
Voltages of auxiliary windings	+ 8 V, + 17 V, + 30 V
DC scan	V_b + 20 V
DC flyback	V_b + 30 V
heater voltage (RMS value)	10.4 V

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° and 110° colour picture tubes in transistor equipped monitors and HDTV with horizontal scanning frequencies from 16 - 35 kHz.

It is intended for use in conjunction with:
- linearity corrector AT4042/33A
- screened EHT cable, length 1 m, catalogue number 3122 137 64640
- focus cable, length 31 cm, catalogue number 3122 131 00732
- V_{g2} cable, length 30 cm, catalogue number 3122 137 64570

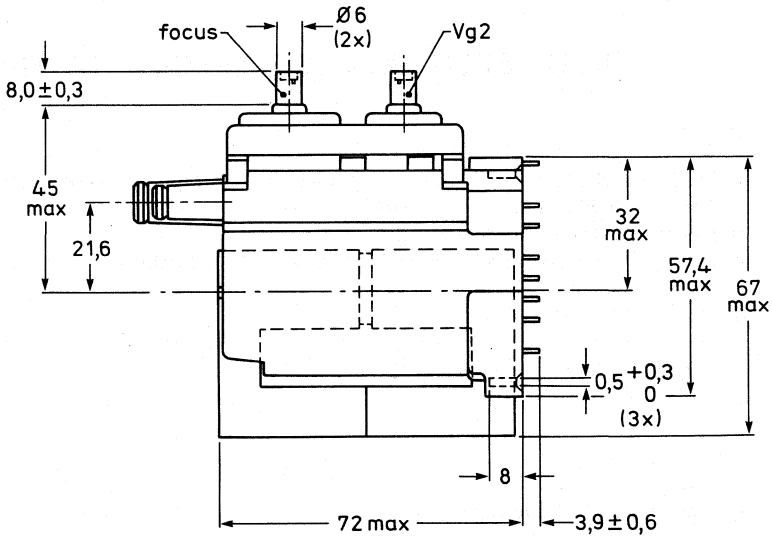
DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. The transformer case has 3 holes that enables fixing to a printed-wiring board with self-tapping screws. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 4).

MECHANICAL DATA

Dimensions in mm

Outlines



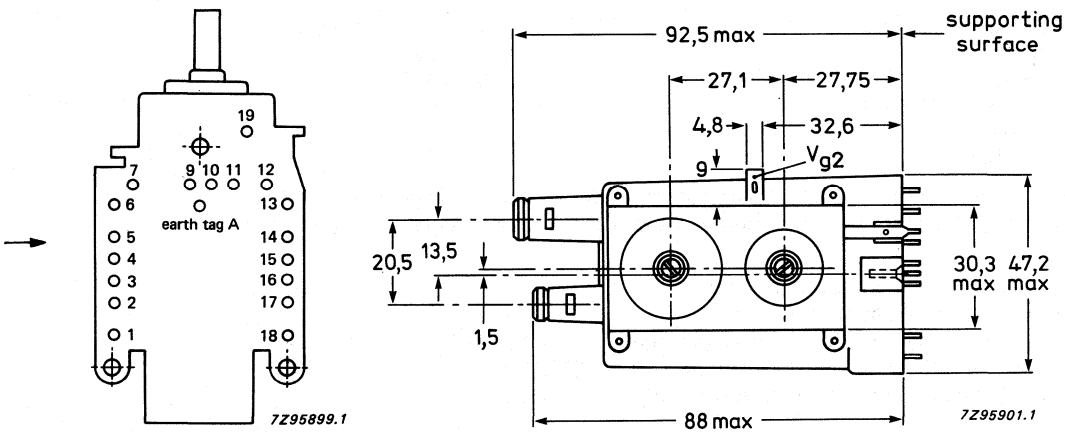


Fig. 1 Line output transformer AT2077/32.

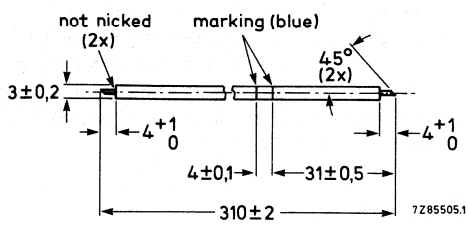


Fig. 2 Focus cable 3122 131 00732.

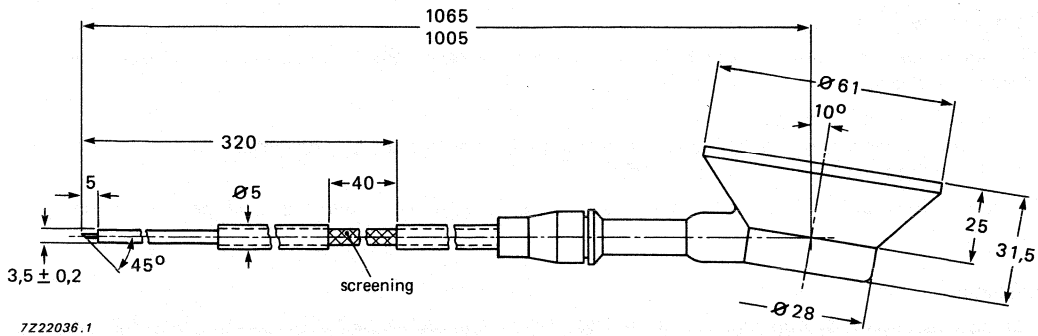


Fig. 3 EHT cable 3122 137 64640.

Mass approx. 375 g

Solderability in accordance with IEC 68, test T

Packing 27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2.54 mm is illustrated in Fig. 4. The transformer core must be earthed via the earth pin (see Fig. 1).

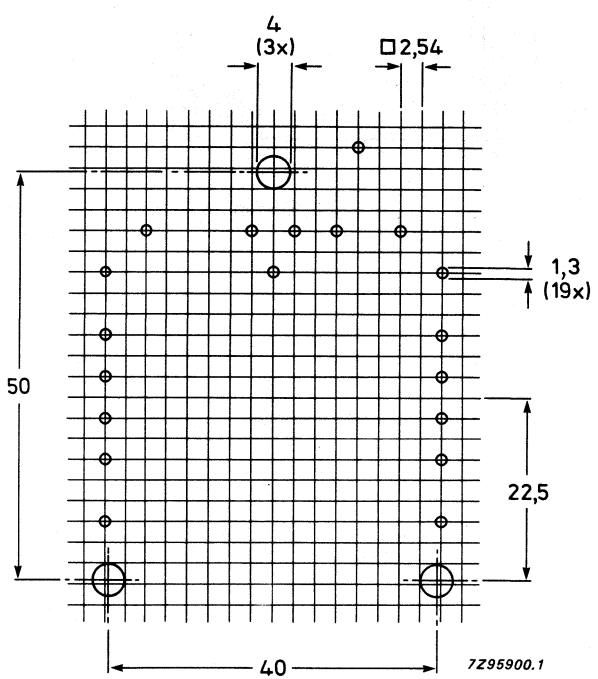


Fig. 4 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The hatched area shown in Fig. 5 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses, should be free from metal particles, solder drops, etc.

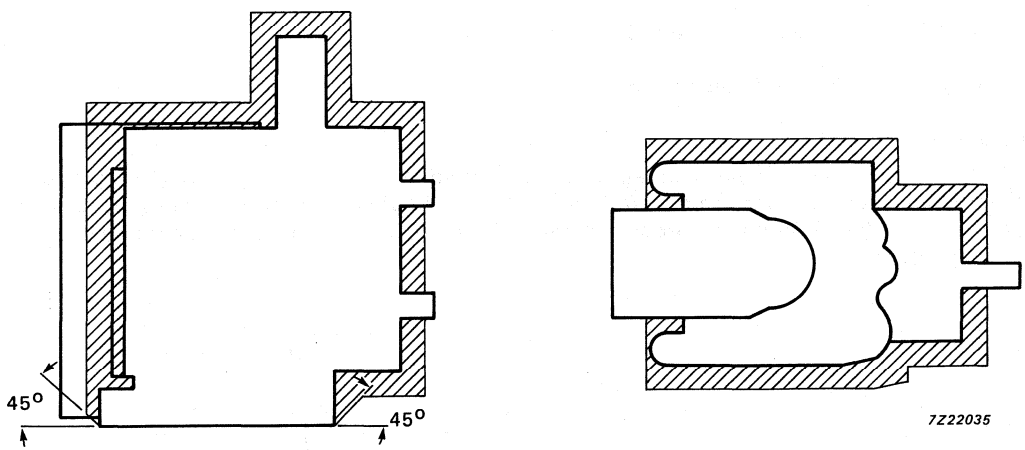
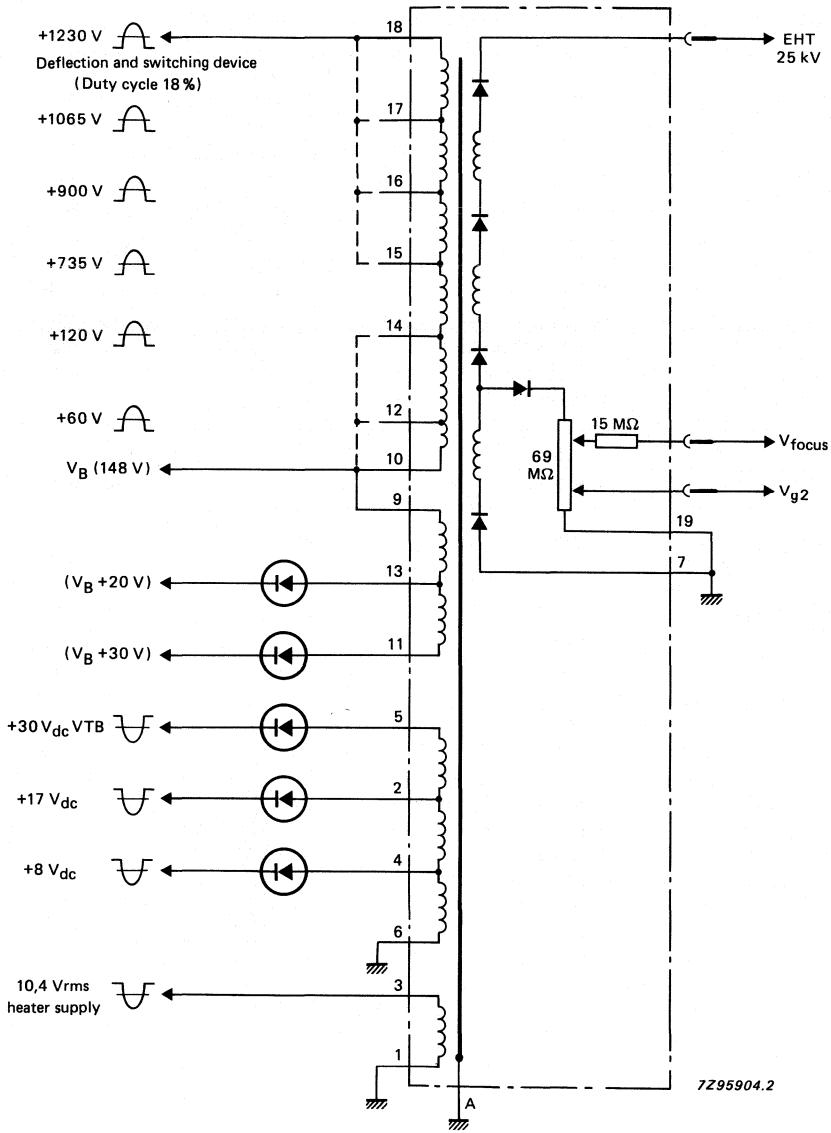


Fig. 5 Distances between EHT coil and conductive parts.



— — — alternative connections for supply and switching device.

Range of supply voltage 70 - 150 V in steps of 7 to 20 volts.

Frequency range 16 - 35 kHz (extendable if tuning influence of LOPT on diode-modulator circuit is neglected).

Fig. 6 Primary and auxilliary voltages.

ELECTRICAL DATA; for use with 110° colour picture tubes, see Fig. 7

EHT supply	I_{eht}	mA	1.6
	EHT	kV	25
	$R_{i(eht)}$	MΩ	1
Power supply	V_B	V	148
	I_B	mA	850
Output transistor	V_{CEM}	V	1250
	$+ I_{CEM}$	A	4.5
Deflection	deflection current	$A_{(p-p)}$	6.2
	flyback time	μs	5.1
	overscan	%	6
Focusing voltage	min.	kV	0.22 x EHT
	max.	kV	0.33 x EHT
Grid 2 voltage (V_{g2})	min.	V	0.011 x EHT
	max.	V	0.033 x EHT
Primary voltages	pin 12	$V_{(p-p)}$	+ 60
	pin 14	$V_{(p-p)}$	+ 120
	pin 15	$V_{(p-p)}$	+ 735
	pin 16	$V_{(p-p)}$	+ 900
	pin 17	$V_{(p-p)}$	+ 1065
	pin 18	$V_{(p-p)}$	+ 1230
Auxiliary voltages (after rectification)	heater voltage (V_{1-3})	$V_{(RMS)}$	10.4
	pin 2	$V_{(DC)}$	+ 17
	pin 4	$V_{(DC)}$	+ 8
	pin 5	$V_{(DC)}$	+ 30
	pin 9	$V_{(DC)}$	+ 185

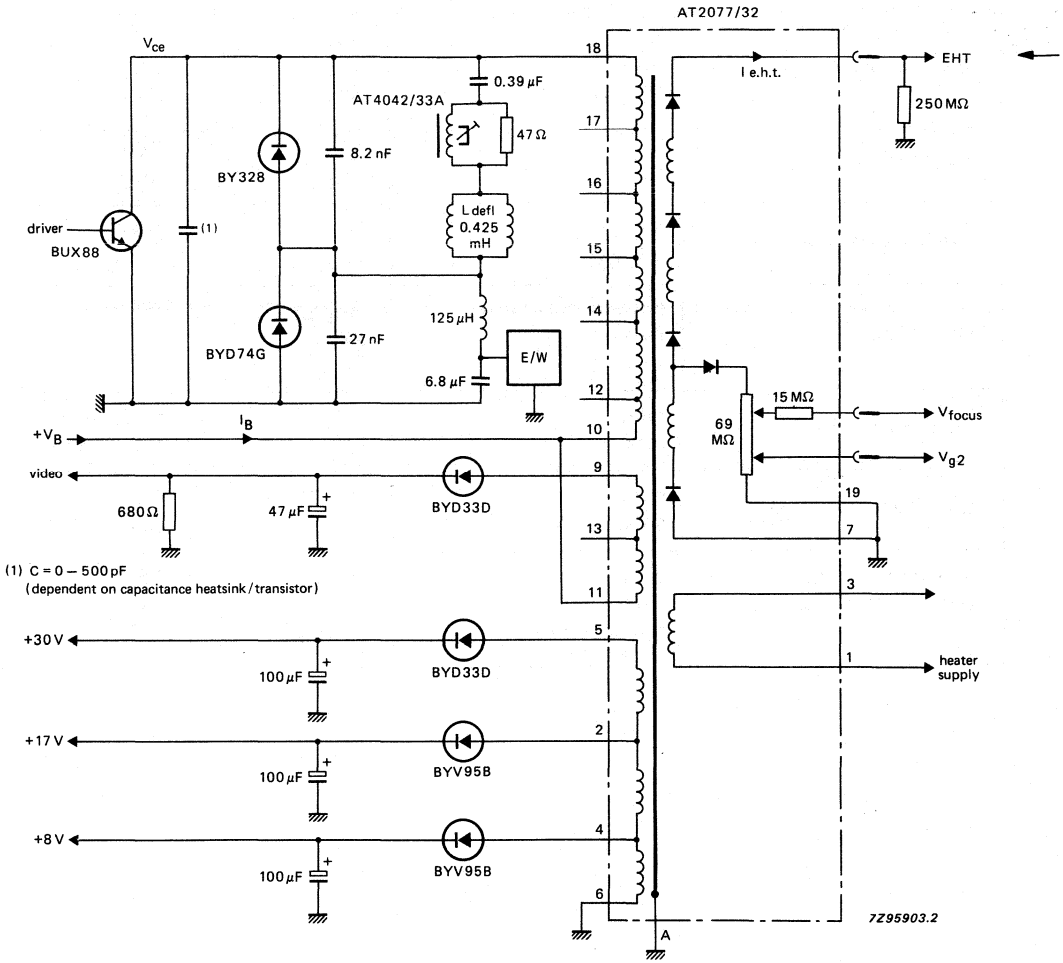
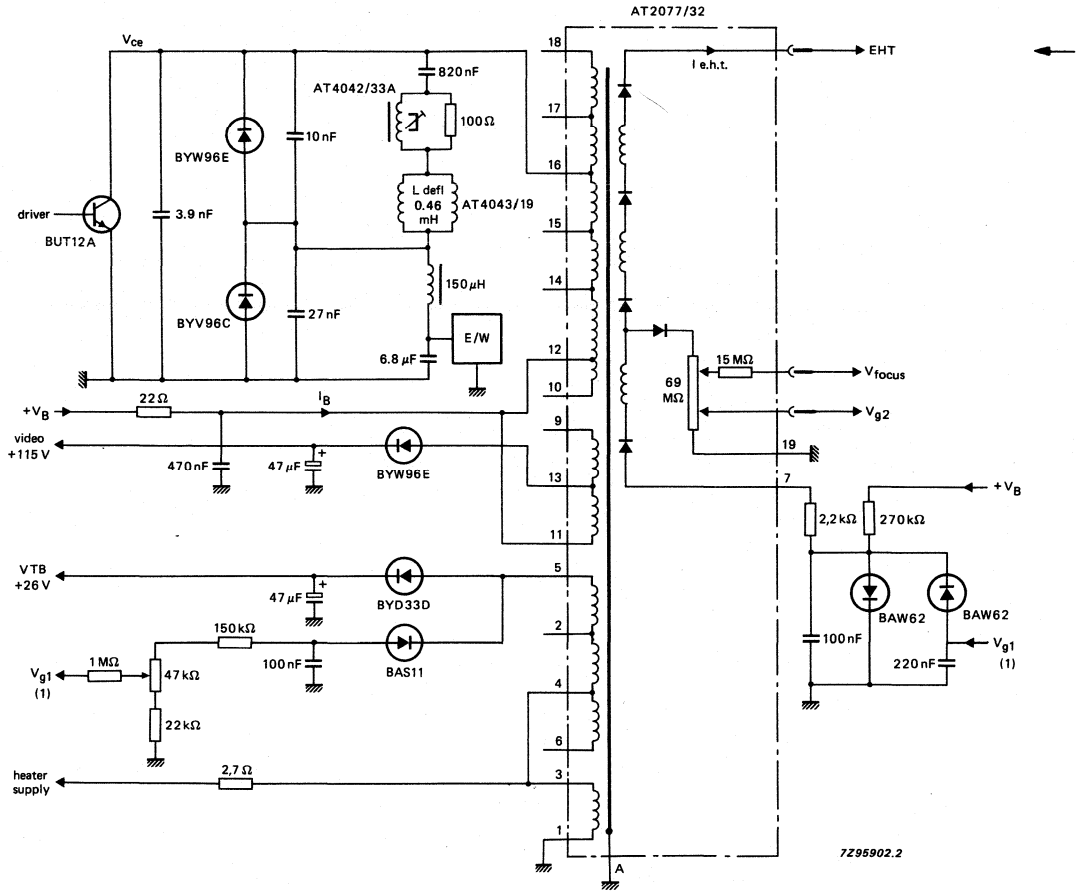


Fig. 7 Application circuit, 32 kHz.

ELECTRICAL DATA; for use with M34EAQ00X03 Monitor Tube, see Fig. 8

EHT supply	I_{eht} EHT $R_{i(eht)}$	mA kV MΩ	1 25 4
Power supply	V_B I_B	V mA	100 500
Output transistor	V_{CEM} + I_{CEM}	V A	800 4.8
Deflection	deflection current flyback time overscan	A (p-p) μs %	6.2 7 6
Focusing voltage	min. max.	kV kV	0.22 x EHT 0.33 x EHT
Grid 2 voltage (V_{g2})	min. max.	V V	0.011 x EHT 0.033 x EHT
Auxiliary voltages (after rectification)	pin 5 pin 9 heater voltage	V V $V_{(RMS)}$	26 115 6.3



(1) These points are common.

Fig. 8 Meres application at 24 kHz.

DIODE-SPLIT-BOX 'U' LINE OUTPUT TRANSFORMER

- For large screen colour television sets, first application in 33 in. picture tubes at 32 kHz.
- Incorporated potentiometers and cables for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages	
I_{EHT}	1.8 mA
EHT	28.5 kV
$R_{I(EHT)}$	$\leqslant$ 1.0 MΩ
I_{p-p}	5.4 A
Supply voltage (V_B)	143 V
Focusing voltage control	22 - 30% of EHT
Grid 2 voltage control	314 to 940 V
Auxiliary voltages	9.5 V (RMS) (heater supply) +185 V (video supply) +27.6 V (frame) +7.6 V (small signal supply) +14.3 V (small signal supply) +56 V +20 V +112 V +750 V +896 V +1042 V

APPLICATION

This transformer has been designed to provide the required scanning amplitude for large screen colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA).

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The foil-wound primary and secondary coils are situated on one leg of the core and encapsulated. The transformer has potentiometers for focusing control and V_{g2} adjustment. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be mounted on a printed-wiring board. The EHT is a plugged contact, while the focus and V_{g2} connections are once-only insertions.

MECHANICAL DATA

Dimensions in mm

Outlines

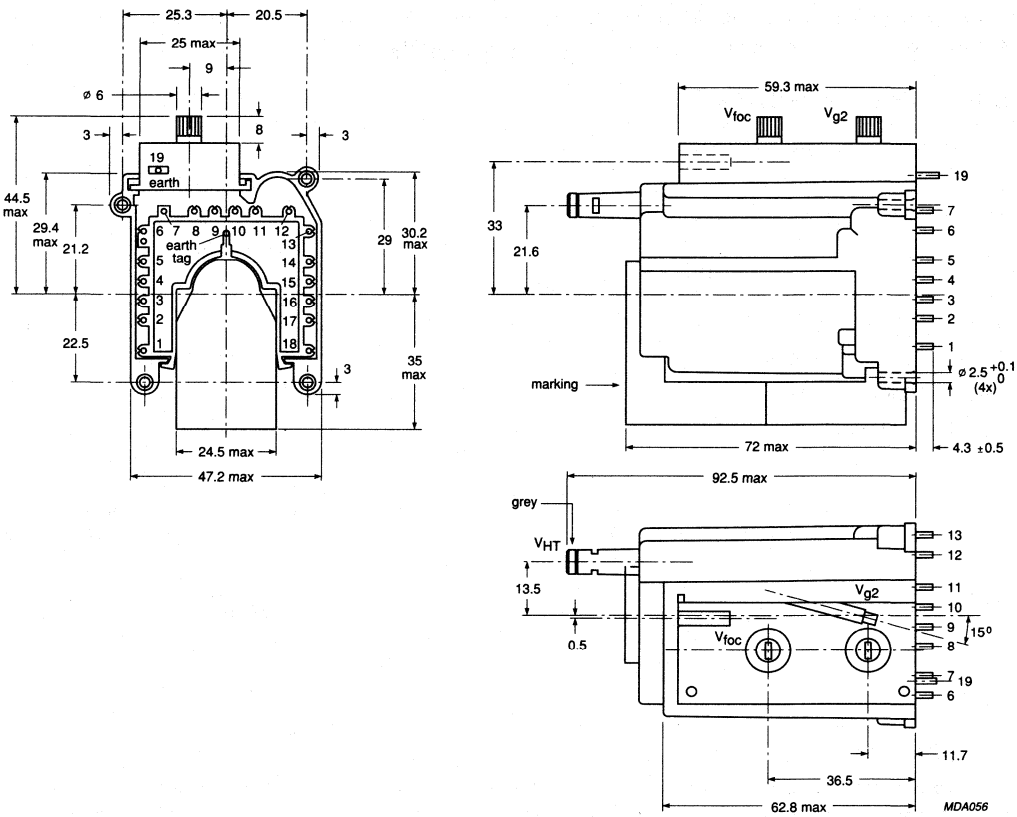


Fig.1 AT2077/33 line output transformer.

Mass : approx. 375 grams

Solderability : in accordance with IEC 68, test Ta

Packing : 27 transformers per tray

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

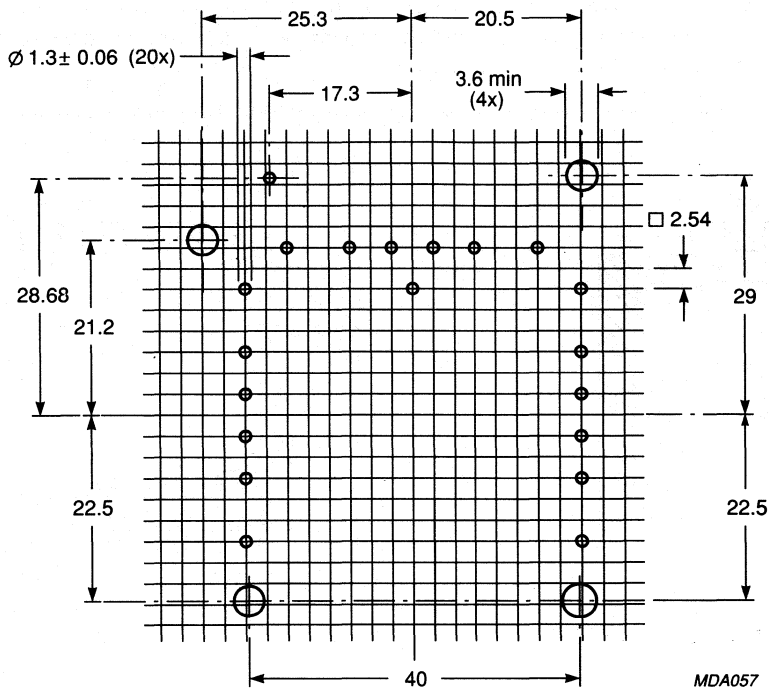


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 105 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

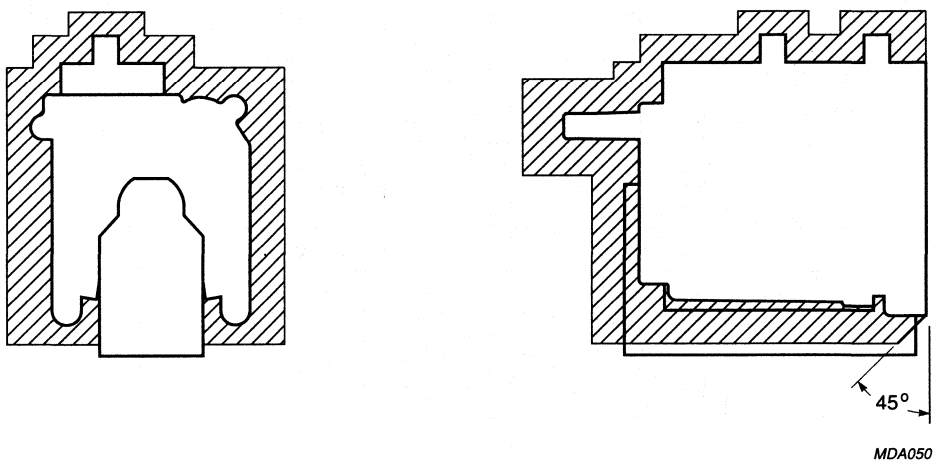
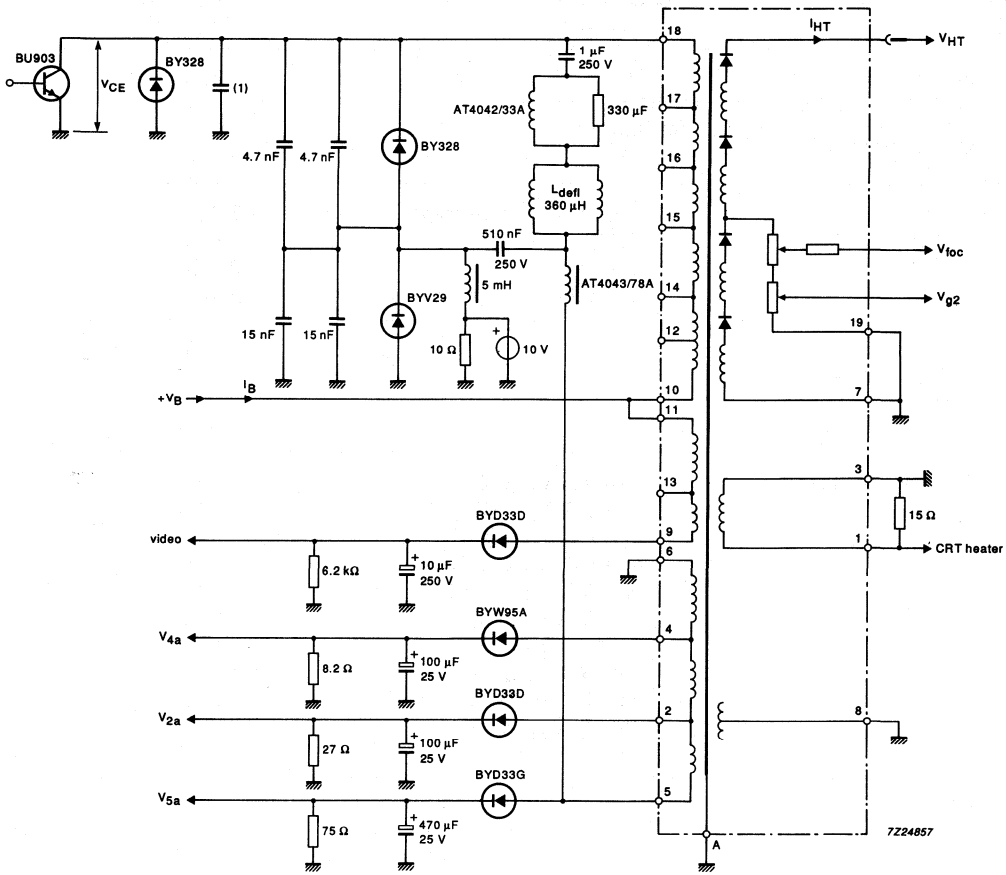


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	1.8 mA 28.5 kV $\leqslant$ 1.0 MΩ
Power supply	V_B	143 V
Output transistor	V_{ce} I_c	1150 V 5.4 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	5.4 A 5.6 μs 31250 Hz 360 μH
Focusing voltage Focusing current		22 - 30% of EHT 2 μA
Grid 2 voltage (V_{g2})		314 - 940 V (DC)
Auxiliary voltages	pins 9-6, $V_{9\text{-}6}$ (DC) pins 5-6, $V_{5\text{-}6}$ (DC) pins 2-6, $V_{2\text{-}6}$ (DC) pins 4.6, $V_{4\text{-}6}$ (DC) pins 3-1, $V_{3\text{-}1}$ (RMS) pin 12, V_{12} (p-p) pin 13, V_{13} (p-p) pin 14, V_{14} (p-p) pin 15, V_{15} (p-p) pin 16, V_{16} (p-p) pin 17, V_{17} (p-p)	185 V 27.6 V 26.2 V 7.6 V 9.5 V 56 V 20 V 112 V 750 V 896 V 1042 V



(1) Capacitor heatsink dependent.

Fig.4 Application circuit.

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For 45AX Blackline television sets
- Incorporated potentiometers for focus and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages	
I_{EHT}	1.8 mA (longterm average) 3.0 mA shortterm (max. 30 s)
EHT	29.5 kV
$R_{I(EHT)}$	$\leqslant$ 1.5 MΩ
I_{p-p} deflection	4.2 A
Supply voltage (V_B)	141 V
Supply current at I_{EHT} = 1.5 mA	670 mA
Focusing voltage control	25 - 33% of EHT
Grid 2 voltage control	700 to 1200 V
Auxiliary voltages	7.2 V (RMS) (heater supply) +196 V (video supply) +13.8 V (frame supply) −11.1 V (frame supply) +12.4 V (logic correction) 14.0 $V_{(p-p)}$ (X-ray protection)

APPLICATION

This transformer has been designed to provide the required scanning amplitude and EHT for colour picture tubes in transistor equipped 45AX television receivers with digital signal processing presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA).

It is intended for use in conjunction with:
- linearity corrector 3122 138 58621;
- bridge coil 3112 338 31231;
- injection coil 3112 338 30531.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The primary and secondary windings, together with the EHT diodes are situated on one leg of the cores and moulded together in a box. The transformer has potentiometers for focusing control and V_{g2} adjustment. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be mounted on a printed-wiring board. The EHT has a plug connection. The focus and V_{g2} connections are once-only insertions.

MECHANICAL DATA

Dimensions in mm

Outlines

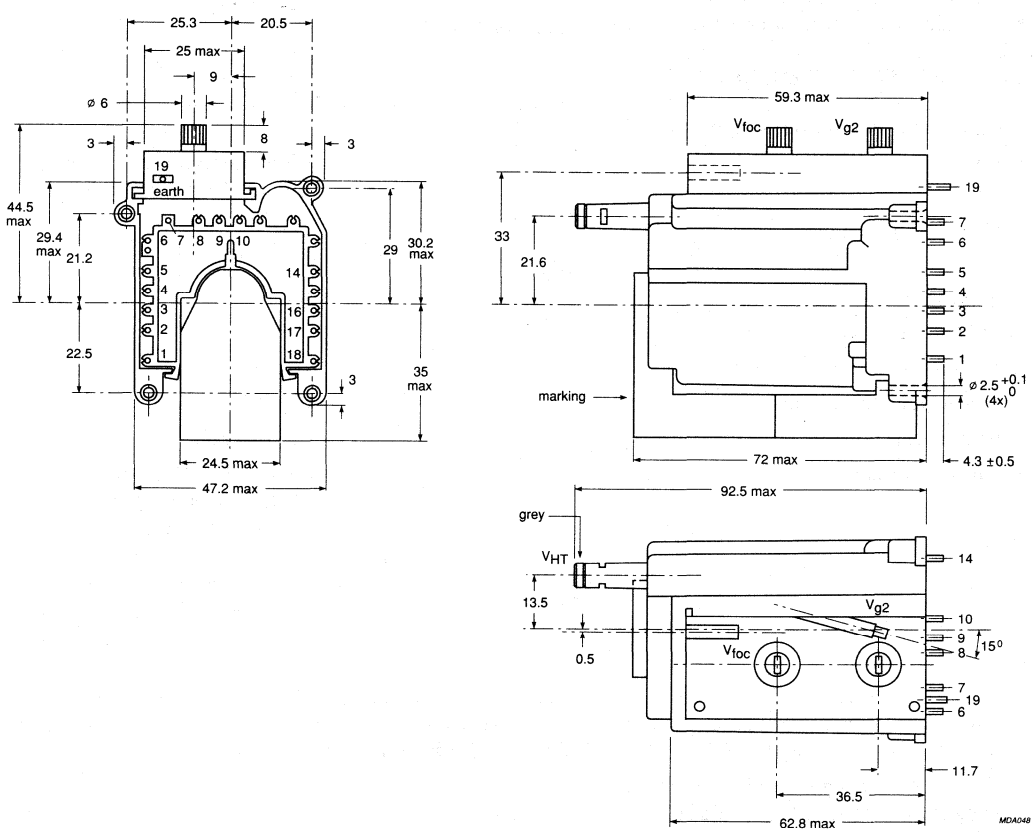


Fig.1 AT2077/34 line output transformer.

Mass : approx. 375 grams.

Solderability: in accordance with IEC 68, test Ta.

Packing : 27 transformers per box.

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

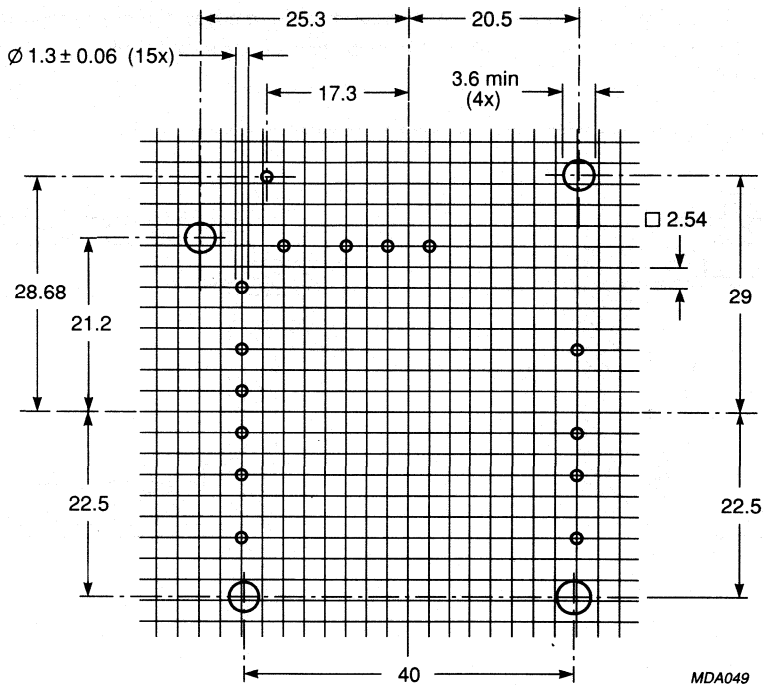


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 55 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

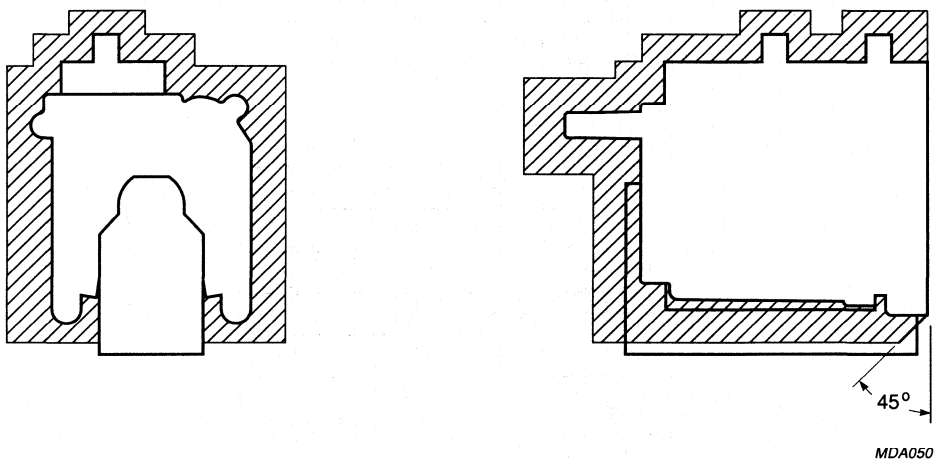


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} longterm average EHT at zero beam current $R_{I(EHT)}$	1.8 mA (3.0 mA max. 30 s) 29.5 kV ± 3% $\leqslant$ 1.5 MΩ
Power supply	V_B I_B	141 V 670 mA
Output transistor	V_{ce} I_c	1240 V 3.3 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	4.0 A 10.8 μs 15625 Hz 1.85 mH
Focusing voltage Focusing current		25 - 33% of EHT ± 2 μA max.
Grid 2 voltage (V_{g2})		700 - 1200 V (DC)
Auxiliary voltages	pin 8, V_{8a} (RMS) pin 2, V_{2a} (DC) pin 4, V_{4a} (DC) pin 5, V_{5a} (DC) pin 17, V_{17a} (DC) pin 9, V_9 (p-p)	7.2 V ± 5.5%, 700 mA nom. 11.1 V ± 5.5%, 400 mA −13.8 V ± 5.5%, 400 mA 196 V ± 5.5% 12.4 V ± 5.5%, 1100 mA 14.0 V ± 5.5%

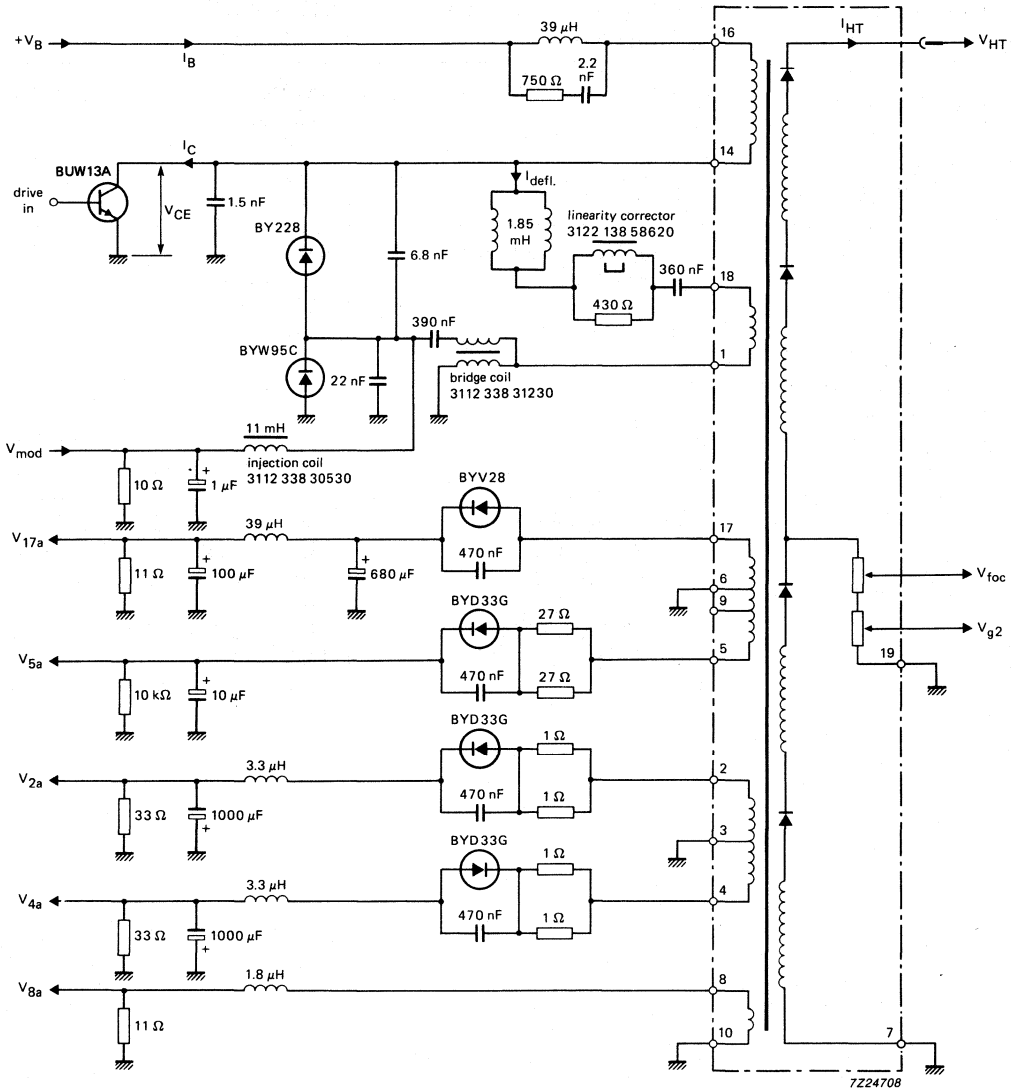


Fig.4 Application circuit.

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For colour television sets with digital signal processing
- Incorporated potentiometers for focus and V_{g2} adjustments
- Incorporated bleed resistor and EHT capacitor

QUICK REFERENCE DATA

For transistor line output stages.

I_{EHT}	1.5 mA
EHT	29.5 kV
$R_{I(EHT)}$	$\leqslant$ 1.5 MΩ
$I_{p\text{-}p}$ deflection	4.2 A
Supply voltage (V_B)	141 V
Supply current at I_{EHT} = 1.5 mA	670 mA
Focusing voltage	25 - 33% of EHT
Focusing current	2 μA
V_{g2} supply	700 to 1200 V
Auxiliary voltages	7.2 V (RMS) 11.1 V (DC) 13.8 V (DC) 196 V (DC) 12.4 V (DC) 14.0 V (p-p)

APPLICATION

This transformer has been designed to provide the required scanning amplitude for colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA).

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The foil wound primary and secondary windings, together with the EHT diodes are moulded together in a box. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be mounted on a printed-wiring board. The EHT contact is fitted with a plug, the focus and V_{g2} connections are once-only insertions.

MECHANICAL DATA

Dimensions in mm

Outlines

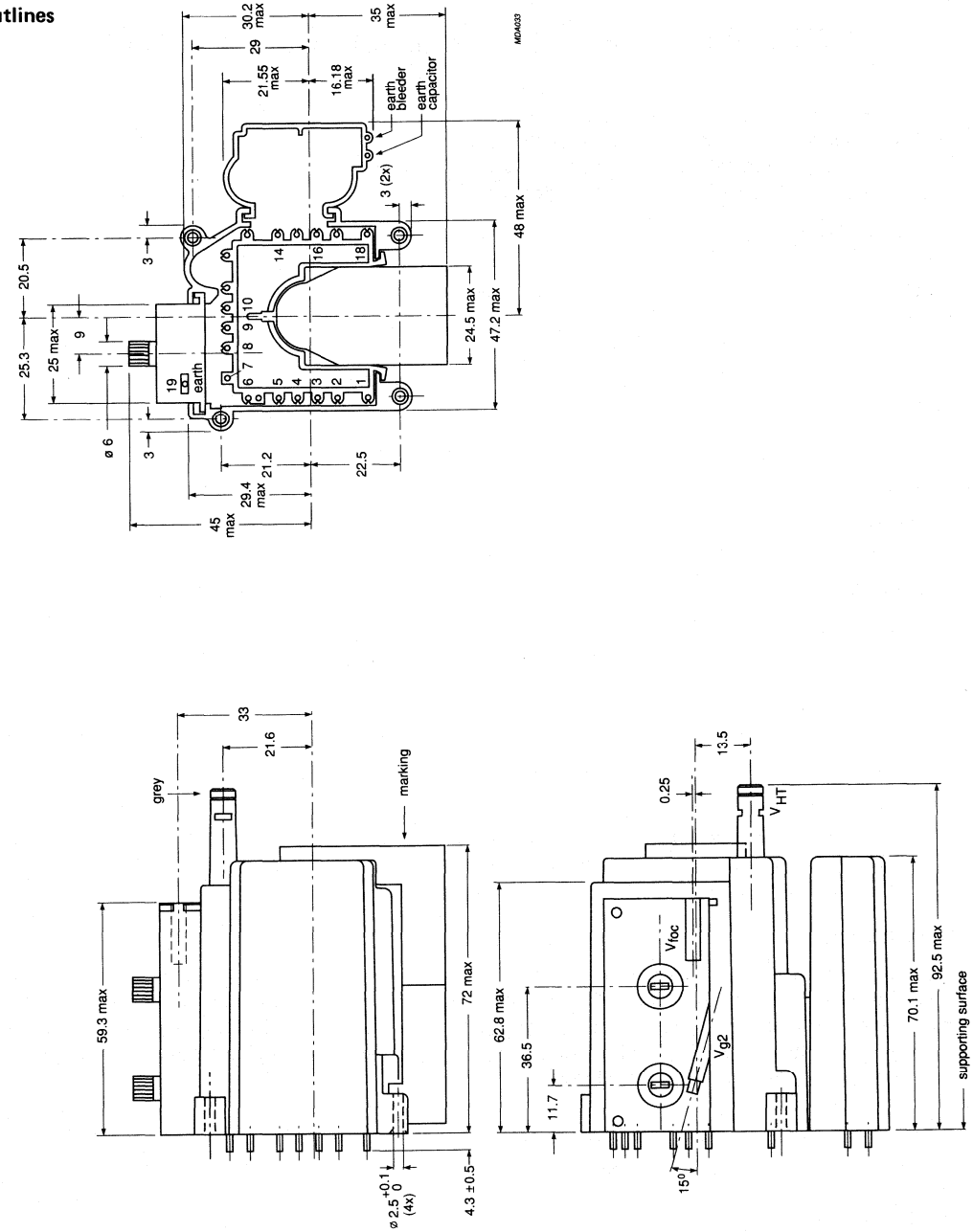


Fig.1 AT2077/44 line input transformer.

Mass : approx. 375 grams.

Solderability: in accordance with IEC 68, test Ta.

Packing : 27 transformers per box.

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

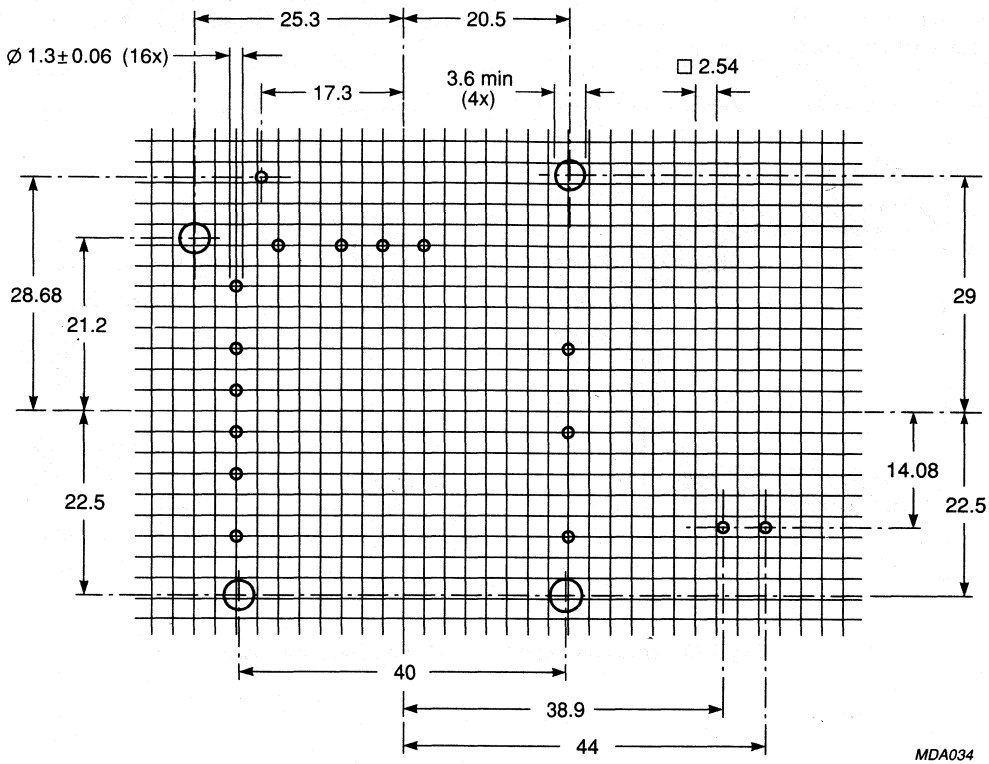


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 105 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 5 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

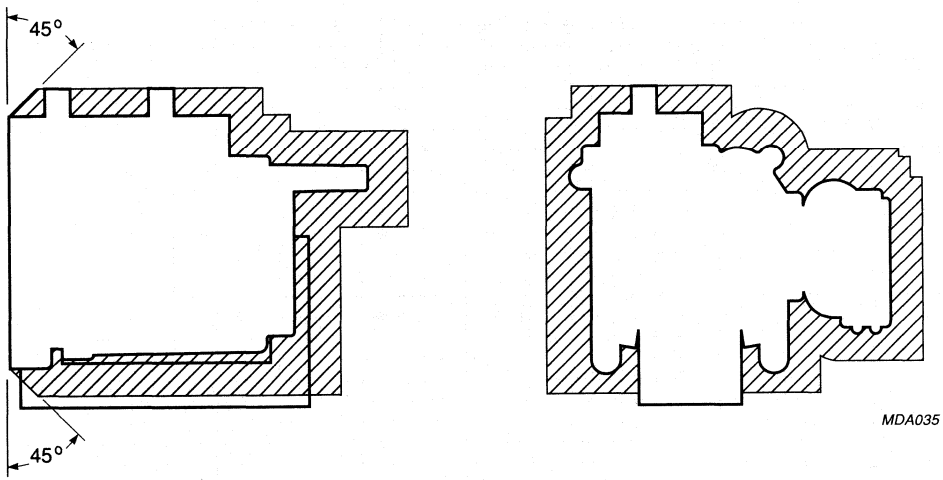


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	1.5 mA 29.5 kV $\leqslant$ 1.5 MΩ
Power supply	V_B I_B	141 V 670 mA
Output transistor	V_{ce} I_c	1240 V 3.3 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	4.2 A 10.8 μs 15625 Hz 1.85 mH
Focusing voltage Focusing current		25 - 33% of EHT 2 μA
V_{g2} voltage V_{g2} current		700 - 1200 V 2 μA
Auxiliary voltages	pin 8, V_{8a} (RMS) pin 2, V_{2a} (DC) pin 4, V_{4a} (DC) pin 5, V_{5a} (DC) pin 17, V_{17a} (DC) pin 9, V_9 (p-p)	7.2 V 11.1 V −13.8 V 196 V 12.4 V 14.0 V

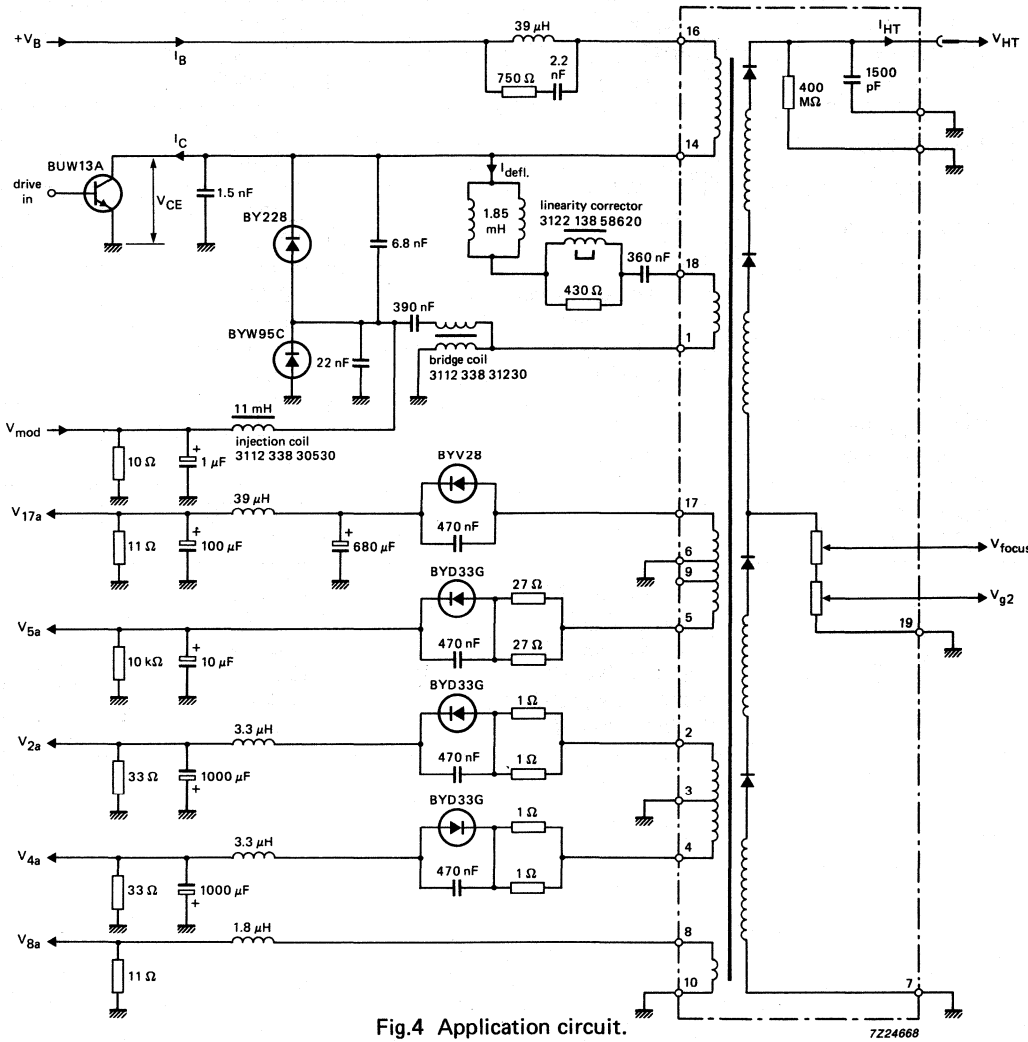


Fig.4 Application circuit.

Replaces AT2076/60

ASYNCHRONOUS POWER PACK TRANSFORMER

- For colour Data Graphic Displays
- Mains isolation
- Aluminimum foil primary winding and screens

QUICK REFERENCE DATA

EHT	25 kV
I_{EHT}	max. 1.6 mA
$R_{I(EHT)}$	1 MΩ (dependent on application)
Supply	
voltage (DC)	+ 300 V
current (I_{EHT} = 1.5 mA)	350 mA
Voltages of auxiliary windings	−9 V, + 20 V, + 31 V, + 42 V, + 150 V, + 200 V, + 255 V

APPLICATION

This transformer has been designed for use as a mains isolated supply transformer in colour monitors. It provides the required stabilized auxiliary voltages including an EHT supply with low internal resistance. The transformer is suitable for 90° and 110° deflection systems using 25 kV EHT. It is intended for use in conjunction with:
– mains filter choke AT4043/55
– mains transformer TS561/2
– line driver transformer AT4043/87

and for 110° tubes:
– deflection unit AT1870; AT1860 and AT1850
– line choke AT4043/53
– linearity control unit AT4042/08A
– line driver transformer AT4043/87 (if separate drive of line output stage is required)

and for 90° tubes:
– deflection unit AT1235/00
– line choke AT4043/53
– linearity control unit AT4042/04A

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer case has 3 holes that enables fixing to a printed-wiring board with self-tapping screws. External circuit connection is made to connection pins, positioned as indicated in Fig.1, enabling the unit to be soldered directly into a printed-wiring board (see Fig.2).

MECHANICAL DATA

Dimensions in mm

Outlines

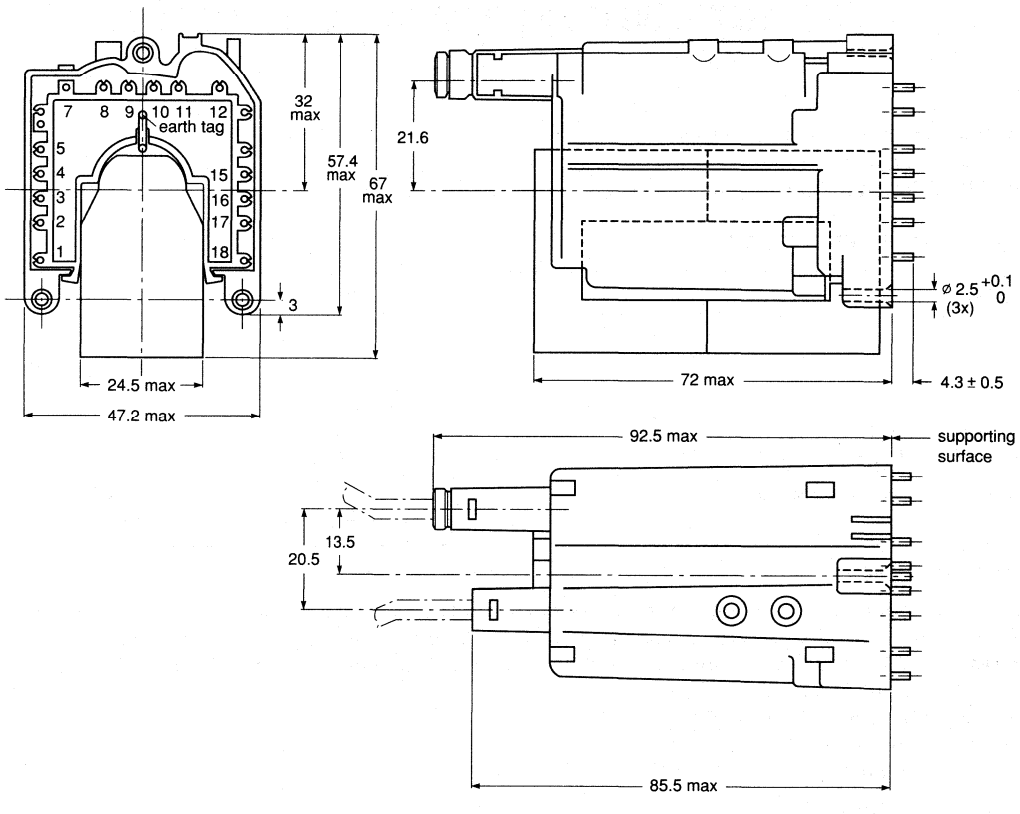


Fig.1 Transformer AT2077/60.

Mass 355 g

Solderability max. 240 °C, max. 2.5 s

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2.54 mm is illustrated in Fig.2. The transformer core must be earthed via the earth pin (see Fig.1).

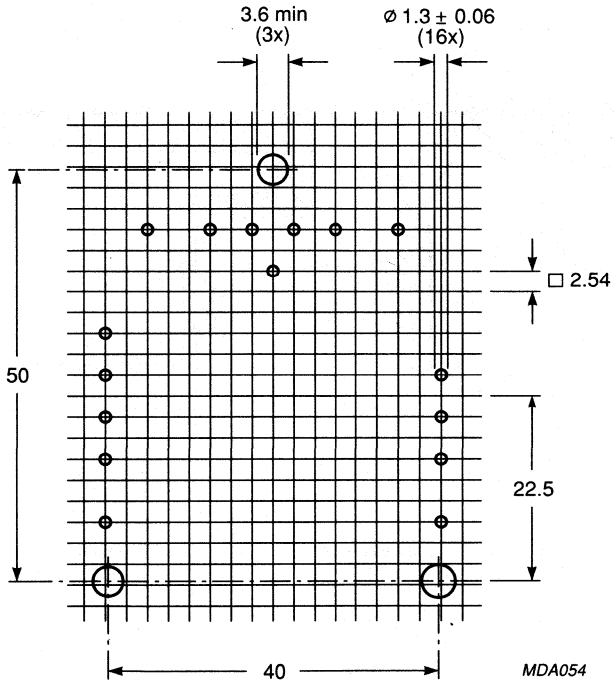


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The ambient temperature in the set should not exceed + 90 °C under worst conditions, i.e. taking into account:

- maximum output power
- maximum supply voltage
- low atmospheric pressure (at high altitudes) implying bad cooling by convection
- high ambient temperature (up to 45 °C)

To satisfy this requirement it may be necessary to provide an ample cool air flow around the transformer.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses, should be free from metal particles, solder, etc.

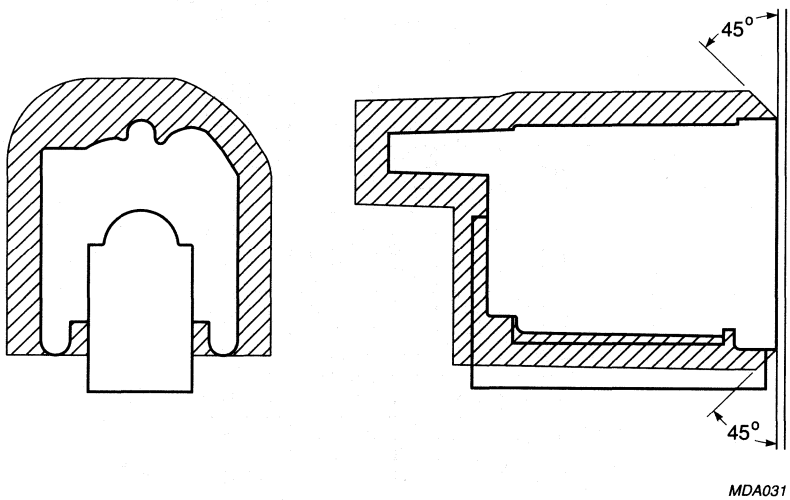


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	0.6 mA 20.4 kV $\leqslant$ 1.5 MΩ
Power supply	V_B I_B	295 V (DC) 355 mA
Output transistor (BU508A)	V_{ce} I_c	1000 V (p-p) 2.5 A
Auxiliary voltages		
heater voltage	pin 1, V_{1a} (DC)	−9 V (6.5 W)
	pin 4, V_{4a} (DC)	+ 200 V (10 W)
small signal output	pin 5, V_{5a} (DC)	+ 18 V
audio output	pin 2, V_{2a} (DC)	+ 38 V
video output	pin 8, V_{8a} (DC)	+ 225 V
field time base	pin 9, V_{9a} (DC)	+ 48 V (14 W)
line time base	pin 10a, V_{10a} (DC)	+ 156 V (11 W)
drive winding	pin 15a, V_{15a} (DC)	+ 100 V

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For 90° colour TV with single switch power pack system (S^2P^2)
- Three-layer EHT coil
- Aluminium foil primary winding
- Incorporated potentiometers for focusing and V_{g2} adjustment
- Mains insulation

QUICK REFERENCE DATA

For transistor line output stages; 90° deflection angle

I_{eht}	0 mA
EHT	23 kV
$R_{i(eht)}$	$\leqslant$ 2,4 MΩ
I_{p-p} deflection	3,0 A
Supply voltage (V_B)	112 V
Supply current at I_{eht} = 0,6 mA	460 mA
Focusing voltage control	5.1 to 7.6 kV
Grid 2 voltage adjustment	230 to 830 V
Auxiliary voltages	6,3 V (heater supply) 200 V (video supply) 26 V (frame) 16 V (small signal)

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA). The transformer may also be used in colour monitors.

It is intended for use in conjunction with:
- input choke AT4043/81B;
- driver transformer AT4043/82;
- sensing transformer AT4043/46;
- mains transformer TS561/2 or TS521B;
- mains filter choke AT4043/90;
- linearity corrector AT4042/90 (for narrow neck tubes), or AT4042/91 (for mini neck tubes);
- screened EHT cable, length 1 m; catalogue number 3122 137 63370; or UL cable catalogue number 3122 137 64640.
- focus cable, length 31 cm; catalogue number 3122 131 00732.

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and e.h.t. diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. The transformer case has 3 holes that enables fixing to a printed-wiring board with self-tapping screws. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 4).

MECHANICAL DATA

Outlines

Dimensions in mm

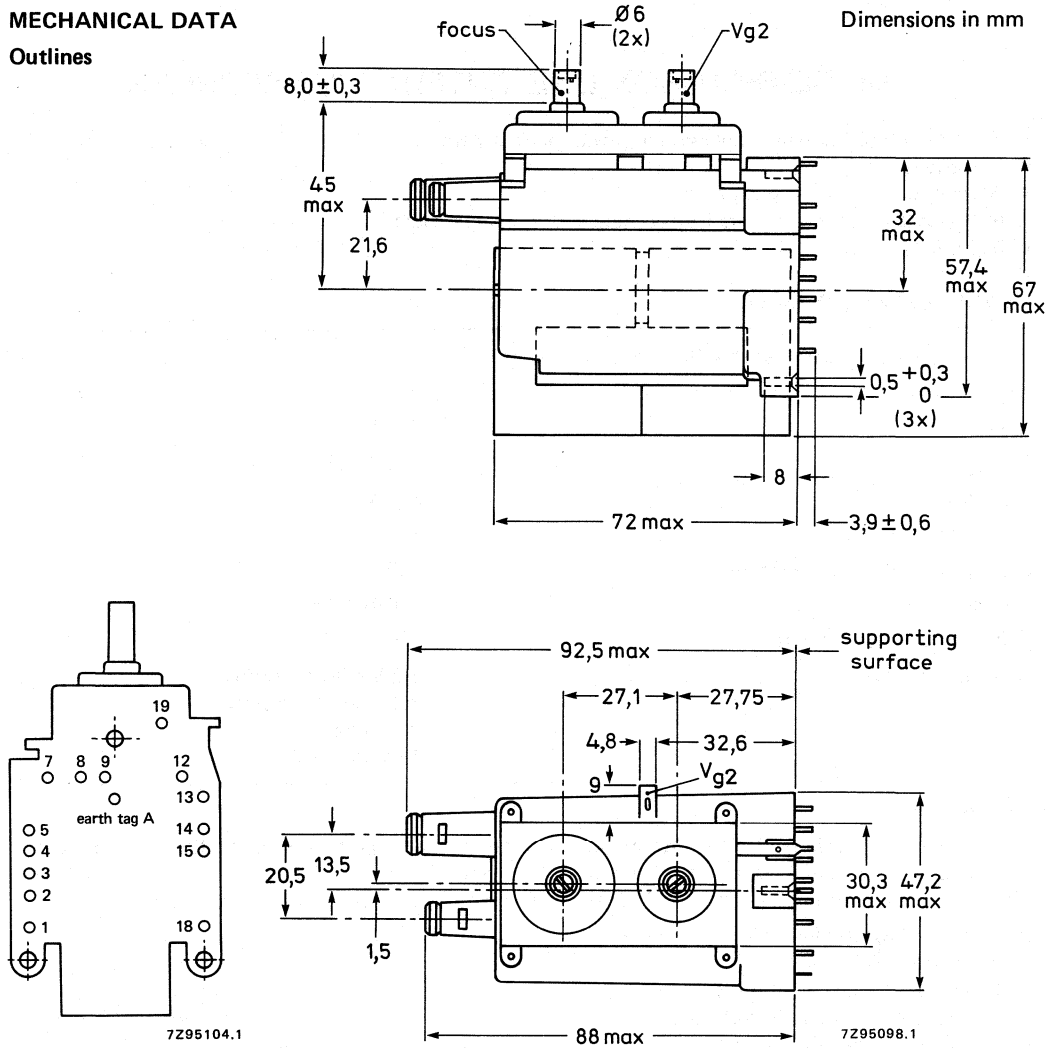


Fig. 1 Line output transformer AT2077/80.

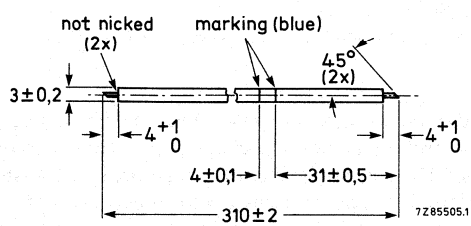


Fig. 2 Focus cable 3122 131 00732.

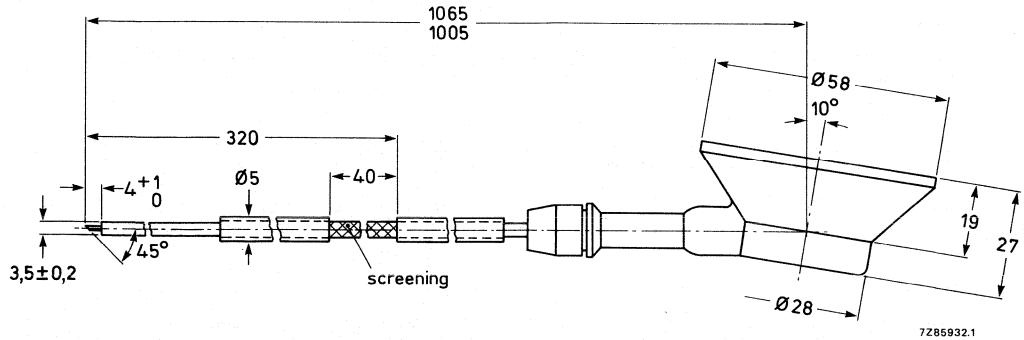


Fig. 3 EHT cable 3122 137 63370.

Mass	approx. 375 g
Solderability	in accordance with IEC 68, test T
Packing	27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2,54 mm is illustrated in Fig. 4. The transformer core must be earthed via the earth tag (see Fig. 1).

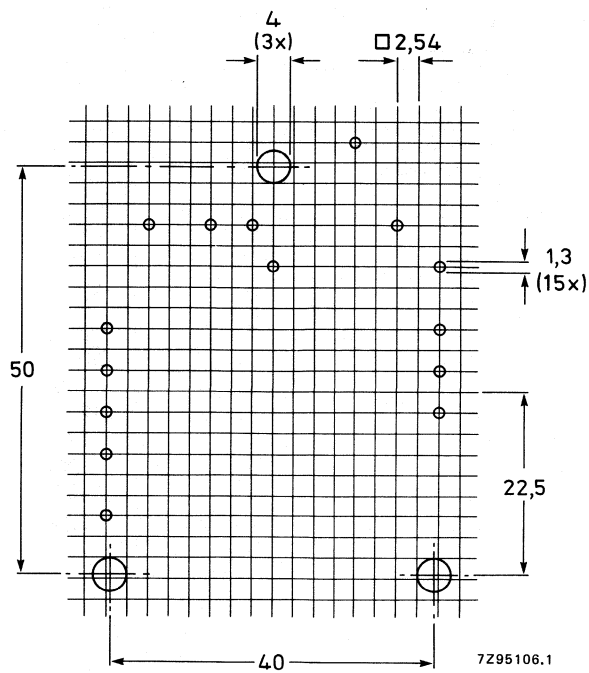


Fig. 4 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed +90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The following minimum distances between the transformer and **neighbouring conductive flat surfaces** must be maintained:

From the EHT coil radially, 10 mm
From the EHT coil axially, 10 mm

Sharp edges of conductive parts must have greater distances than given above.

The transformer leads and components carrying high-voltage pulses, should be kept free from metal particles, solder drops, etc.

ELECTRICAL DATA with 90° colour picture tubes

EHT supply	I_{eht} EHT $R_{i(eht)}$	mA kV MΩ	0 23.0	0.1 22.4 2.4	0.6 21.2
Power supply	V_B $I_{average}$	V mA	112 350		108.5 460
Output transistor	V_{CEM} $+ I_{CEM}$	V A	1285 2.55		1270 2.60
Deflection	deflection current flyback time overscan	$A_{(p-p)}$ μs %	3.0 11.95 6		2.88 11.95
Focusing voltage	min. max.	kV kV	5.1 7.6		
Grid 2 voltage (V_{g2})	min. max.	V V	230 830		
Auxiliary voltages*	heater voltage pin 2 pin 3 pin 4 pin 5 pin 8 pin 9 pin 12	$V_{(r.m.s.)}$ $V_{(p-p)}$ $V_{(p-p)}$ $V_{(p-p)}$ $V_{(p-p)}$ $V_{(p-p)}$ $V_{(p-p)}$ $V_{(p-p)}$	8.0 + 190 −208 + 27.5 −138 + 845 + 920 + 70		7.7

* Pins 1 and 18 connected to earth.

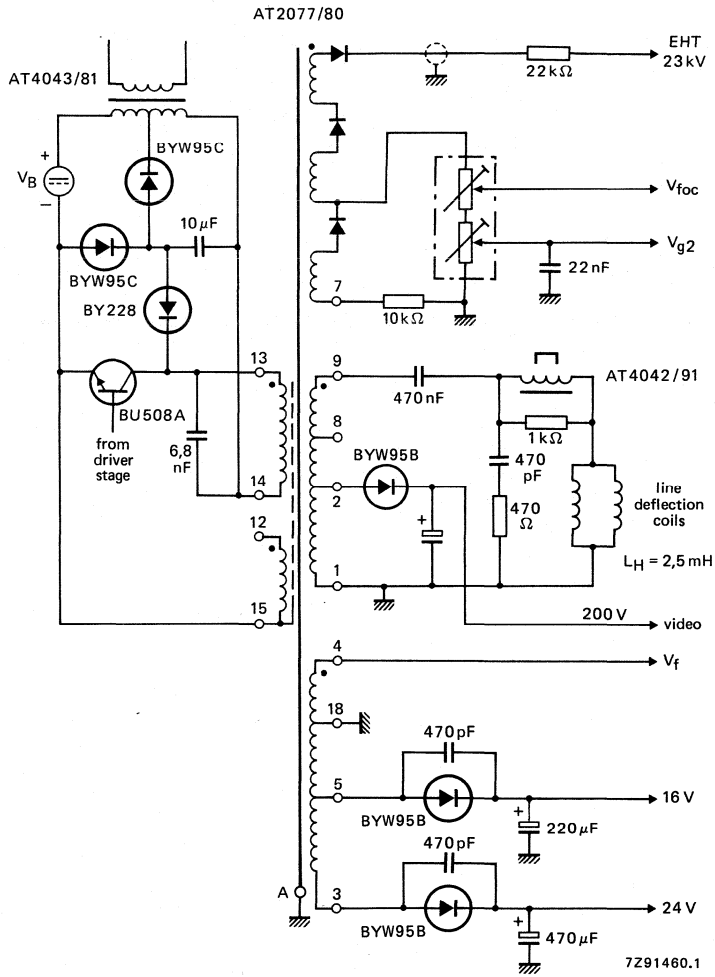


Fig. 5 Application circuit.

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For 90° and 110° colour TV and colour monitors with separate power supply
- Three-layer EHT coil
- Aluminium foil primary winding
- Incorporated potentiometers for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages; 90° and 110° deflection angle

I_{eht}	0 mA
EHT	25 kV
$R_{i(eht)}$	$\leqslant$ 1.8 MΩ
I_{p-p} deflection (6% overscan)	4.4 A
Supply voltage (V_B')	152 V
Voltages of primary windings (peak-to-peak values)*	+ 110 V, + 524 V, + 960 V, + 1064 V
Voltages of auxiliary windings (peak-to-peak values)	−283 V, −226 V, −149 V, + 59 V, + 104 V
heater voltage (RMS value)	8.2 V

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° and 110° colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA). The transformer may also be used in colour monitors.

It is intended for use in conjunction with:
- linearity corrector AT4042/90 or /08A;
- bridge coil AT4043/100;
- screened EHT cable, length 1 m, catalogue number 3122 137 63370, UL approved cable, catalogue number 3122 137 6464, or unscreened EHT cable, length 59 cm, catalogue number 3122 137 63620;
- focus cable, length 31 cm, catalogue number 3122 131 00732;
- V_{g2} cable, length 30 cm, catalogue number 3122 137 64570.

DESCRIPTION

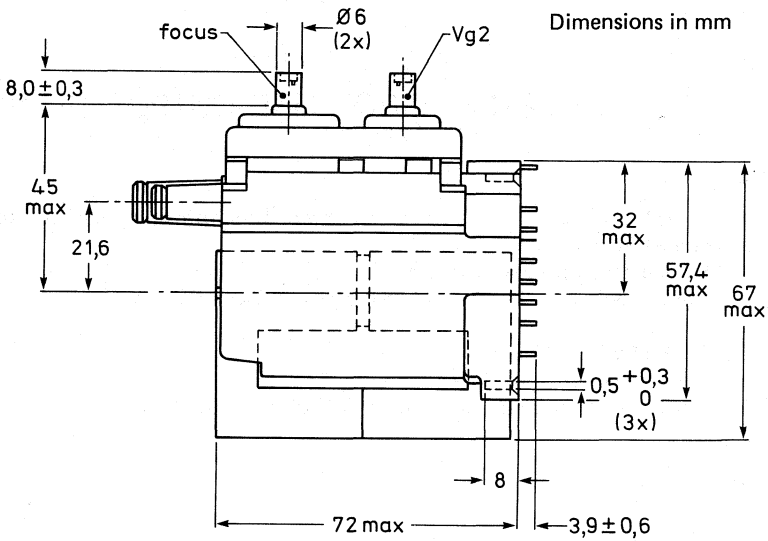
The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. The transformer case has 3 holes that enables fixing to a printed-wiring board with self-tapping screws. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 5).

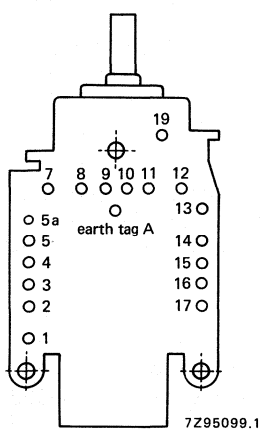
* DC component on these pulses is V_B' (see Figs 7 and 8).

MECHANICAL DATA

Outlines

Dimensions in mm





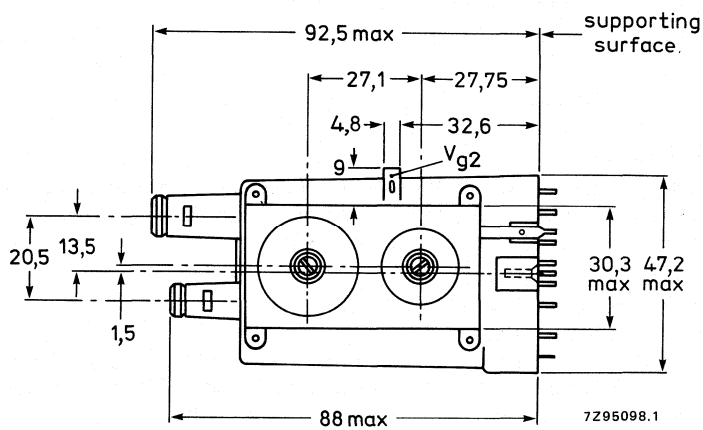


Fig. 1 Line output transformer AT2077/81.

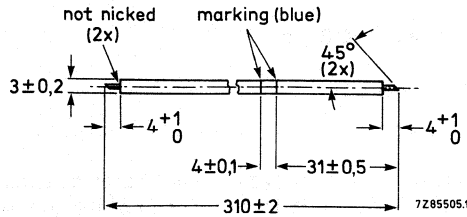


Fig. 2 Focus cable 3122 131 00732.

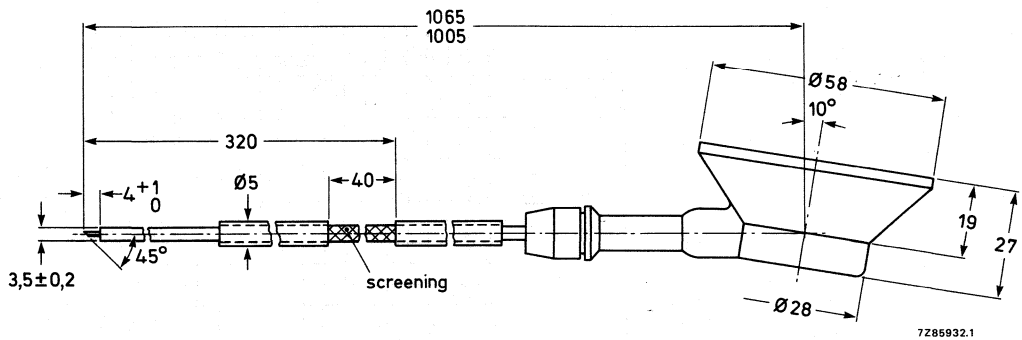


Fig. 3 EHT cable 3122 137 63370.

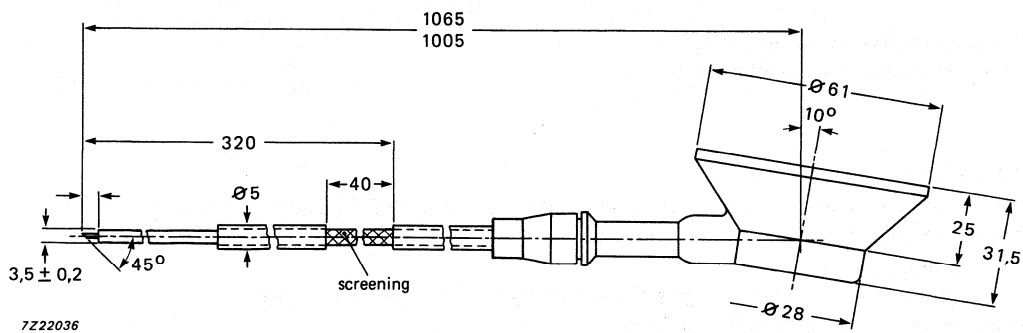


Fig. 4 UL approved cable 3122 137 6464.

Mass approx. 375 g

Solderability in accordance with IEC 68, test T

Packing 27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2,54 mm is illustrated in Fig. 5. The transformer core must be earthed via the earth pin (see Fig. 1).

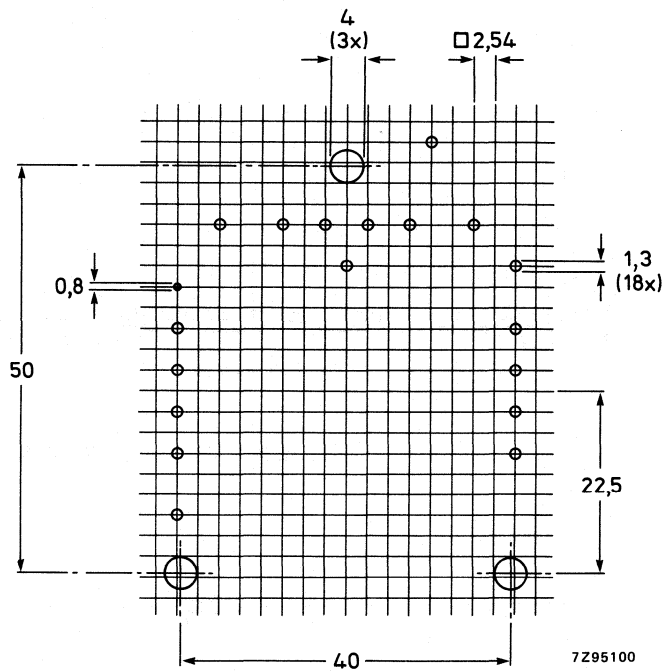


Fig. 5 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed +90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The hatched area shown in Fig. 6 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses, should be free from metal particles, solder drops, etc.

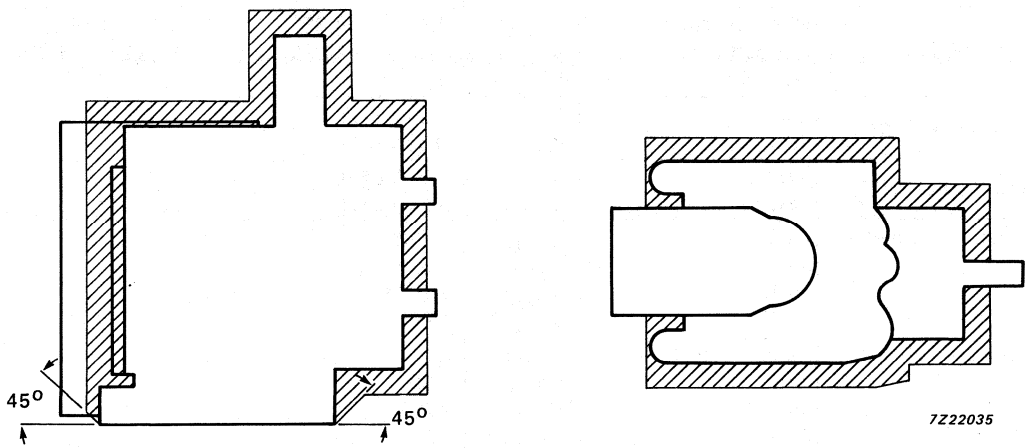


Fig. 6 Distances between EHT coil and conductive parts.

ELECTRICAL DATA; for use with 110° colour picture tubes, see Fig. 7.

EHT supply	I_{eht}	mA	0	0.5	1	1.5
	EHT	kV	25.6	24.7	23.8	23.7
	$R_{i(eht)}$	MΩ		1.8		
Power supply	V_B	V	152	152	152	152
	V_B'	V	148	146.9	144.6	142.6
	I_B	mA	250	330	435	458
Output transistor	V_{CEM}	V	1200	1185	1180	1175
	+ I_{CEM}	A	3.2	3.3	3.4	3.5
Deflection	deflection current	$A_{(p-p)}$	4.4	4.35	4.3	4.25
	flyback time	μs	11.55	11.55	11.55	11.75
	overscan	%	6			
Focusing voltage	min.	kV	0.24 x EHT			
	max.	kV	0.36 x EHT			
Grid 2 voltage (V_{g2})	min.	V	0.014 x EHT			
	max.	V	0.04 x EHT			
Primary voltages*	pin 9	$V_{(p-p)}$	+ 110			
	pin 14	$V_{(p-p)}$	+ 524			
	pin 16	$V_{(p-p)}$	+ 1064			
	pin 17	$V_{(p-p)}$	+ 960			
Auxiliary voltages	heater voltage (V_{1-3})	$V_{(RMS)}$	8.2	8.0	7.9	7.8
	pin 1	$V_{(p-p)}$	+ 30			
	pin 2	$V_{(p-p)}$	−283			
	pin 4	$V_{(p-p)}$	+ 59			
	pin 5	$V_{(p-p)}$	−226			
	pin 7	$V_{(d.c.)}$	1265	1240	1215	1200
	pin 8	$V_{(p-p)}$	+ 104			
	pin 12	$V_{(p-p)}$	−149			

* DC component on these pulses is V_B'.

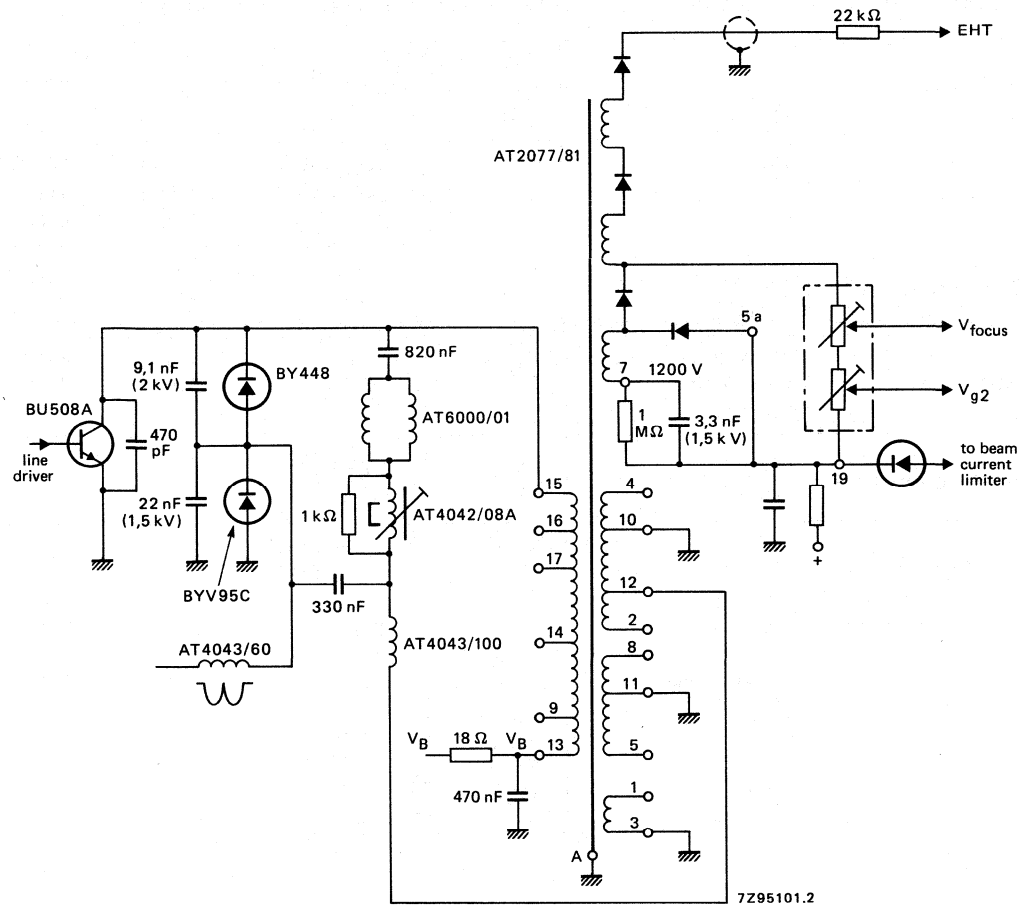


Fig. 7 Application circuit (110°).

ELECTRICAL DATA; for use with 51 cm, 90° Flat Square colour picture tube, see Fig. 8.

EHT supply	I_{eht}	mA	0	0.5	1
	EHT	kV	25.4	24.3	23.8
	$R_{i(eht)}$	MΩ		1.8	
Power supply	V_B	V	148.5	148.2	148.0
	$V_{B'}$	V	145	142.9	140.9
	I_B	mA	230	315	400
Output transistor	V_{CEM}	V	1200	1180	1190
	$+ I_{CEM}$	A	2.38	2.43	2.5
Deflection	deflection current	$A_{(p-p)}$	3.05	3.0	2.95
	flyback time	μs	10.6	10.7	10.8
	overscan	%	6		
Focusing voltage	min.	kV	0.24 x EHT		
	max.	kV	0.36 x EHT		
Grid 2 voltage (V_{g2})	min.	V	0.014 x EHT		
	max.	V	0.04 x EHT		
Auxiliary voltages	pin 9* (video)	V	230	226	223
	pin 5**	$V_{(DC)}$	55	54	53
	heater voltage	$V_{(RMS)}$	8.2	8.0	7.9
	pin 4	$V_{(p-p)}$	+ 59		
	pin 12	$V_{(p-p)}$	−149		
	pin 2	$V_{(p-p)}$	−283		
	pin 14	$V_{(p-p)}$	−253		

* Values apply to voltages after rectification.
** Field time base; approx. 9 W.

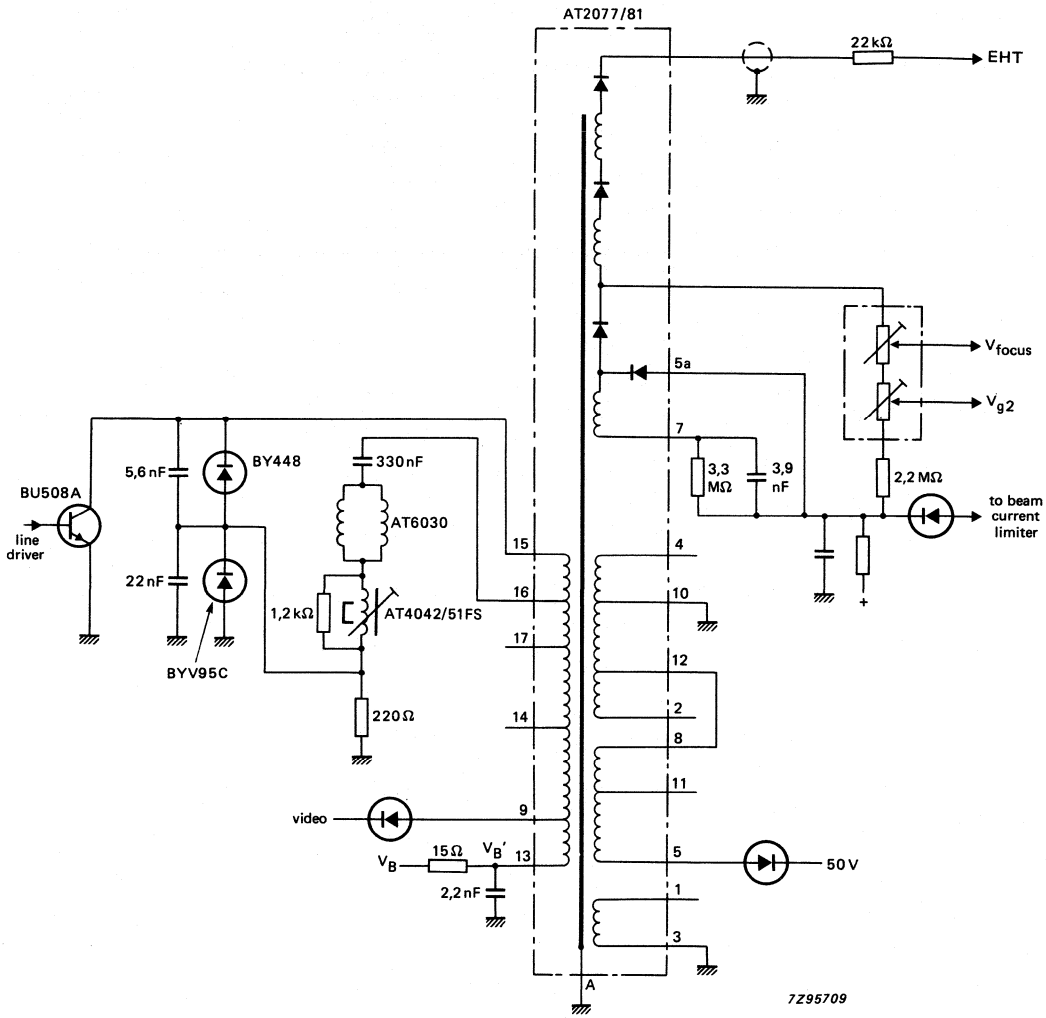


Fig. 8 Application circuit (90°).

DIODE-SPLIT-BOX 'E' LINE OUTPUT TRANSFORMER

- For 110° and 90° deflection television receivers and monitors
- Foil primary winding
- Incorporated potentiometers for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

I_{EHT}	1.5 mA
EHT	25 kV
$R_{I(EHT)}$	$\leqslant$ 1 MΩ
Supply voltage (V_B)	147 V (DC)
Voltages of auxiliary windings	934 V (p-p), 184 V (DC), 73.3 V (p-p), 27.9 V (DC)
heater voltage (RMS)	8.2 V

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° and 110° picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA). The transformer may also be used in colour monitors.

It is intended for use in conjunction with:
- linearity corrector AT4042/90
- bridge coil AT4043/100
- east/west corrector AT4043/60
- screened EHT cable, catalogue number 3122 137 64840
- focus cable, catalogue number 3122 131 01590
- V_{g2} cable, catalogue number 3122 131 01600

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube U-cores, glued together. The primary winding of foil and the secondary windings are situated on one leg of the coil and moulded together in a box. The transformer has potentiometers for focusing control and V_{g2} adjustment. An EHT cable is removable once fitted. The focus and V_{g2} cable connections are once-only insertions. The transformer case has four holes to enable fixing to a printed-wiring board. External circuit connection is made to connecting pins, position as indicated in Fig.1, enabling the unit to be soldered directly onto a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

Outlines

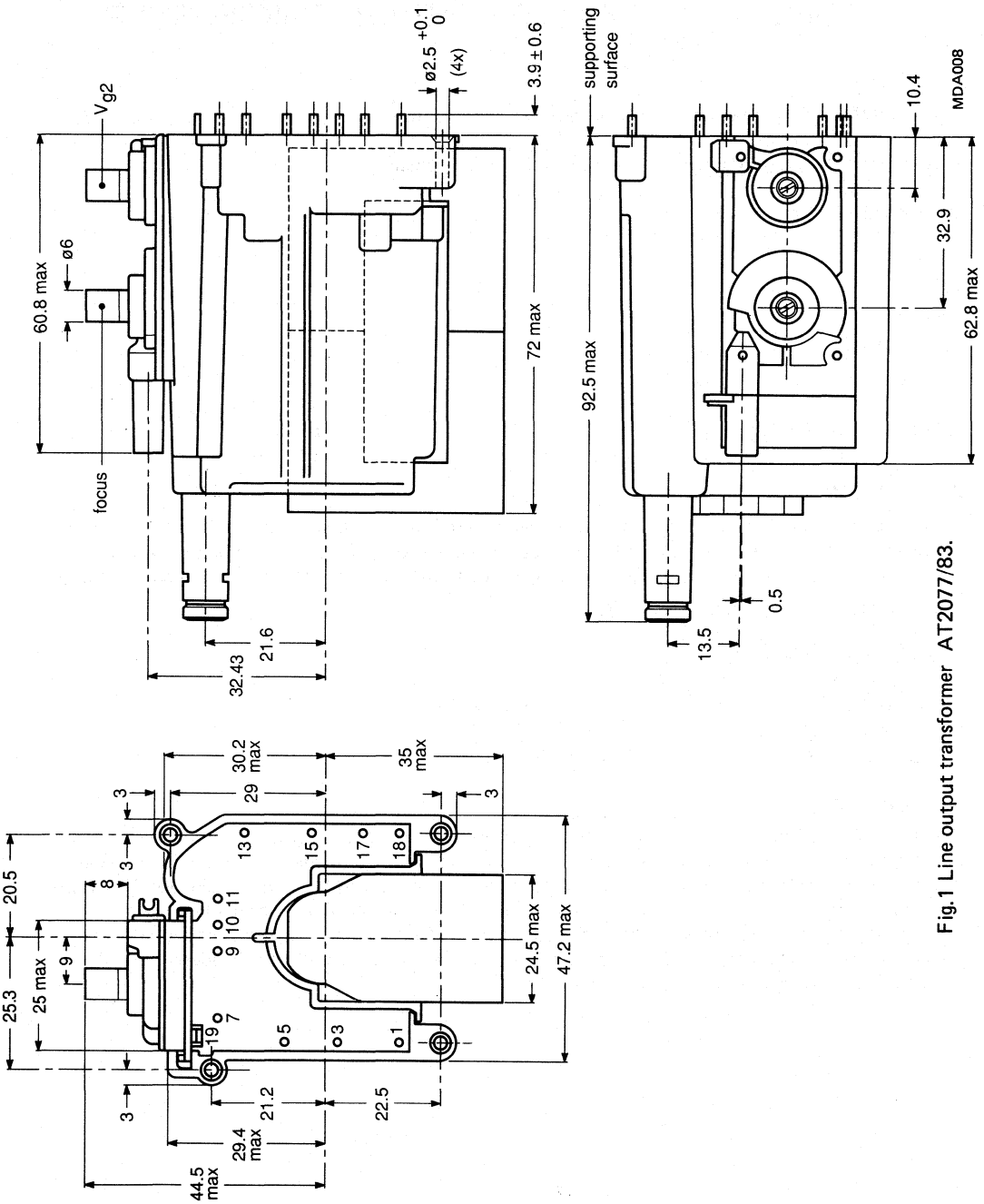


Fig.1 Line output transformer AT2077/83.

Mass : approx. 375 grams

Solderability : in accordance with IEC 68, test Ta

Packing : 27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It may be secured with 4 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connection pins in a printed-wiring grid with a pitch of 2.54 mm is illustrated in Fig.2.

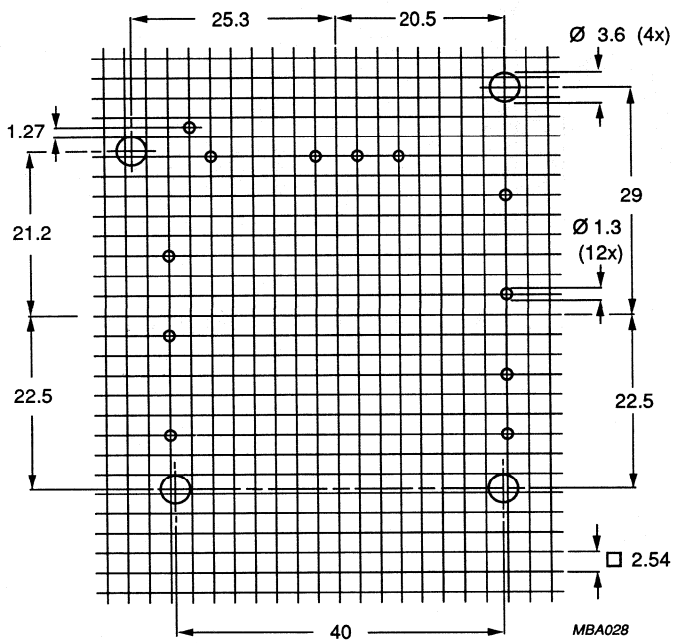


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the transformer should not exceed 55 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops, etc.

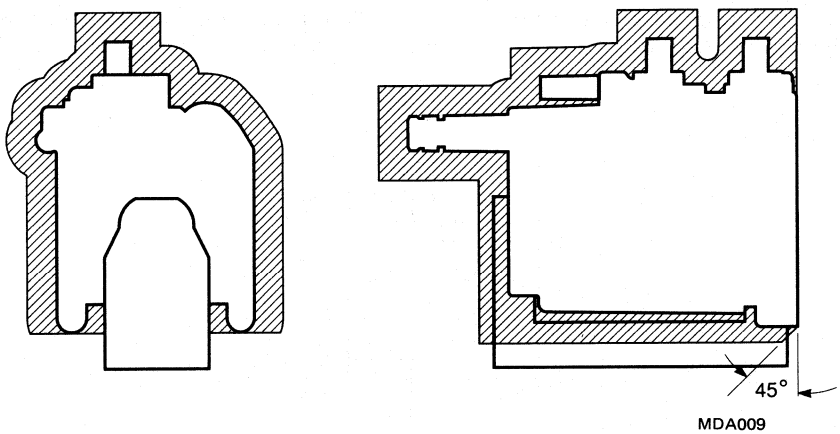


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} (typical) EHT $R_{I(EHT)}$	mA kV MΩ	1.5 25 1.0
Power supply	V_B I_B	V mA	147.0 530
Output transistor	V_{CE} I_{CE}	V (p-p) A	1220 3.2
Deflection	deflection current flyback time	A μs	4.1 11.4
Auxiliary voltages	pin 1a pin 5a pin 11 pin 17 pin 15	V (DC) V (DC) V (RMS) V (p-p) V (p-p)	184 27.9 8.2 934 73.3

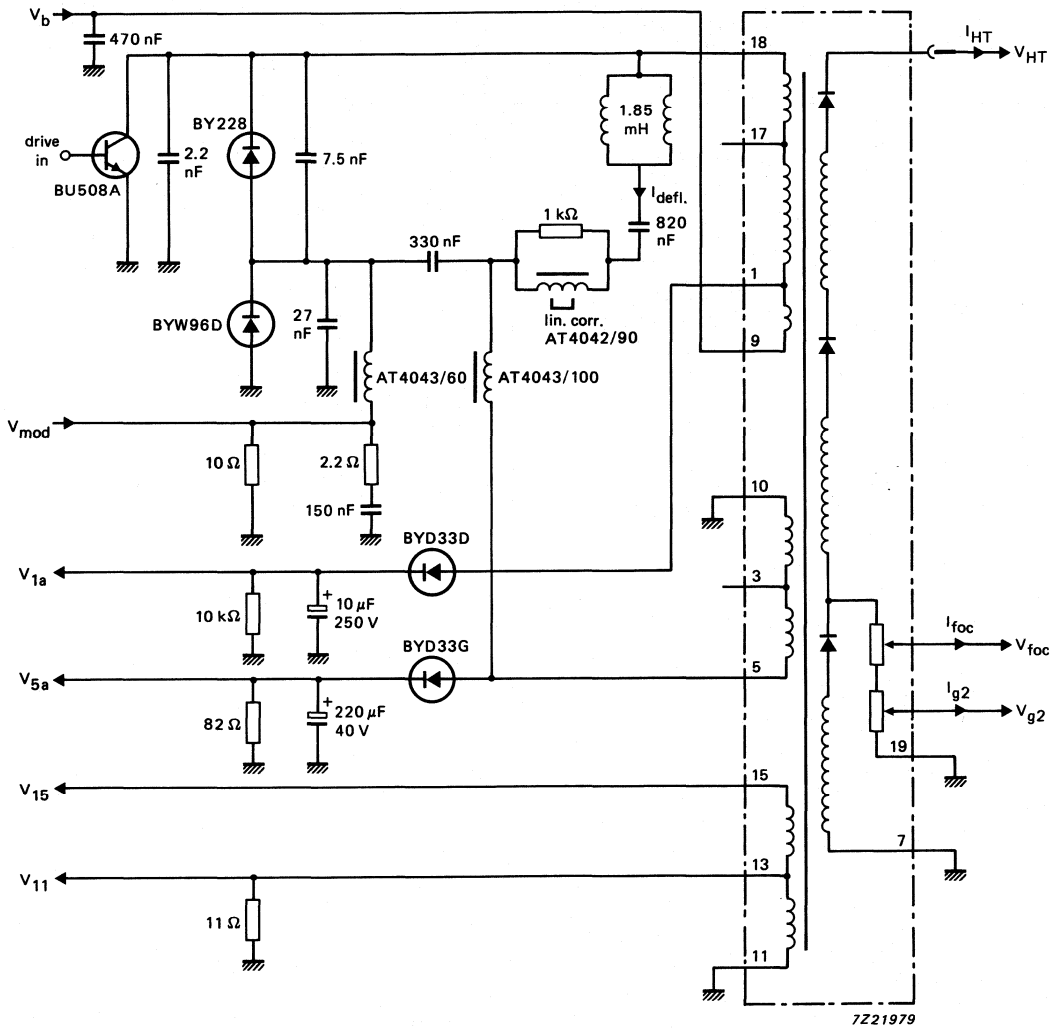


Fig.4 Application circuit.

Replaces AT2076/53, AT2076/54, AT2076/84, AT2076/86

UNIVERSAL DIODE-SPLIT LINE OUTPUT TRANSFORMER

- For monochrome Data Graphic Displays
- Three-layer EHT coil
- Aluminium foil primary winding
- Piggy-back type

QUICK REFERENCE DATA

For transistor line output stages, deflection angle 110°

	landscape	portrait
I_{eht}	max. 0.5 mA	
EHT at I_B = 0 mA	17 kV	
$R_{i(eht)}$	1.2 MΩ	
Flyback time	4 to 9 μs	3 to 8 μs
Line scan frequency range	15 to 50 kHz	15 to 70 kHz
Primary voltages	+ 330 V, + 550 V, + 660 V, + 715 V, + 825 V, + 880 V, + 1100 V, + 1210 V, + 1300 V	
Auxiliary voltages	+ 56 V, + 31 V, + 28 V, + 16 V, −145 V, −270 V, heater voltage	

APPLICATION

This transformer has been designed to provide the required scanning amplitude and EHT for 110° monochrome data graphic display tubes, at line scan frequencies of 15 to 70 kHz in both landscape and portrait scan mode. A choice can be made from different flyback times.
The transformer is intended for use in conjunction with:
– deflection unit AT1039 series or the AT1037 series, at line scan frequencies of 15 to 100 kHz (portrait scan mode) or 15 to 70 kHz (landscape scan mode);
– line output transistor BUW12A;
– linearity control unit AT4042/08A or AT4042/33A or AT4042/31L
– screened EHT cable, length 1 m; catalogue number 3122 137 64640.

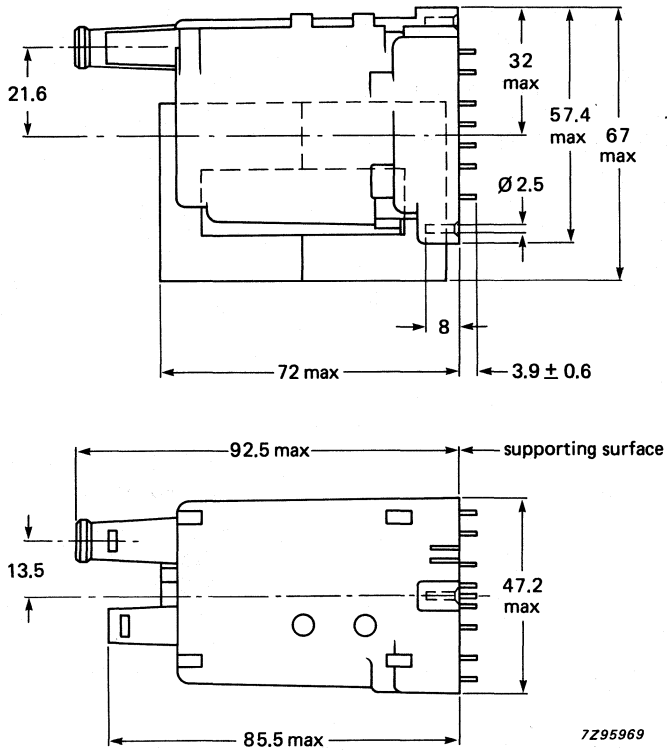
DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube U-cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The transformer is moulded in flame retarding epoxy, meeting the self-extinguishing requirements of IEC 65, para. 14.4 and UL492, para. 280-SE1. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 3).

MECHANICAL DATA

Dimensions in mm

Outlines



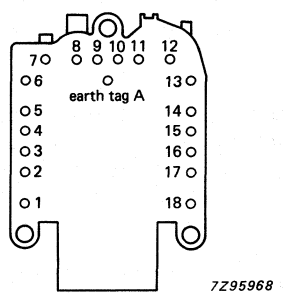


Fig. 1 Line output transformer AT2077/84.

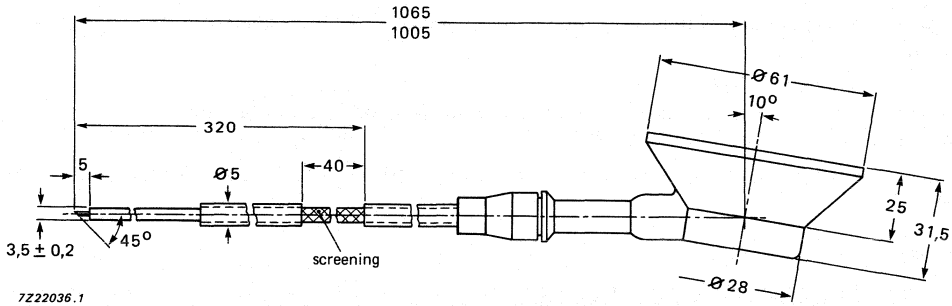


Fig. 2 EHT cable 3122 137 64640.

Mass approx. 355 g

Solderability in accordance with IEC 68, test T

Packing 27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2.54 mm is illustrated in Fig. 3. The transformer core must be earthed via the earth pin (see Fig. 1).

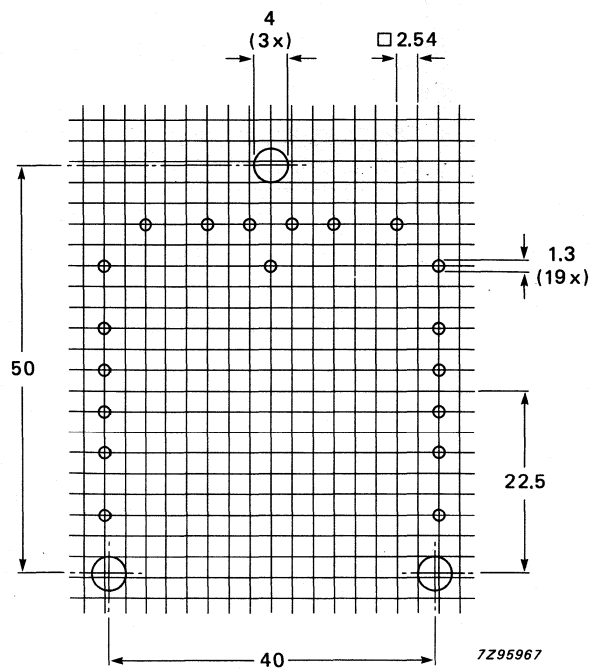


Fig. 3 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

– over-voltage on the coils;
– low atmospheric pressure (at high altitudes) implying bad cooling by convection;
– high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The hatched area shown in Fig. 4 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses, should be free from metal particles, solder drops, etc.

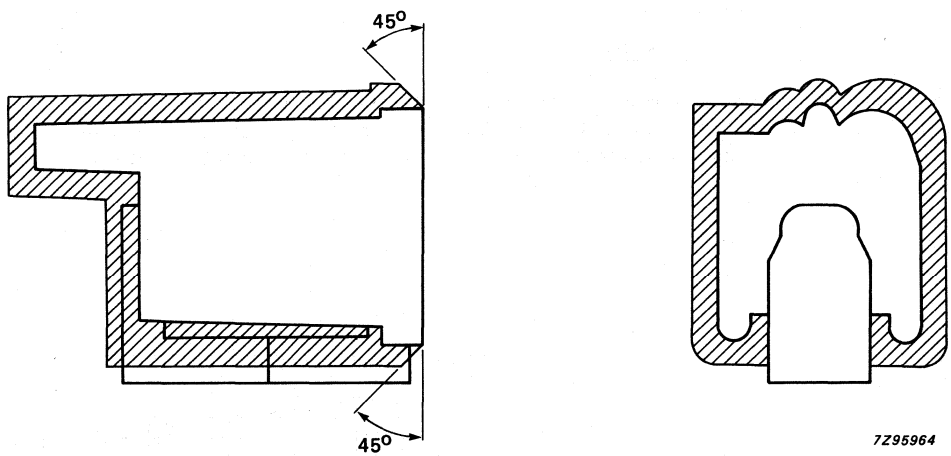
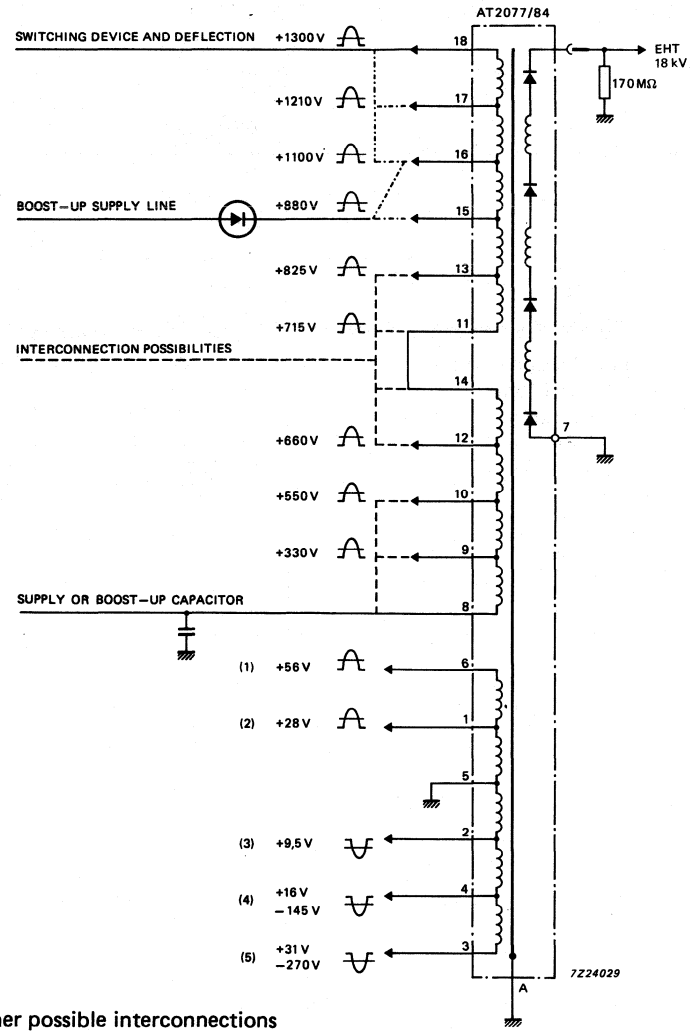


Fig. 4 Distances between EHT coil and conductive parts.



– · – · – other possible interconnections

Auxiliaries

(1) Video supply (flyback), 12.6 V_{RMS}, CRT heater.
(2) Field time base supply (flyback), 6,3 V_{RMS}, CRT heater.
(3) 6.3 V DC CRT heater (flyback rectified).
(4) Low voltage supply, V_{g1} supply.
(5) Field time base supply (scan).

Fig. 5 Primary and auxiliary voltages.

ELECTRICAL DATA (landscape format at 32 kHz; see Fig. 6)

EHT supply	I_{eht} (typical)	μA	60
	EHT	kV	17
	$R_{i(eht)}$	MΩ	1.5
Power supply	V_B	V	79
	V_B'	V	72.8
	I_B	mA	625
Output transistor	V_{CEM}	$V_{(p-p)}$	720
	+ I_{CEM}	A	5.5
Deflection	deflection current	$A_{(p-p)}$	8.35
	flyback time	μs	4.0
	overscan	%	0
Auxiliary voltages	pin 1	$V_{(RMS)}$	7.5
	pin 2	$V_{(p-p)}$	−9
	pin 3a*	$V_{(DC)}$	26.5
	pin 4a*	$V_{(DC)}$	−147
	pin 6a*	$V_{(DC)}$	55.7
	pin 13a*	$V_{(DC)}$	720

* After rectification.

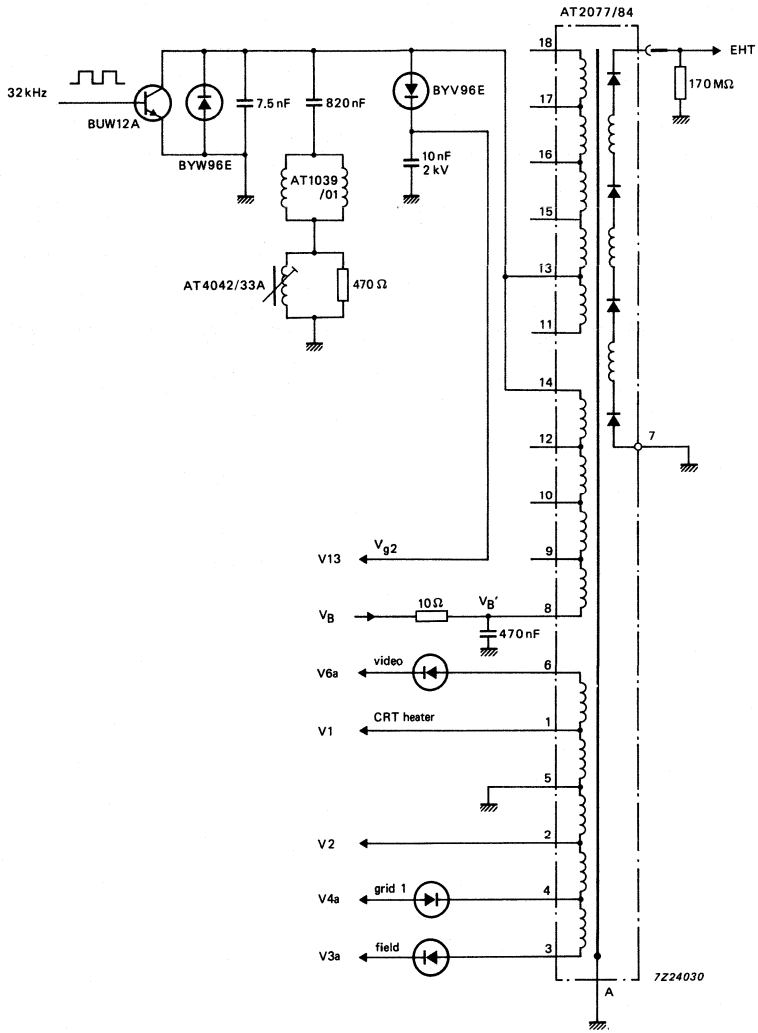


Fig. 6 Application circuit, landscape format, 32 kHz.

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For 90° colour monitors with separate power supply
- Three-layer EHT coil
- Aluminium foil primary winding
- Incorporated potentiometers for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages; 90°	
I_{eht}	0 mA
EHT	25 kV
$R_{i(eht)}$	$\leqslant$ 3.0 MΩ
I_{p-p} deflection (6% overscan)	8.1 A
Supply voltage (V_B')	100 V
Voltages of primary windings (peak-to-peak values)	+ 51 V, + 102 V, + 630 V, + 770 V, + 910 V, + 1050 V
Voltages of auxiliary windings (peak-to-peak values)	+ 58 V, + 218 V, −70 V, −180 V, −610 V
heater voltage (RMS value)	10.4 V

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° colour picture tubes in transistor equipped monitors operating at horizontal scanning frequencies from 30 to 50 kHz.

It is intended for use in conjunction with:
- linearity corrector AT4042/33A;
- bridge coil AT4043/13;
- screened EHT cable, length 1 m; catalogue number 3122 137 64640;
- focus cable, length 31 cm; catalogue number 3122 131 00732;
- V_{g2} cable, length 30 cm; catalogue number 3122 137 64570.

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. The transformer case has 3 holes that enables fixing to a printed-wiring board with self-tapping screws. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 4).

MECHANICAL DATA

Outlines

Dimensions in mm

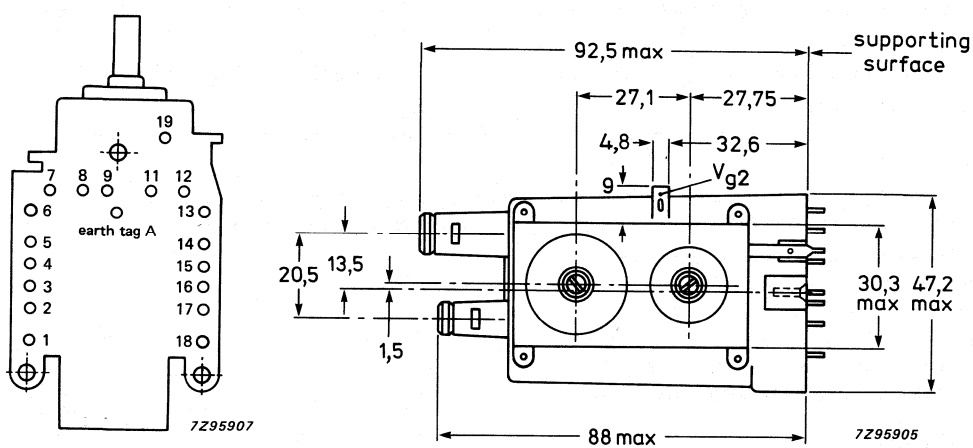


Fig. 1 Line output transformer AT2077/85.

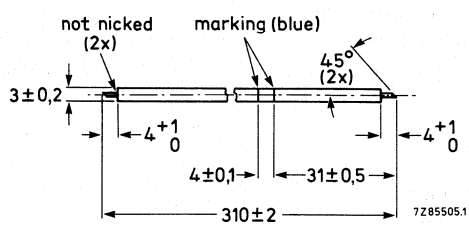


Fig. 2 Focus cable 3122 131 00732.

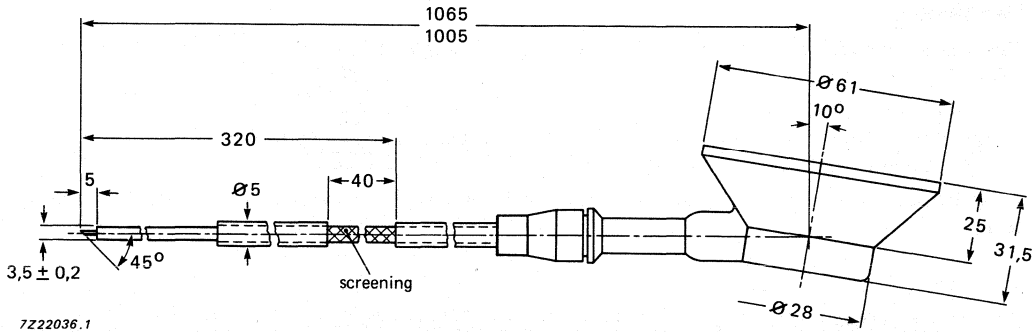


Fig. 3 EHT cable 3122 137 64640.

Mass approx. 375 g

Solderability in accordance with IEC 68, test T

Packing 27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2.54 mm is illustrated in Fig. 4. The transformer core must be earthed via the earth pin (see Fig. 1).

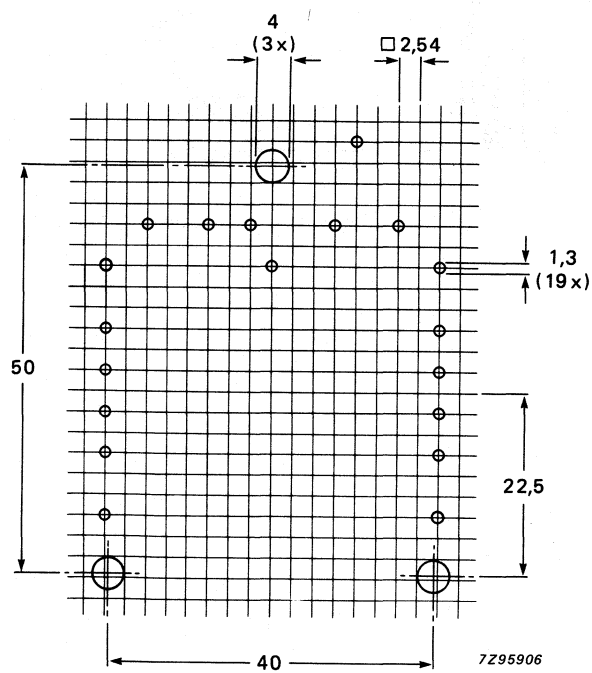


Fig. 4 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The hatched area shown in Fig. 5 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses, should be free from metal particles, solder drops, etc.

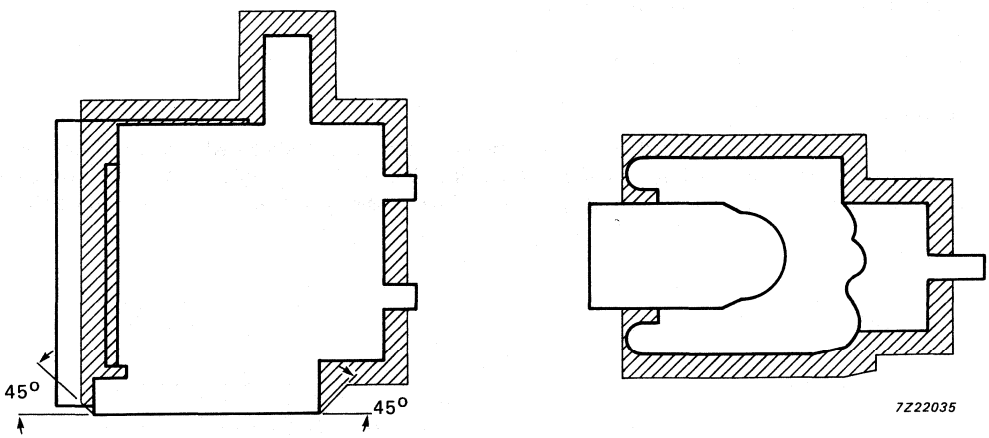
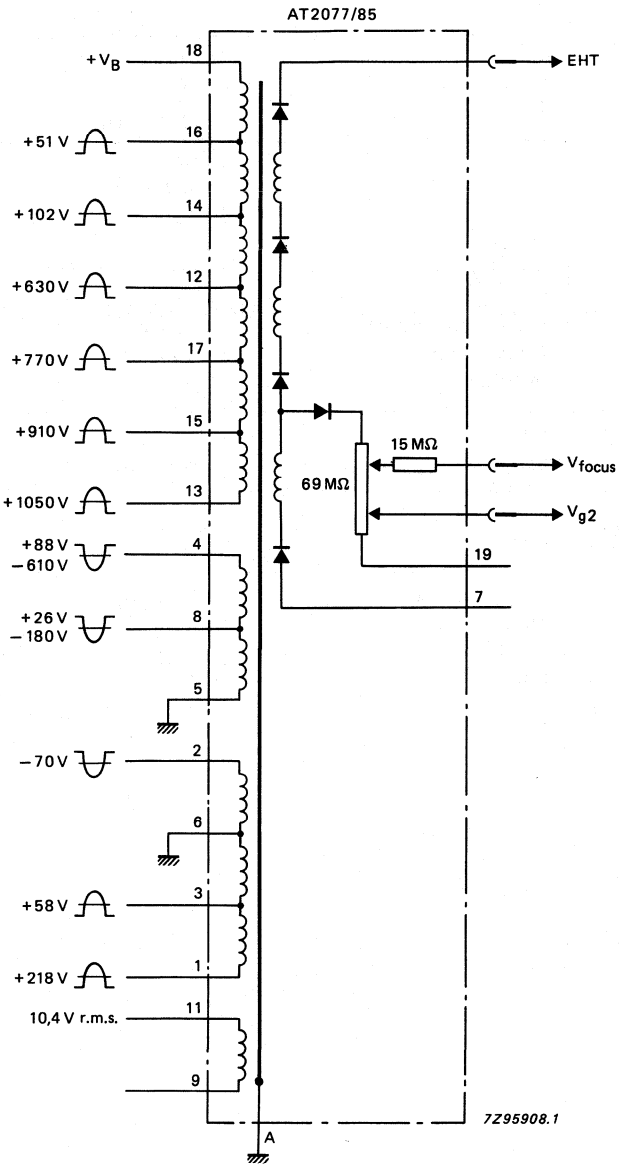


Fig. 5 Distances between EHT coil and conductive parts.



1. Duty cycle 18%.
2. Frequency range 30 - 50 kHz (upper frequency limit due to EW modulator tuning).

Fig. 6 Primary and auxiliary voltages.

ELECTRICAL DATA (see Fig. 7)

EHT supply	I_{eht}	mA	$\leqslant 0.5$
	EHT	kV	25
	$R_{i(eht)}$	MΩ	$\leqslant 3$
Power supply	V_B	V	100
	I_B	mA	700
Output transistor	V_{CEM}	V	750
	$+ I_{CEM}$	A	5.5
Deflection	deflection current	$A_{(p-p)}$	8.1
	flyback time	μs	4.5
	overscan	%	6
Focusing voltage	min.	kV	0.22 x EHT
	max.	kV	0.33 x EHT
Grid 2 voltage (V_{g2})	min.	V	0.011 x EHT
	max.	V	0.033 x EHT
Auxiliary voltages	heater voltage	$V_{(RMS)}$	10.4
	pin 3	$V_{(pk)}$	60.0
(after rectification)	pin 4	$V_{(DC)}$	90.0
	pin 8	$V_{(DC)}$	26.0

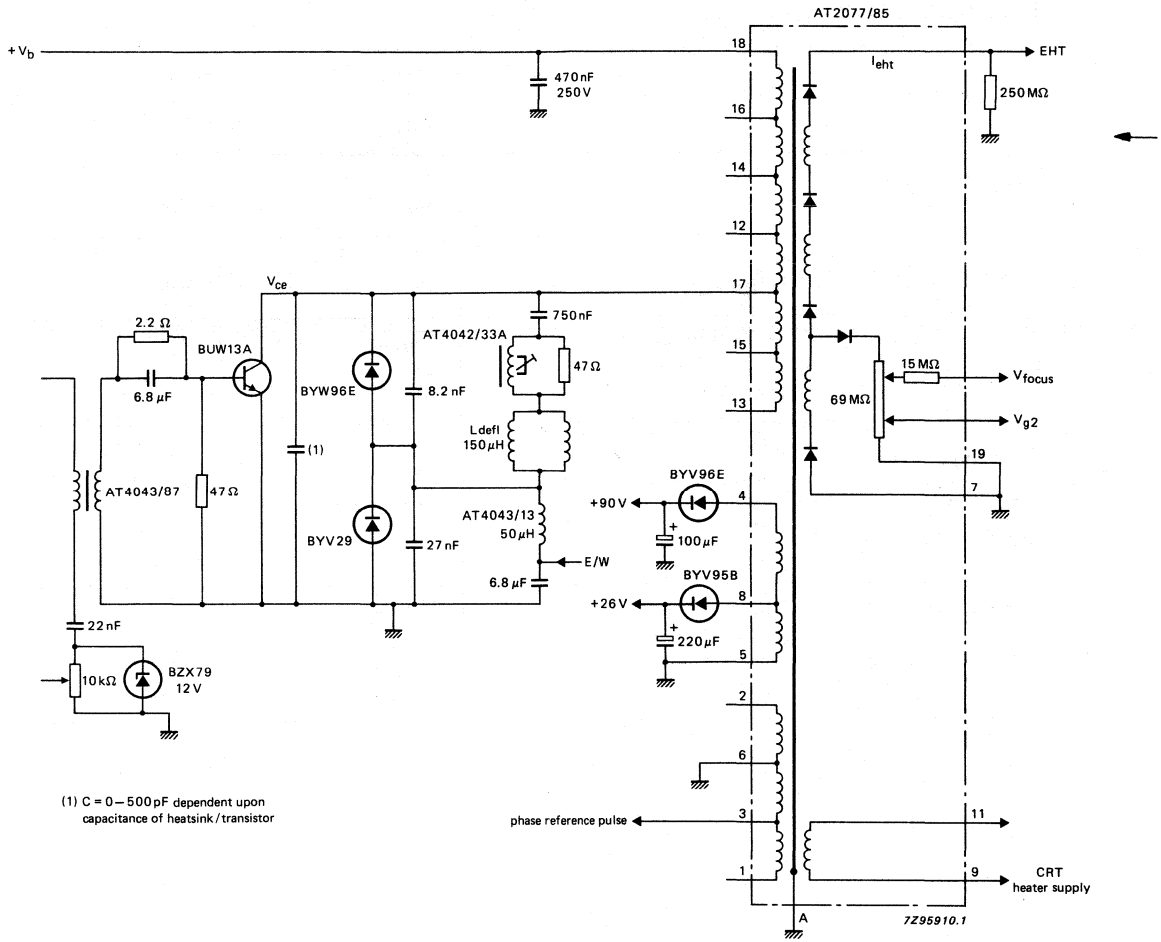


Fig. 7 Application circuit for colour DGD monitors (frequency range 30 - 50 kHz).

ELECTRICAL DATA (see Fig. 8)

EHT supply	I_{eht}	mA	$\leqslant 0.6$
	EHT	kV	25
	$R_{i(eht)}$	MΩ	$\leqslant 3$
Power supply	V_B	V	100
	I_B	mA	800
Output transistor	V_{CEM}	V	850
	$+ I_{CEM}$	A	5.5
Deflection	deflection current	$A_{(p-p)}$	7.2
	flyback time	μs	4.5
	overscan	%	6
Focusing voltage	min.	kV	0.22 x EHT
	max.	kV	0.33 x EHT
Grid 2 voltage (V_{g2})	min.	V	0.011 x EHT
	max.	V	0.033 x EHT
Auxiliary voltages	heater voltage	$V_{(RMS)}$	10.4
	pin 3	$V_{(pk)}$	60.0
(after rectification)	pin 4	$V_{(DC)}$	90.0
	pin 8	$V_{(DC)}$	26.0

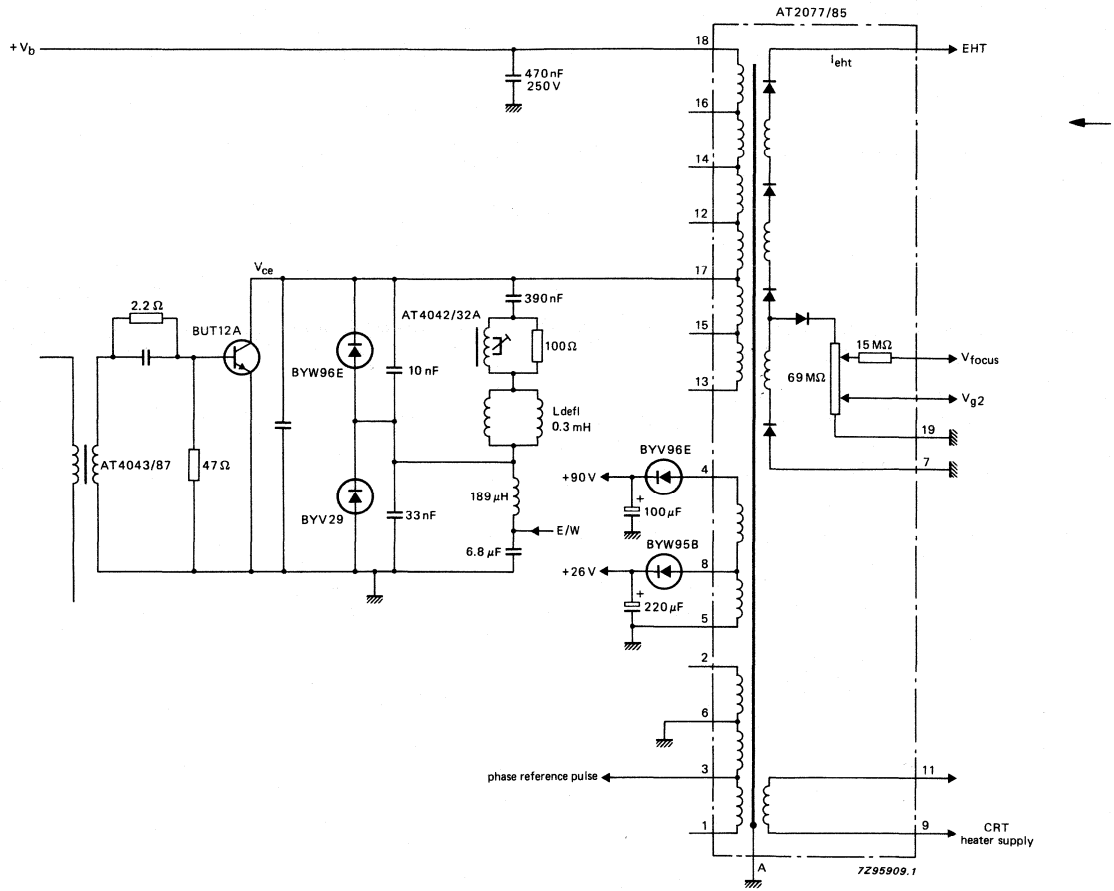


Fig. 8 Application circuit for colour DGD monitors (32 kHz).

DIODE-SPLIT-BOX LINE OUTPUT TRANSFORMER

- For colour monitors with separate power supply
- Three-layer EHT coil
- Aluminium foil primary winding

QUICK REFERENCE DATA

For transistor line output stages	
I_{eht}	0 mA
EHT	25 kV
$R_{i(eht)}$	$\leqslant$ 1.0 MΩ
I_{p-p} deflection (6% overscan)	8.1 A
Supply voltage (V_B')	100 V (or more dependent on circuitry)
Voltages of primary windings (peak-to-peak values)	+ 51 V, + 102 V, + 630 V, + 770 V, + 910 V, + 1050 V
Voltages of auxiliary windings (peak-to-peak values)	+ 58 V, + 218 V, −70 V, −180 V, −610 V
heater voltage (RMS value)	10.4 V

APPLICATION

This transformer has been designed to provide the required EHT for colour picture tubes in transistor equipped monitors operating at horizontal scanning frequencies from 30 to 50 kHz.

It is intended for use in conjunction with:
- linearity corrector AT4042/33A, (only for combined EHT/deflection systems);
- bridge coil AT4043/13, (only for combined EHT/deflection systems);
- screened EHT cable, length 1 m, for unstabilized EHT generators, catalogue number 3122 137 64640;
- RCF block (see Fig. 6), for stabilized EHT generators, catalogue number 3122 137 21181

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer case has 3 holes that enables fixing to a printed-wiring board with self-tapping screws. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 3).

MECHANICAL DATA

Dimensions in mm

Outlines

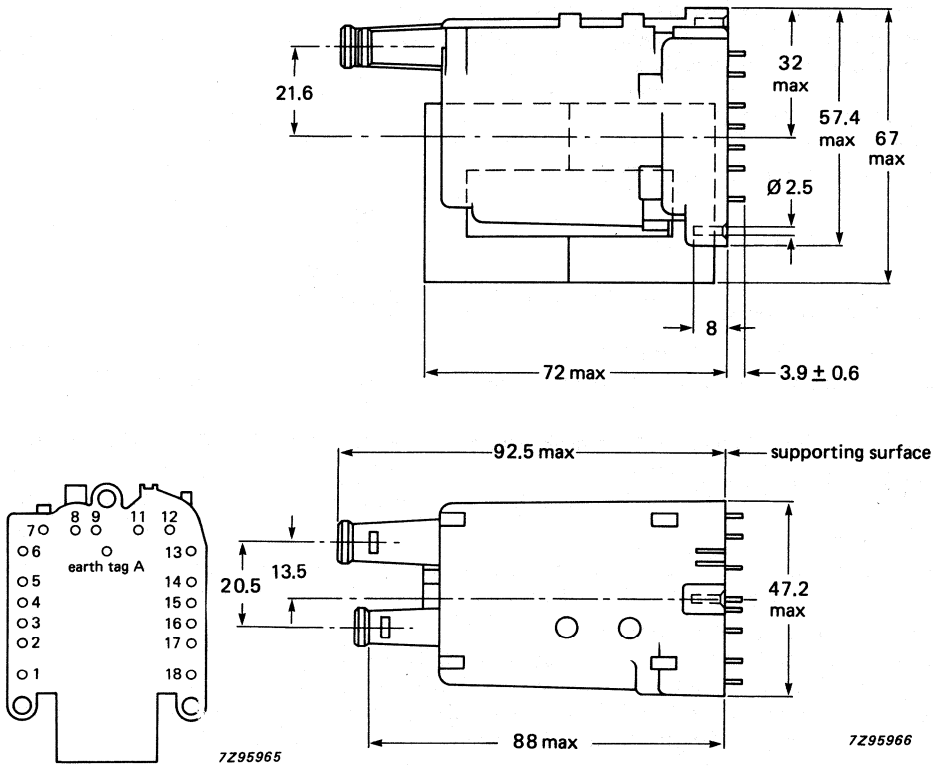


Fig. 1 Line output transformer AT2077/85A.

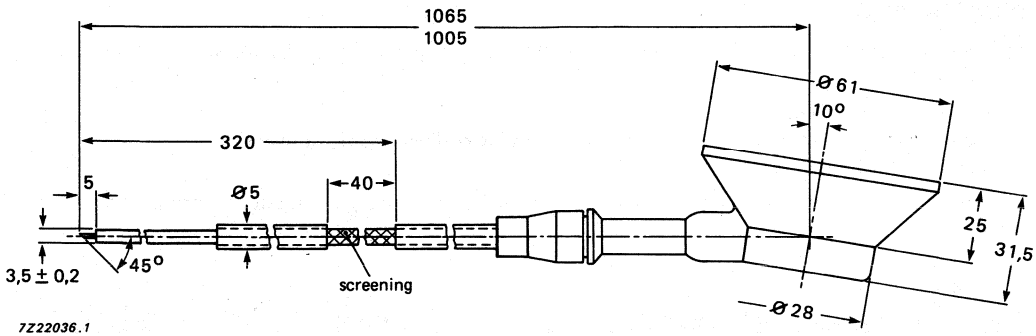


Fig. 2 EHT cable 3122 137 64640.

Mass approx. 355 g

Solderability in accordance with IEC 68, test T

Packing 27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2.54 mm is illustrated in Fig. 3. The transformer core must be earthed via the earth pin (see Fig. 1).

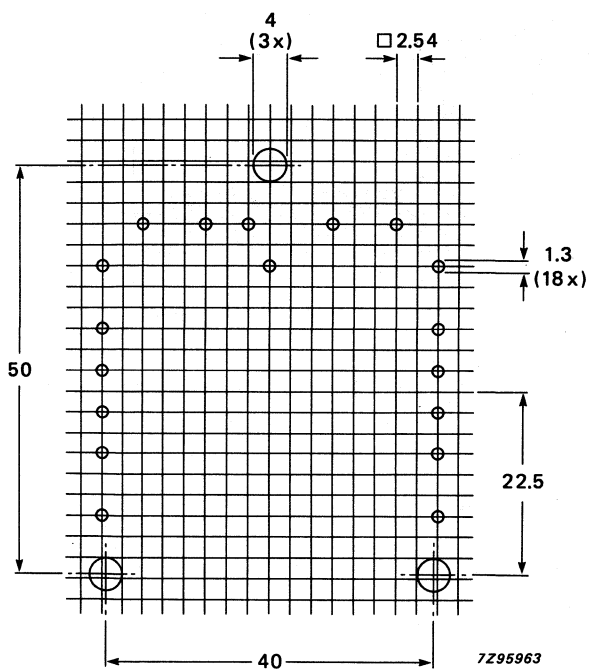


Fig. 3 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The hatched area shown in Fig. 4 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses, should be free from metal particles, solder drops, etc.

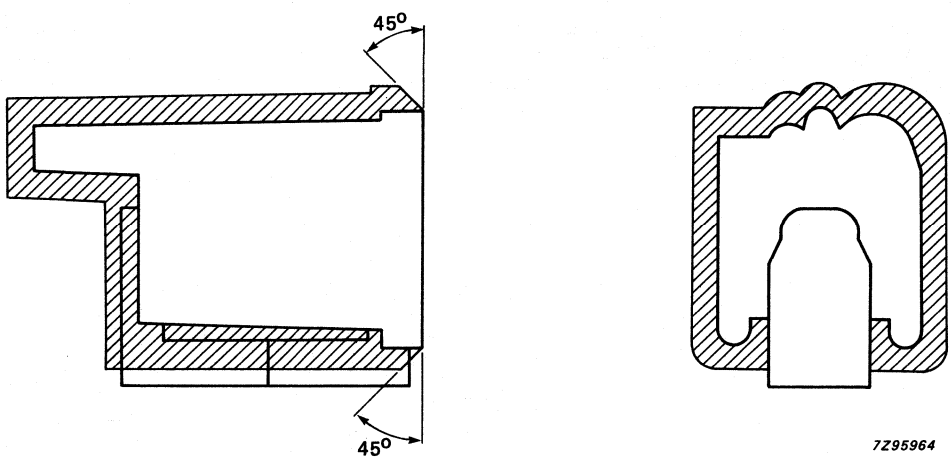
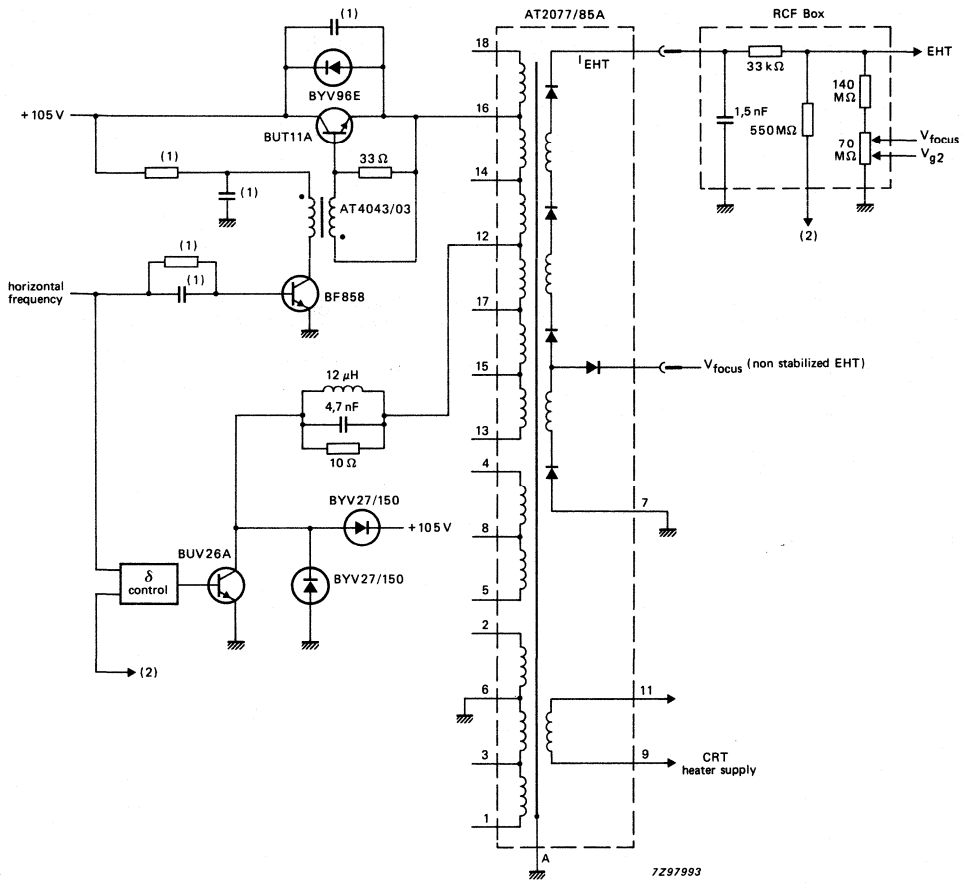


Fig. 4 Distances between EHT coil and conductive parts.



(1) These components are dependent on desired flyback time and operating frequency.

Fig. 5 Application circuit for stabilized EHT generation.

DIODE-SPLIT-BOX 'E' LINE OUTPUT TRANSFORMER

- For 90° and 110° colour TV and colour monitors with separate power supply
- Three-layer EHT coil
- Aluminium foil primary winding
- Incorporated potentiometers for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages; 90° and 110° deflection angle	
I_{eht}	0 mA
EHT	25 kV
$R_{i(eht)}$	$\leqslant$ 2.5 MΩ
I_{p-p} deflection (6% overscan)	4.4 A
Supply voltage (V_B)	143 V
Voltages of auxiliary windings (peak-to-peak values)	+ 207 V
heater voltage (RMS value)	8.1 V

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° and 110° colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA). The transformer may also be used in colour monitors.

It is intended for use in conjunction with:
- linearity corrector AT4042/30;
- screened EHT cable, length 1 m, catalogue number 3122 137 6337, UL approved cable, catalogue number 3122 137 6464 or unscreened EHT cable, length 59 cm, catalogue number 3122 137 63260;
- focus cable, length 31 cm, catalogue number 3122 131 00732;
- V_{g2} cable, length 30 cm, catalogue number 3122 137 64570.

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding of aluminium foil and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. The transformer case has 3 holes that enables fixing to a printed-wiring board with self-tapping screws. External circuit connection is made to connecting pins, positioned as indicated in Fig. 1, enabling the unit to be soldered directly into a printed-wiring board (Fig. 5).

MECHANICAL DATA

Dimensions in mm

Outlines

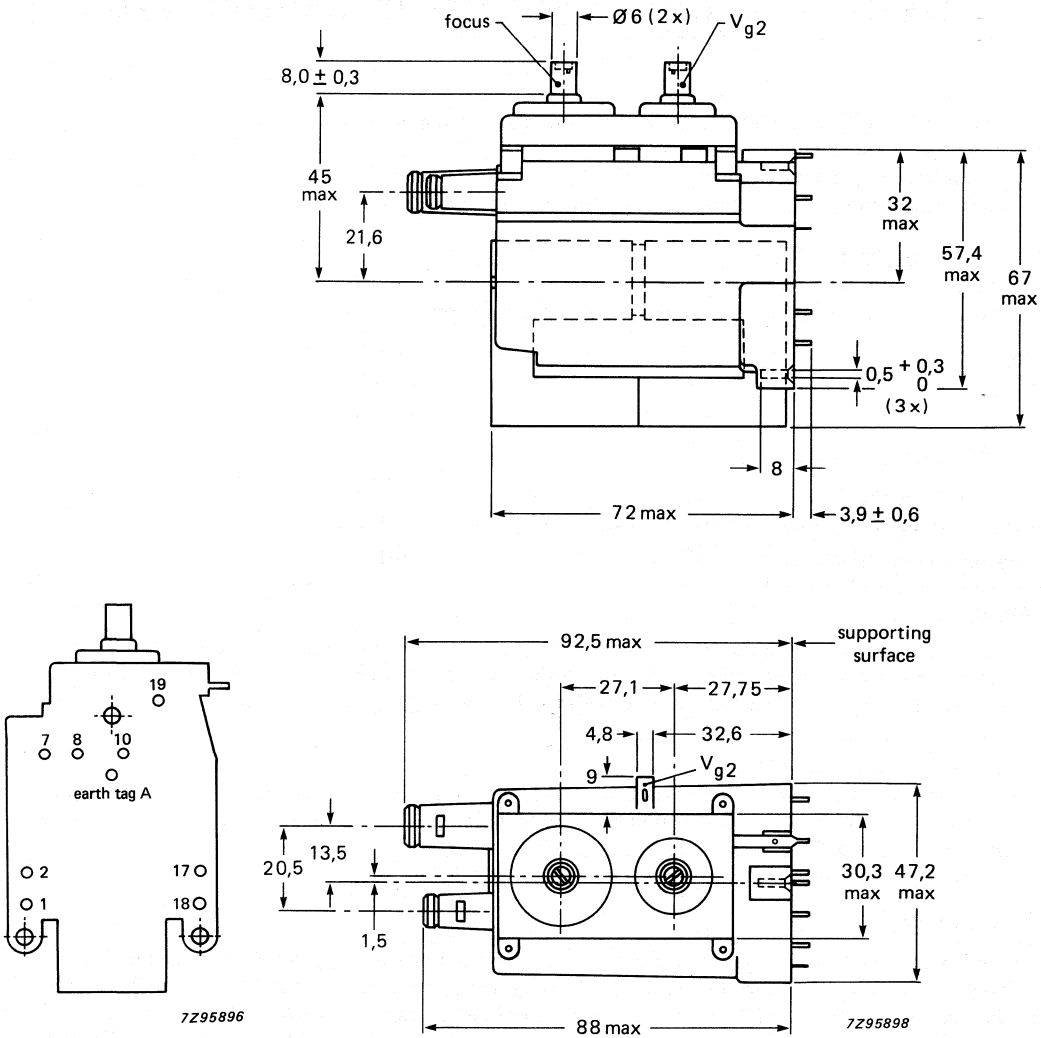


Fig. 1 Line output transformer AT2077/88.

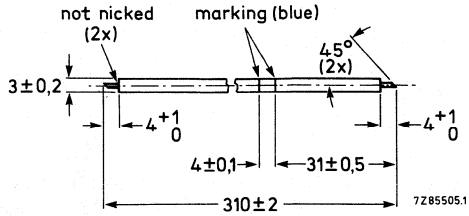


Fig. 2 Focus cable 3122 131 00732.

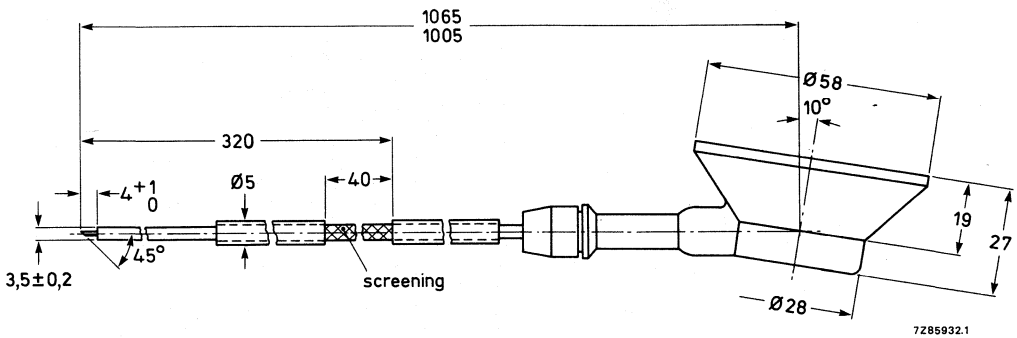


Fig. 3 EHT cable 3122 137 63370.

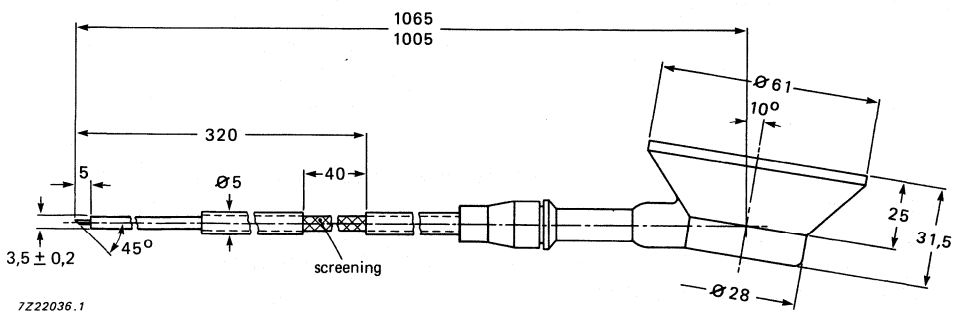


Fig. 4 UL approved cable 3122 137 64640.

Mass approx. 375 g

Solderability in accordance with IEC 68, test T

Packing 27 transformers per box

Mounting

The transformer may be mounted on a printed-wiring board. It can be secured with 3 self-tapping screws; the tightening torque on the board is 500 + 300 mNm. The fit of the connecting pins in a printed-wiring grid with a pitch of 2,54 mm is illustrated in Fig. 5. The transformer core must be earthed via the earth pin (see Fig. 1).

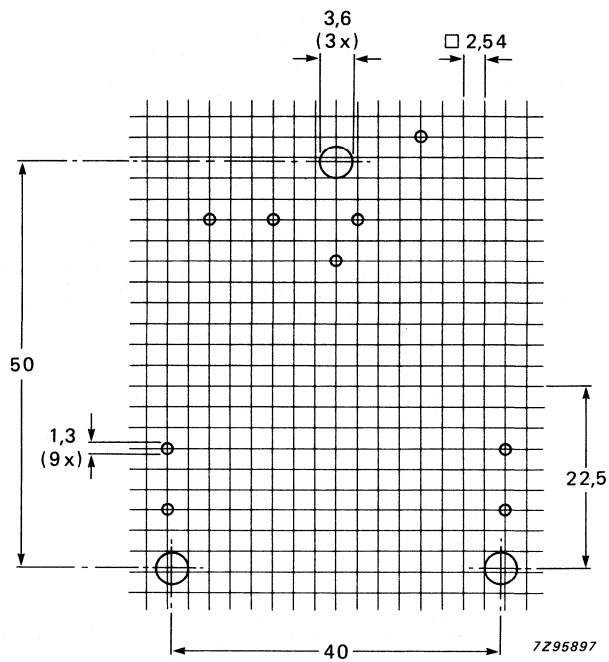


Fig. 5 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The hatched area shown in Fig. 6 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses, should be free from metal particles, solder drops, etc.

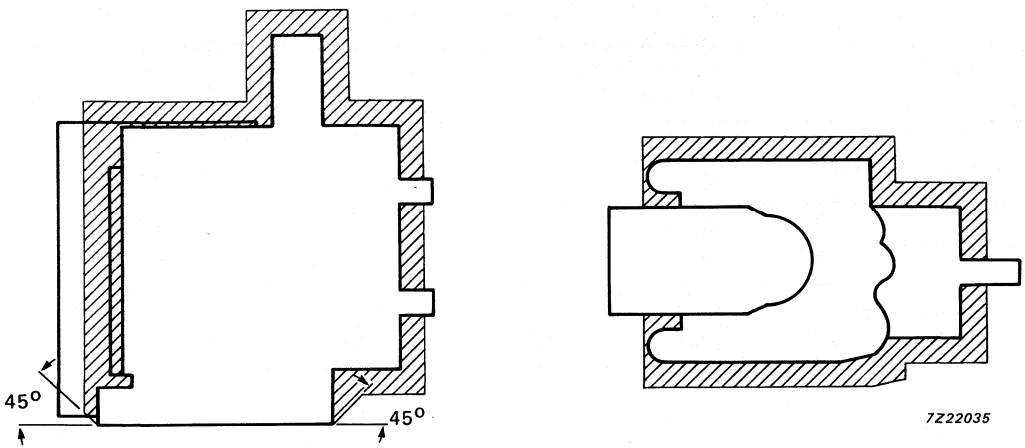


Fig. 6 Distances between EHT coil and conductive parts.

ELECTRICAL DATA (see Fig. 7)

EHT supply	I_{eht} EHT $R_{i(eht)}$	mA kV MΩ	1.2 25 2.5
Power supply	V_B I_B	$V_{(p-p)}$ mA	143 450
Output transistor	V_{CEM} $+I_{CEM}$	V A	1140 3.8
Deflection	deflection current flyback time overscan	$A_{(p-p)}$ μs %	5.2 11.2 6
Focusing voltage	min. max.	kV kV	0.22 x EHT 0.33 x EHT
Grid 2 voltage (V_{g2})	min. max.	V V	0.011 x EHT 0.033 x EHT
Auxiliary voltages (after rectification)	pin 2 pin 8 heater voltage	V (DC) V (RMS)	207 8.1

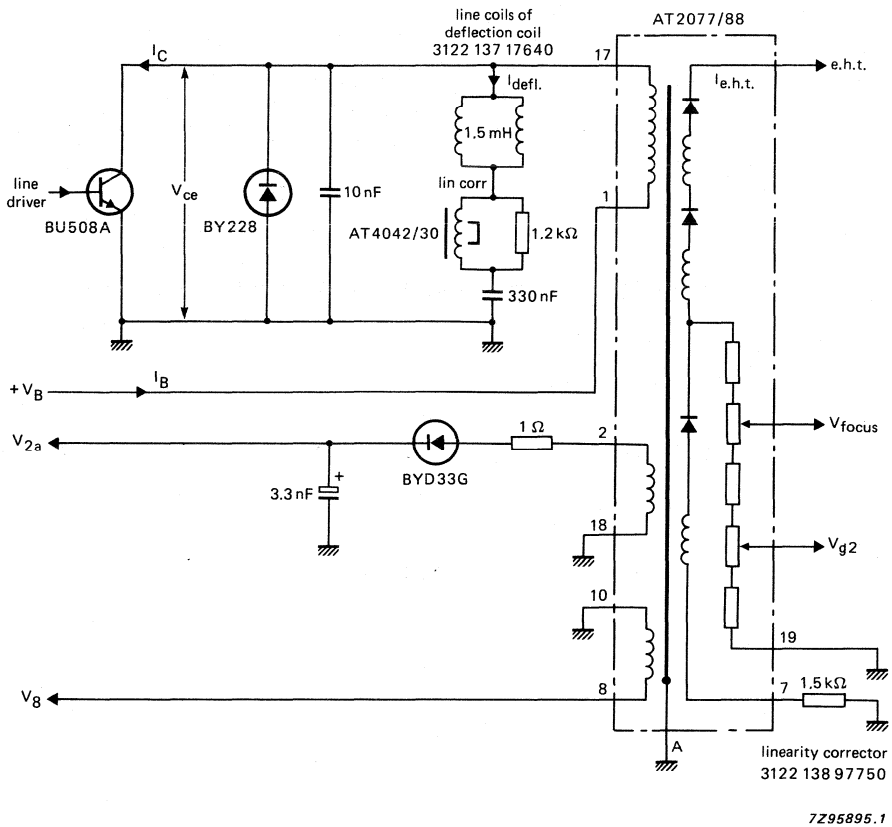


Fig. 7 Application circuit, 15.6 kHz.

LINE OUTPUT TRANSFORMER

"micro slot +"

- For 90°, 20" colour television sets.
- Incorporated potentiometers and cables for focusing and V_{g2} adjustment.
- Side mounted potentiometers

QUICK REFERENCE DATA

For transistor line output stages; 90° deflection angle

I_{EHT}	1.2 mA
EHT	25 kV
$R_{I(EHT)}$	$\leqslant$ 1.5 MΩ
I_{p-p}	3.3 A
Supply voltage (V_B)	115 V
Supply current at I_{EHT} = 1.2 mA	560 mA
Focusing voltage control	25 - 34.5% of EHT
Grid 2 voltage control	300 to 930 V
Auxiliary voltages	8.1 V (RMS) (heater supply) +180 V (video supply) +26.2 V (frame) +16.0 V (small signal) 146 $V_{(p-p)}$ (AFC)

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90°, 20" colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA).

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The primary and secondary windings, together with the EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be mounted on a printed-wiring board.

MECHANICAL DATA

dimensions in mm

Outlines

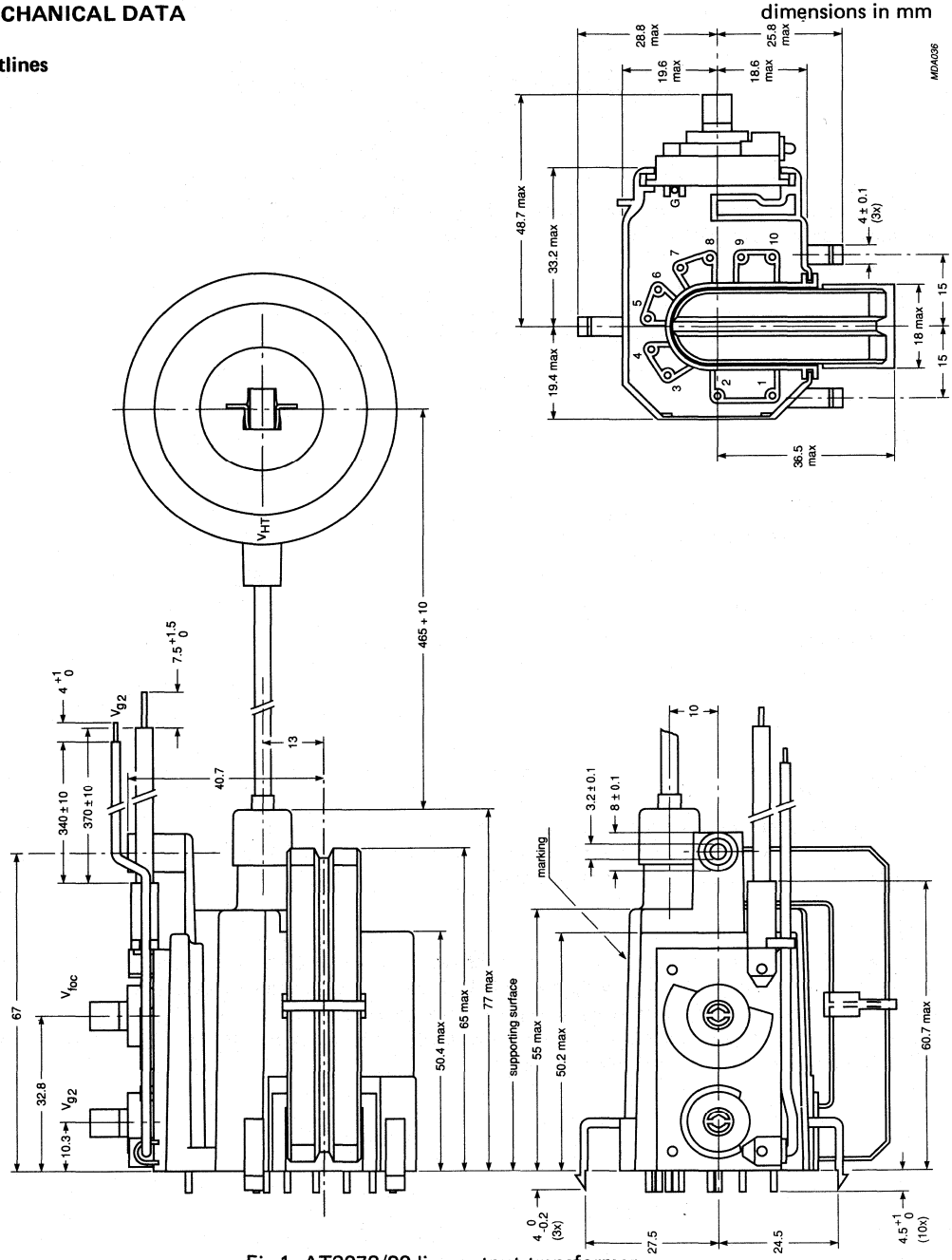


Fig.1 AT2078/20 line output transformer.

Mass : approx. 280 grams

Solderability: in accordance with IEC 68, test Ta

Packing : 16 transformers per tray

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

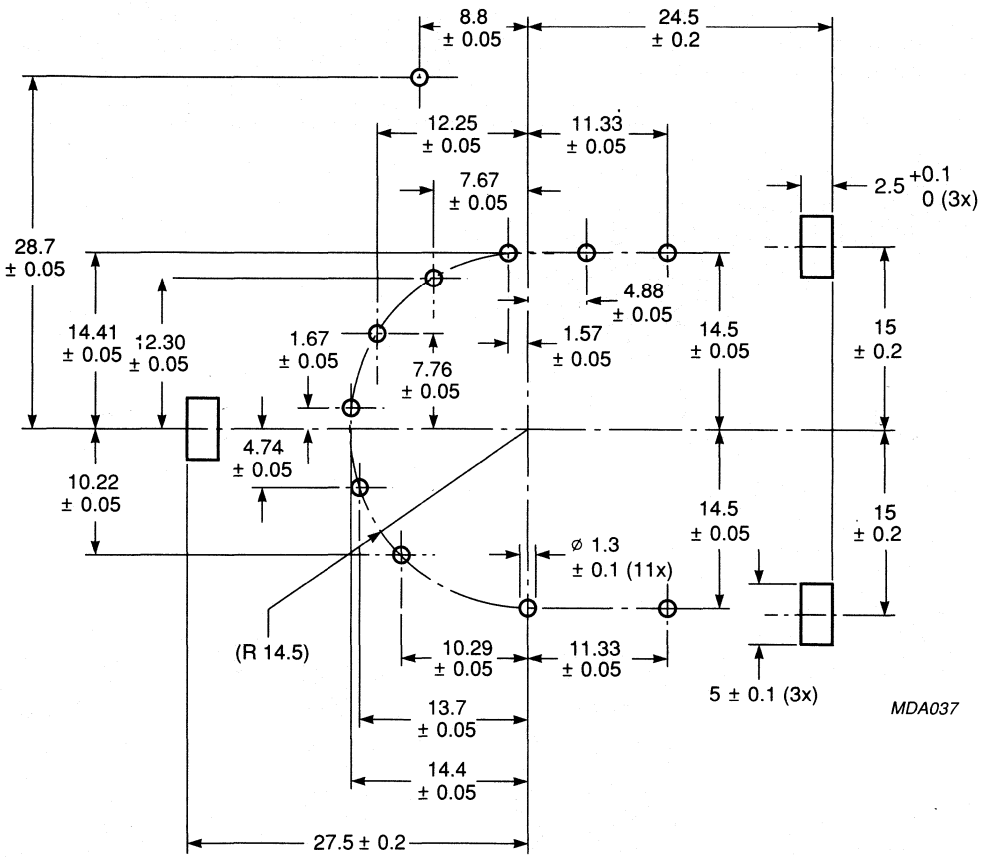


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 90 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

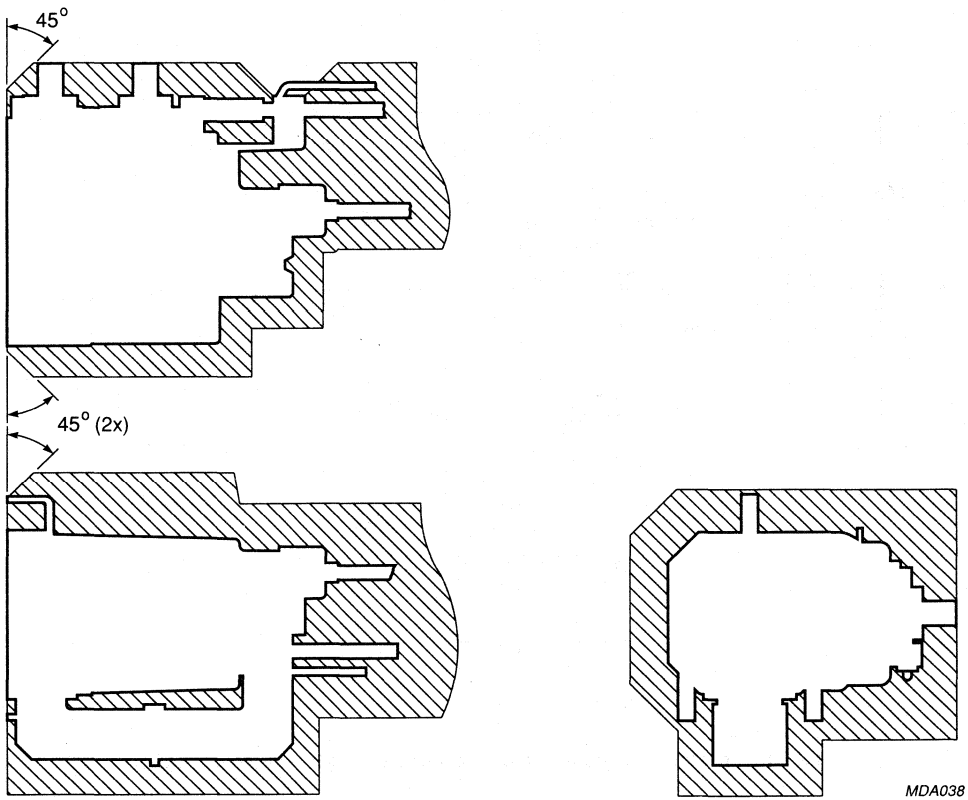


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	1.2 mA 25 kV $\leqslant$ 1.5 MΩ
Power supply	V_B I_B	115 V 560 mA
Output transistor	V_{ce} I_c	960 V 2.4 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	3.3 A 11.2 μs 15625 Hz 1.91 mH
Focusing voltage Focusing current		25 - 34.5% of EHT 85 μA
Grid 2 voltage (V_{g2})		300 - 930 V (DC)
Auxiliary voltages	pin 3, V_3 (RMS) pin 2, V_{2b} (DC) pin 4, V_{4a} (DC) pin 6, V_{6a} (DC) pin 7, V_7 (p-p)	8.1 V +180 V 26.2 V 16.0 V 140 V

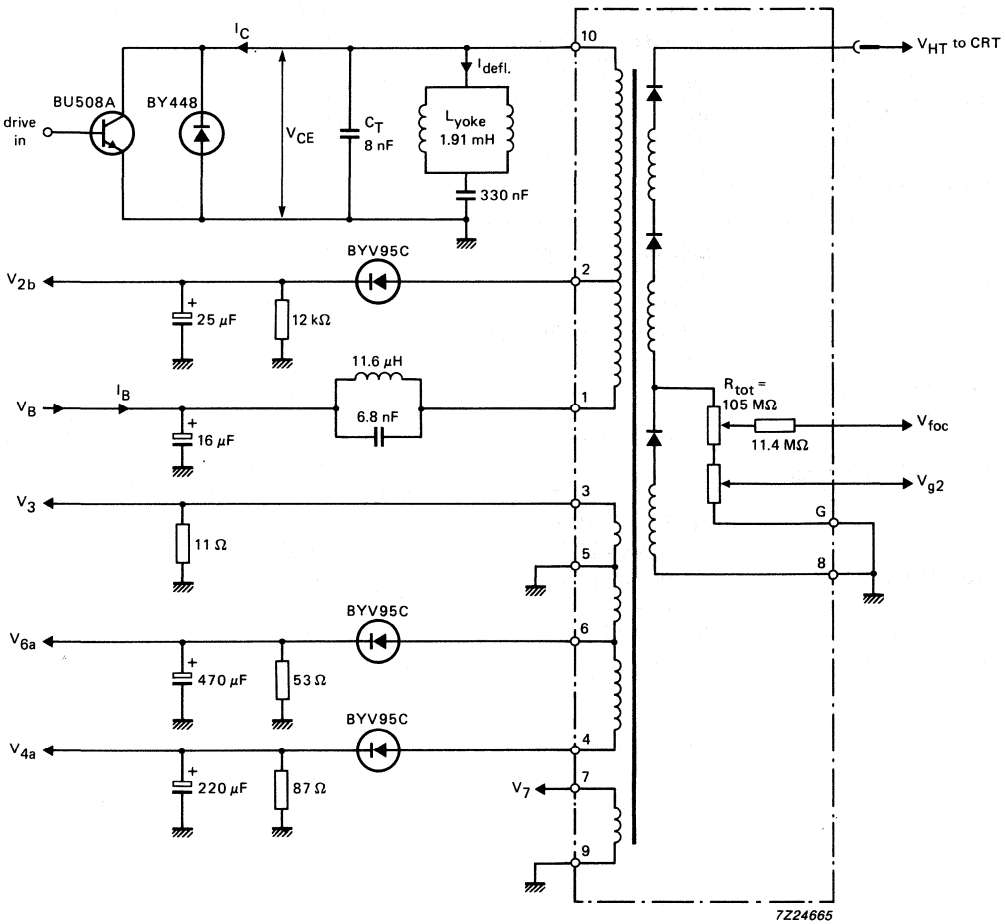


Fig.4 Application circuit.

LINE OUTPUT TRANSFORMER

"micro slot +"

- For 90° and 110° colour television sets and monitors
- Incorporated potentiometers and cables for focusing and V_{g2} adjustment
- Front mounted potentiometers

QUICK REFERENCE DATA

For transistor line output stages; 90° and 110° deflection angle	
I_{EHT}	1.2 mA
EHT	24.8 kV
$R_{I(EHT)}$	$\leqslant$ 2.0 MΩ
I_{p-p} deflection	4.2 A
Supply voltage (V_B)	147 V
Supply current at I_{EHT} = 1.2 mA	380 mA
Focusing voltage control	26 - 34.5% of EHT
Grid 2 voltage control	220 to 830 V
Auxiliary voltages	7.6 V (RMS) (heater supply) + 185 V (video supply) + 28.2 (frame supply)

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° and 110° colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA). The transformer may also be used in colour monitors.

It is intended for use with:
-- East/west injection coil AT4043/60
— Linearity corrector AT4042/90

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The primary and secondary windings, together with the EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be mounted on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

Outlines

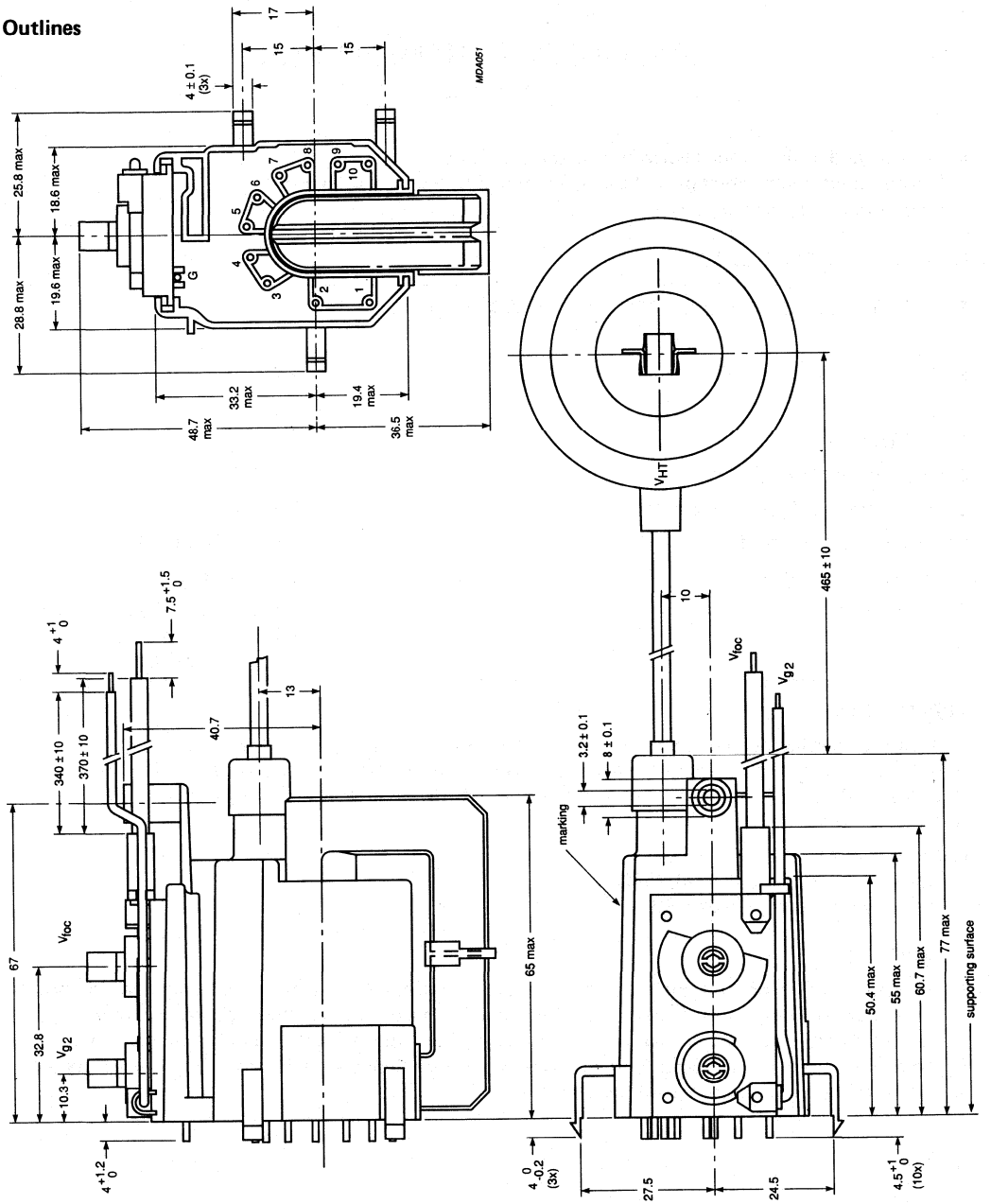


Fig.1 AT2078/83 line output transformer.

Mass : approx. 280 grams

Solderability: in accordance with IEC 68, test Ta

Packing : 20 transformers per tray

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

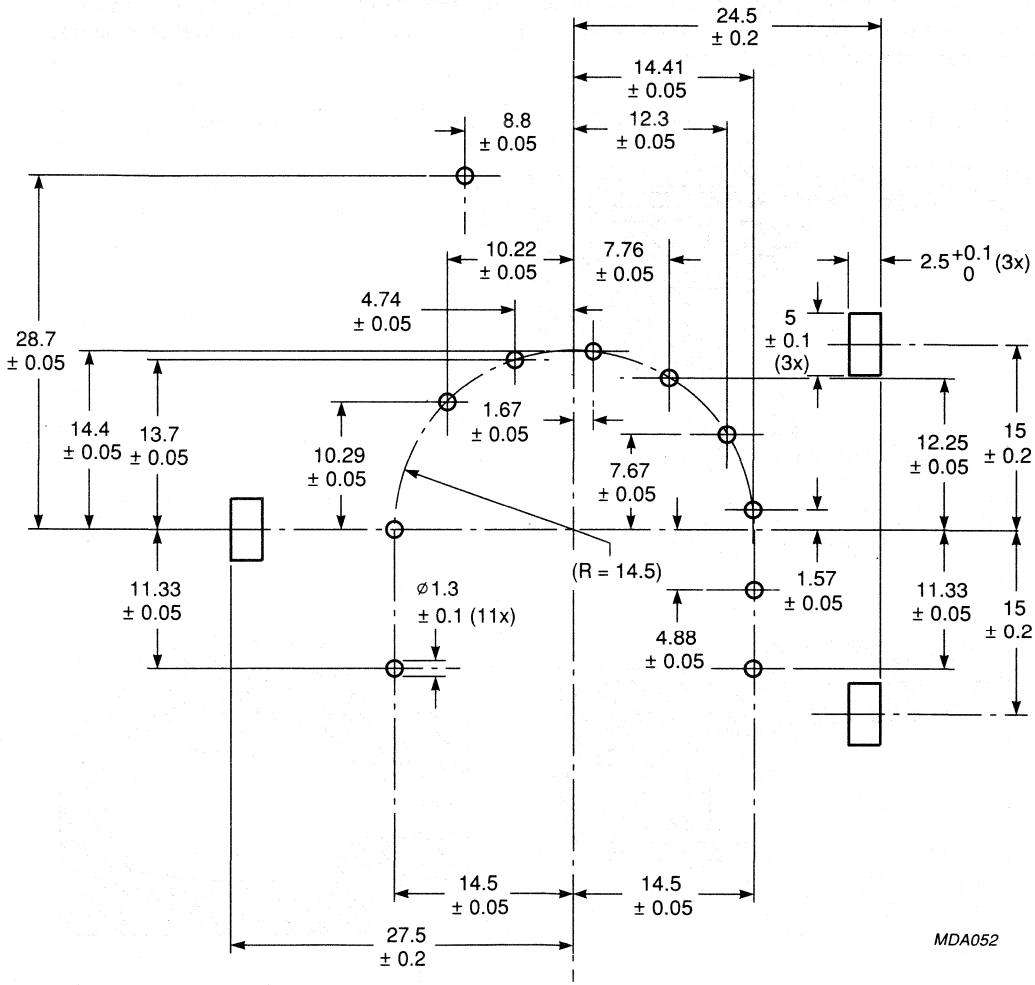


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 70 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

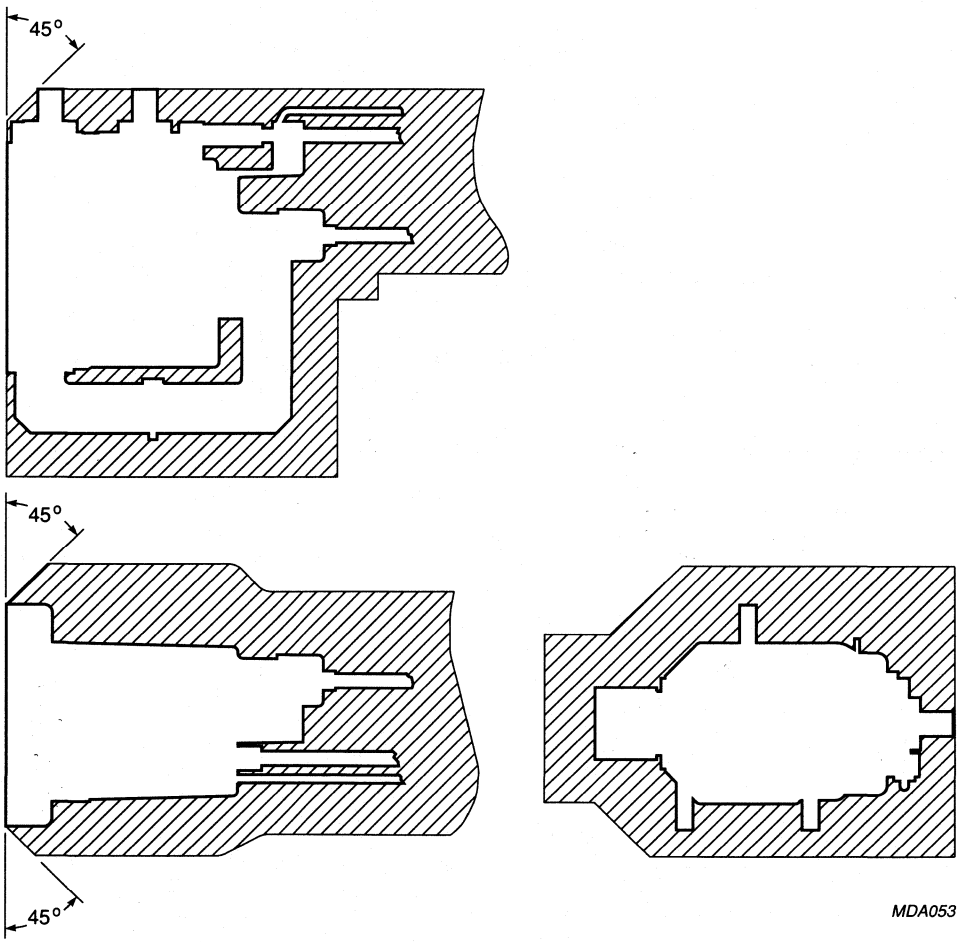


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	1.2 mA 24.8 kV $\leqslant$ 2.0 MΩ
Power supply	V_B I_B	147 V 380 mA
Output transistor	V_{ce} I_c	1220 V 2.8 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	4.2 A 11.4 μs 15625 Hz 1.85 mH
Focusing voltage		26 - 34.5% of EHT
Grid 2 voltage (V_{g2})		220 - 830 V (DC)
Auxiliary voltages	pin 7, V_7 (RMS) pin 1, V_{1a} (DC) pin 3, V_{3a} (DC)	7.6 V 185 V 28.2 V

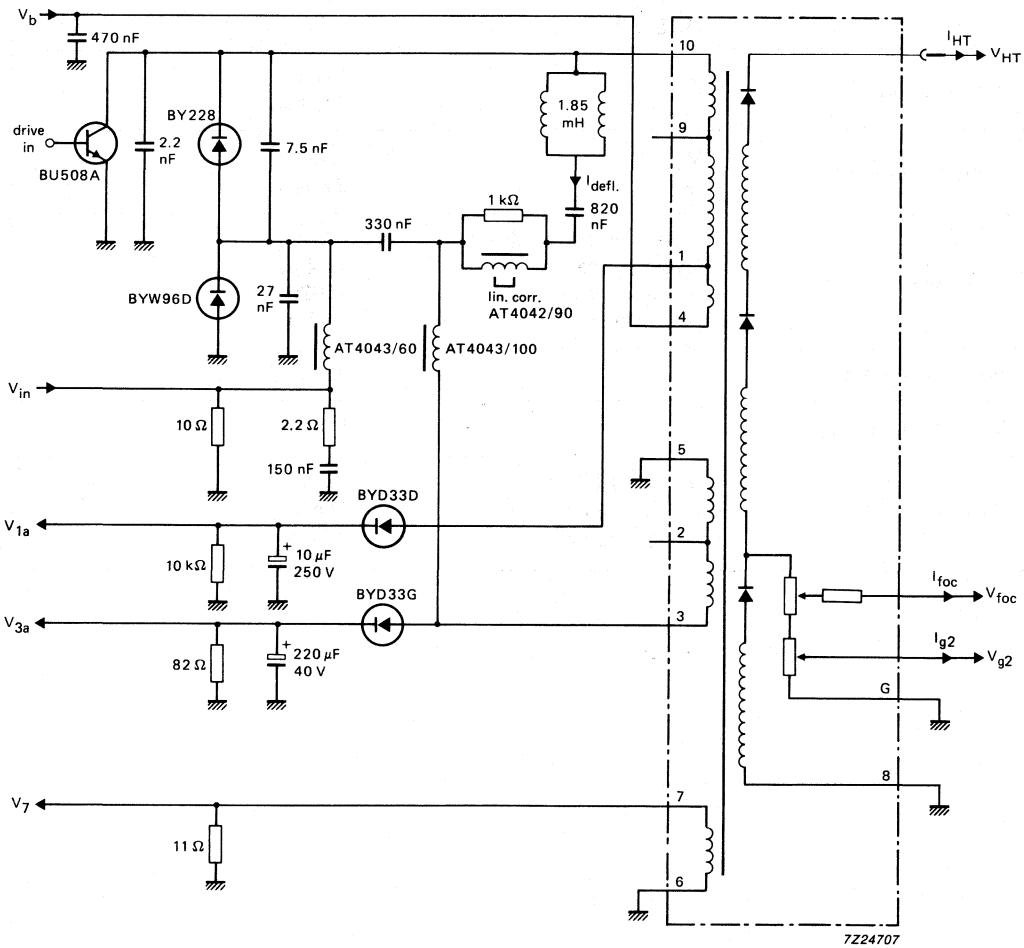


Fig.4 Application circuit.

LINE OUTPUT TRANSFORMER

" micro slot 3 "

- For colour television sets with 14in and 16in picture tubes
- Incorporated potentiometers and cables for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages	
I_{EHT}	0.6 mA
EHT	20.4 kV
$R_{I(EHT)}$	$\leqslant$ 1.5 MΩ
I_{p-p} deflection	2.2 A
Supply voltage (V_B)	101 V
Supply current at I_{EHT} = 1.2 mA	335 mA
Focusing voltage control	25 - 30.8% of EHT
Grid 2 voltage control	170 to 700 V
Auxiliary voltages	6.3 V (RMS) (heater supply) + 125 V (video supply) + 15.1 V (small signal supply) + 21 V (small signal) 23 $V_{(p-p)}$

APPLICATION

This transformer has been designed to provide the required scanning amplitude for colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA).

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The primary and secondary windings, together with the EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be mounted on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

Outlines

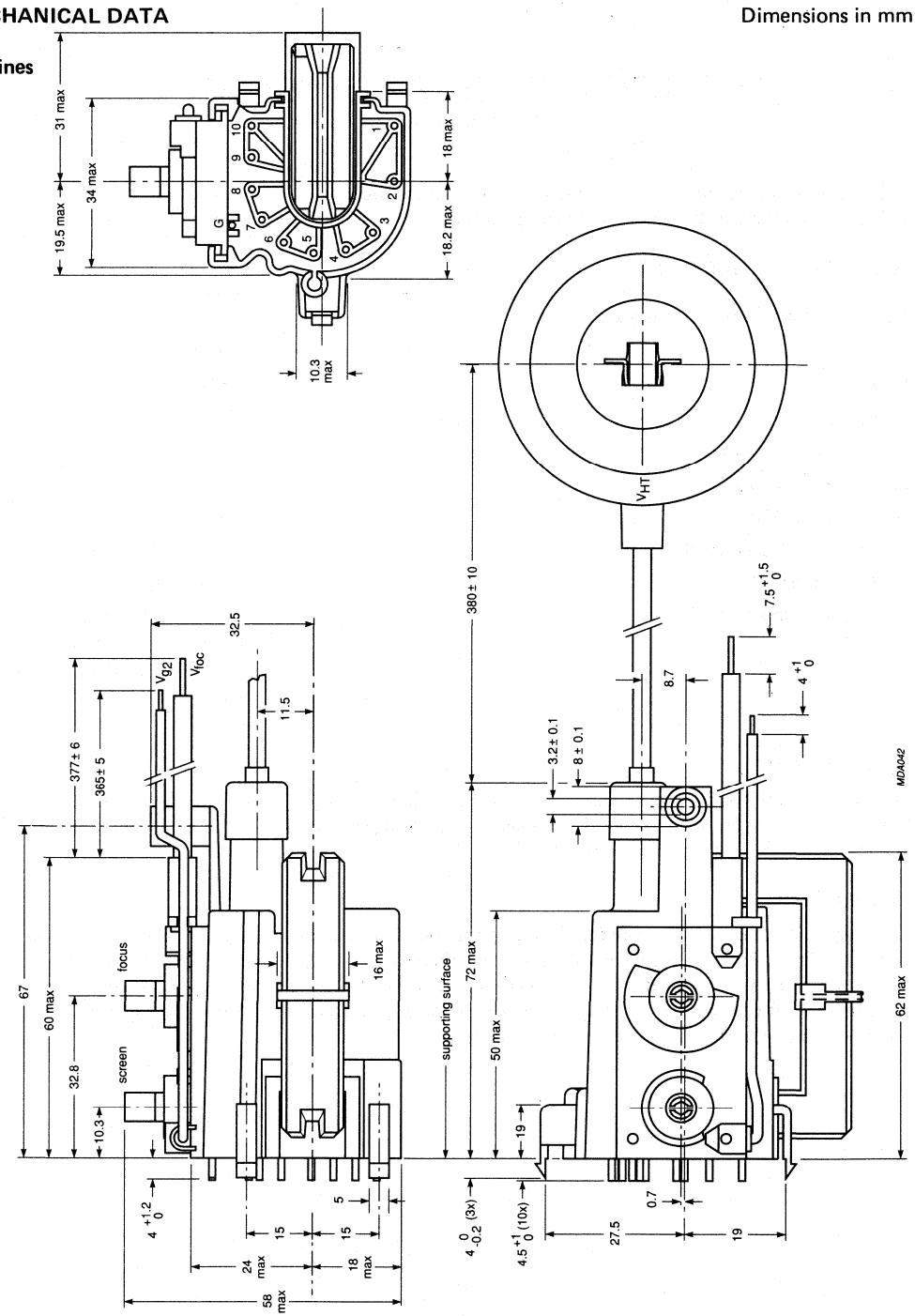


Fig.1 AT2079/00 line output transformer.

Mass : approx. 190 grams

Solderability: in accordance with IEC 68, test Ta

Packing : 20 transformers per tray

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

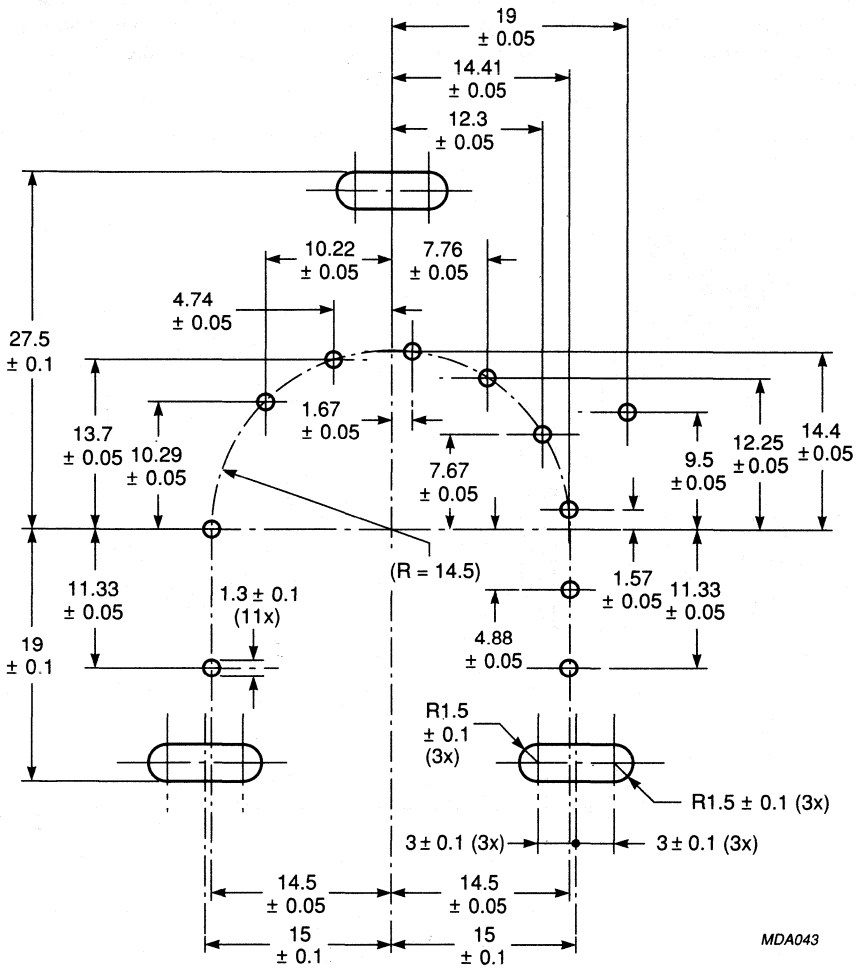


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 60 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

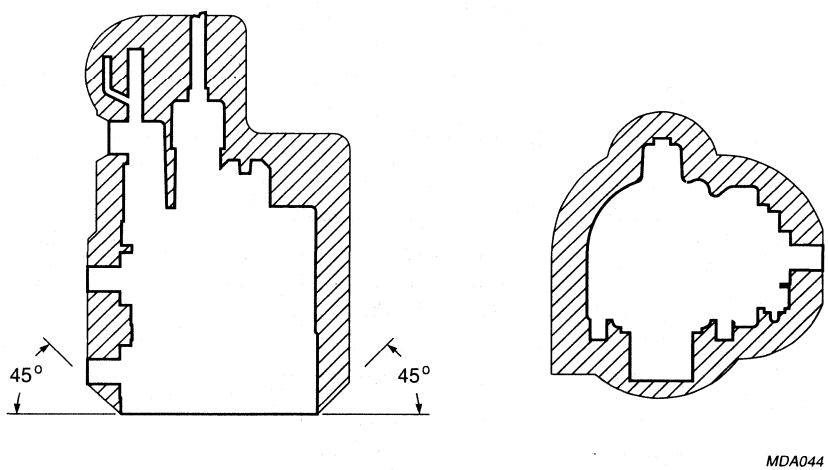


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	0.6 mA 20.4 kV $\leqslant$ 1.5 MΩ
Power supply	V_B I_B	101 V 335 mA
Output transistor	V_{ce} I_c	860 V 2.0 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	2.2 A 11.4 μs 15625 Hz 2.47 mH
Focusing voltage Focusing current		25 - 30.8% of EHT 85 μA
Grid 2 voltage (V_{g2})		170 - 700 V (DC)
Auxiliary voltages	pin 9, V_{9a} (RMS) pin 7, V_{7a} (DC) pin 10, V_{10a} (DC) pin 6, V_{6a} (DC) pin 7, V_7 (p-p)	6.3 V 15.1 V 125 V 21.0 V 23 V

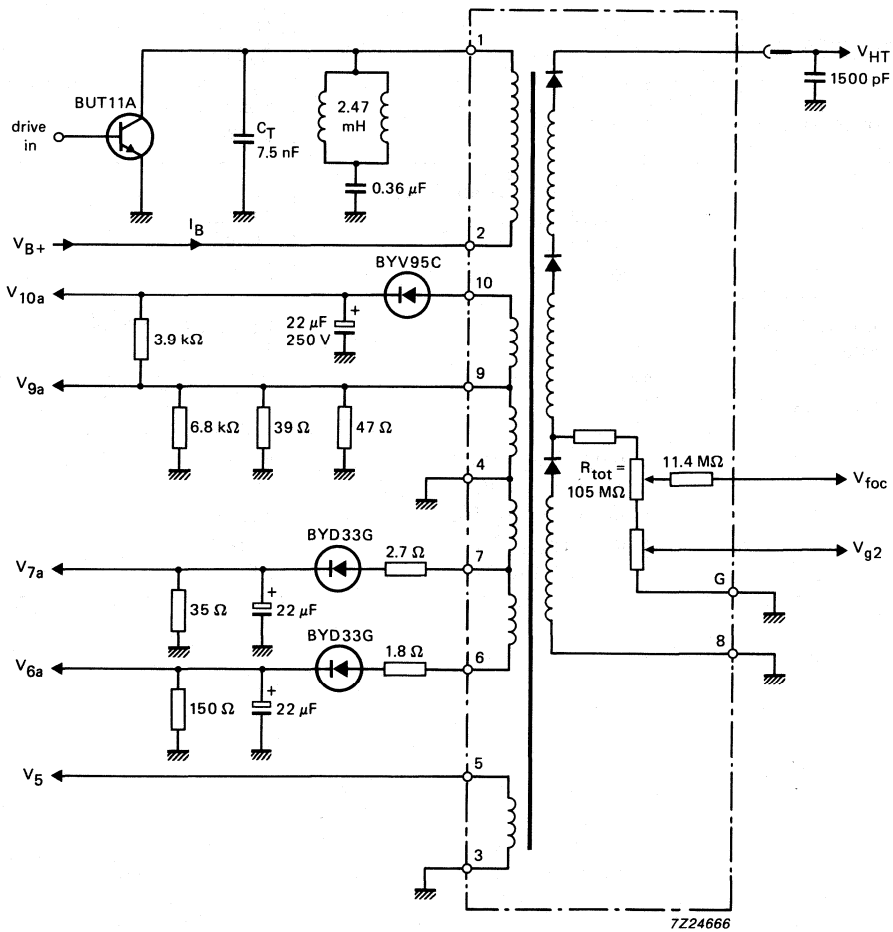


Fig.4 Application circuit.

LINE OUTPUT TRANSFORMER

"Micro slot"

- For 90° colour TV and colour monitors
- Incorporated potentiometers and cables for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages; 90° deflection angle	
I_{eht}	$\leqslant$ 1 mA
EHT	23 kV
$R_{i(eht)}$	$\leqslant$ 2 MΩ
I_{p-p} deflection	2,2 A
Supply voltage (V_B)	112 V
Supply current at I_{eht} = 0,9 mA	480 mA
Focusing voltage control	25 to 34,5% of EHT
Grid 2 voltage control	110 to 1000 V
Auxiliary voltages	7,2 V (r.m.s.) (heater supply) + 178 V (video supply) + 27,2 V (frame) + 13,4 V (small signal) 140 $V_{(p-p)}$ (reference pulse)

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA). The transformer may also be used in colour monitors.

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be soldered directly into a printed-wiring board.

For mechanized mounting this line output transformer can also be supplied without cables.

MECHANICAL DATA

Outlines

Dimensions in mm

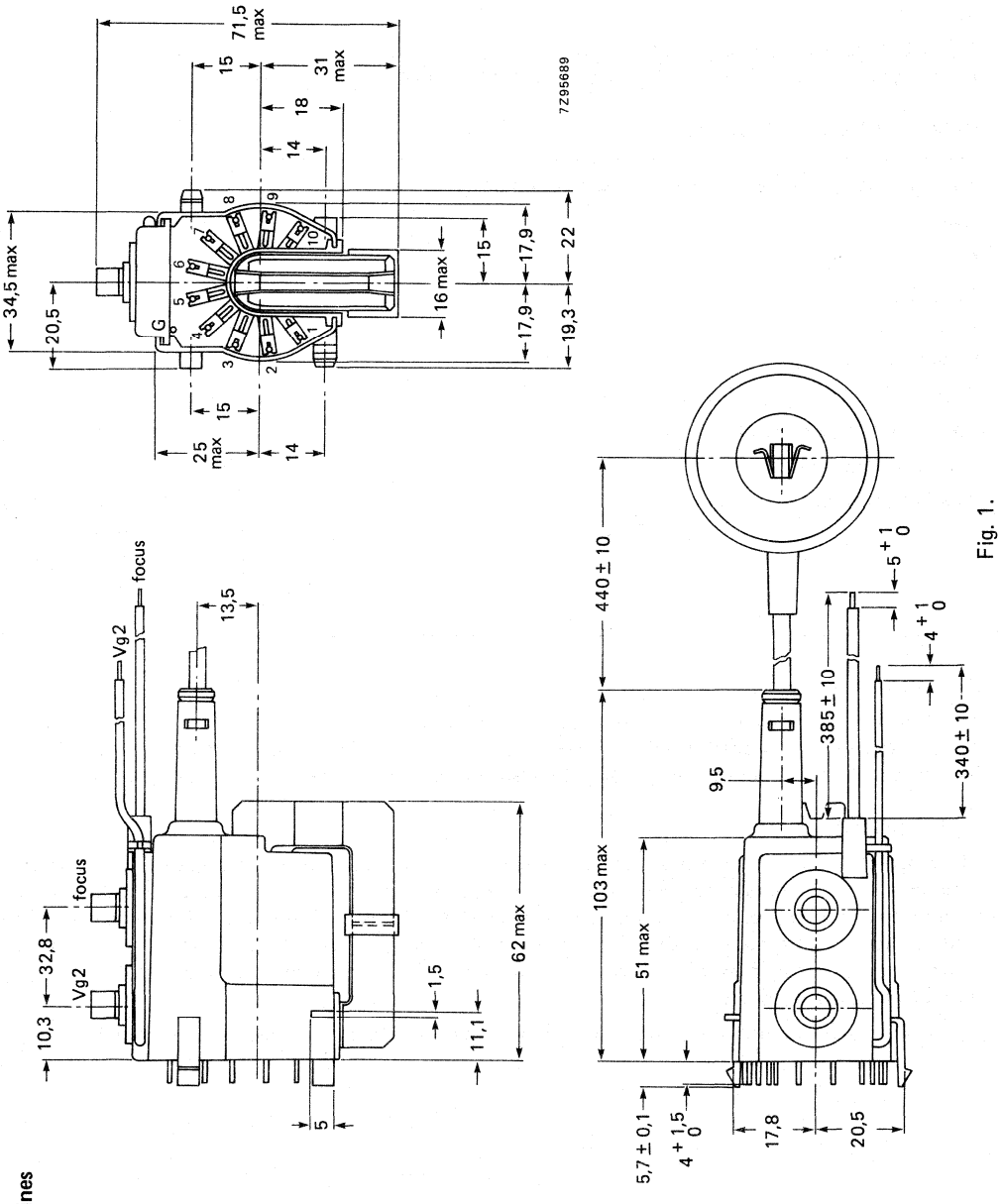


Fig. 1.

Mass approx. 190 g

Solderability in accordance with IEC 68, test Ta

Packing 24 transformers per box

Mounting

For mounting hole pattern see Fig. 2. The transformer core must be earthed via the earth tag (G, Fig. 1).

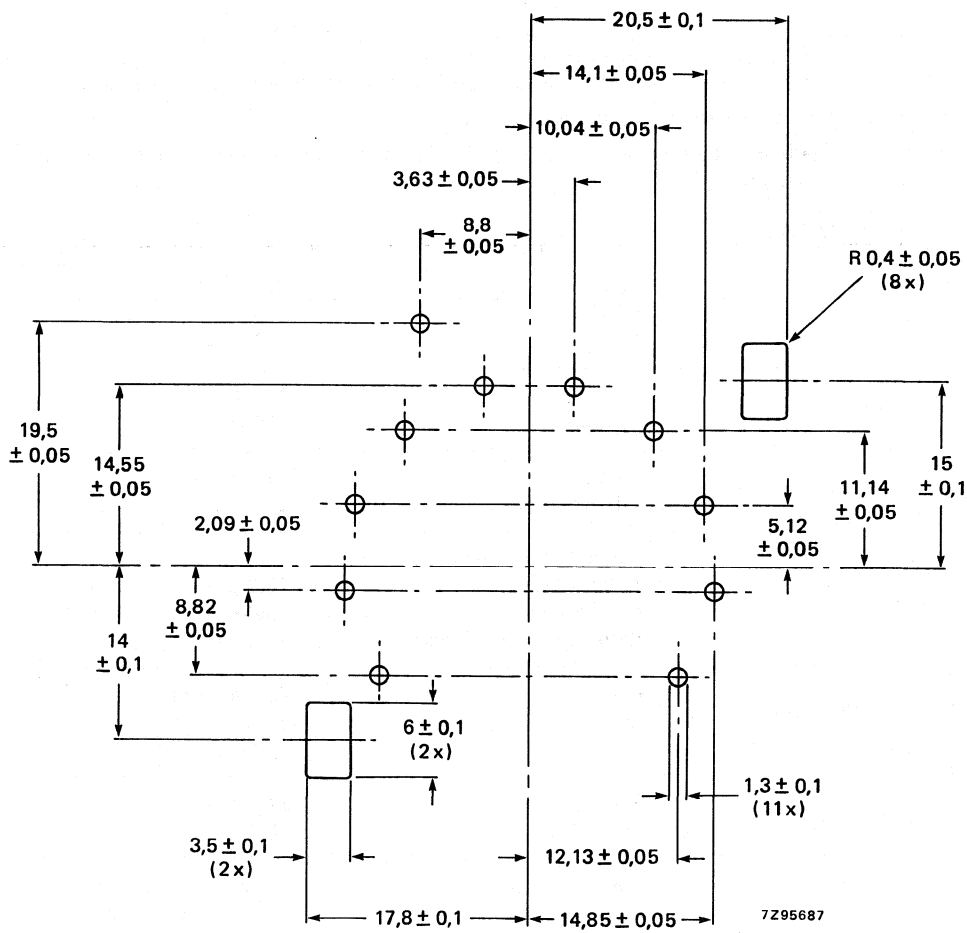


Fig. 2 Mounting hole pattern (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The minimum distance between the EHT coil and neighbouring conductive flat surfaces is 10 mm.

Sharp edges of conductive parts must have greater distances.

The transformer leads and components carrying high-voltage pulses, should be kept free from metal particles, solder drops, etc.

ELECTRICAL DATA

EHT supply	I_{eht} EHT $R_{i(eht)}$	$\leqslant$ 0,9 mA 23 kV $\leqslant$ 2 MΩ
Power supply	V_B $I_{average}$	112 V 480 mA
Output transistor	V_{CEM} + I_{CEM}	970 V 1,9 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	2,2 A 10,9 μs 15625 Hz 2,7 mH
Focusing voltage Focusing current	min. max.	25% of EHT 34,5% of EHT 120 μA
Grid 2 voltage (V_{g2})	min. (DC) max. (DC)	110 V 1000 V
Auxiliary voltages	pin 3, V_3 (rms) pin 2, V_2 (DC) pin 4, V_4 (DC) pin 6, V_6 (DC) pin 8, V_8 (p-p)	7,2 V (heater voltage) + 178 V (video supply) + 27,2 V (frame supply) + 13,4 V (small signal supply) 140 V (reference pulse)

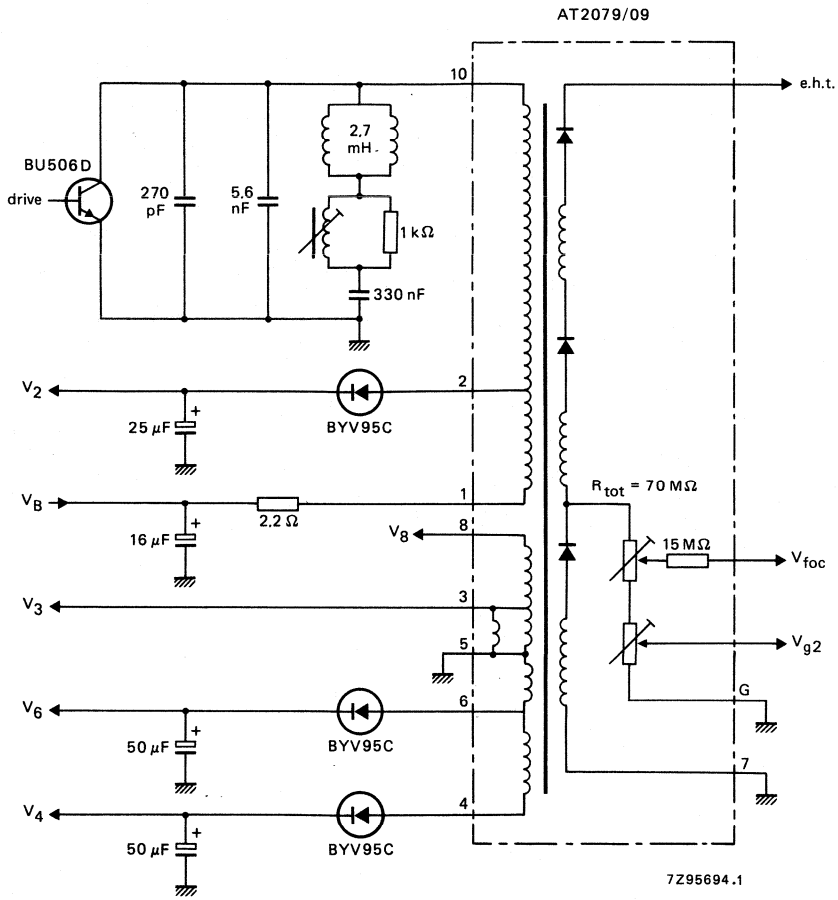


Fig. 3 Application circuit.

LINE OUTPUT TRANSFORMER

"Micro slot"

- For 90° colour TV and colour monitors
- Incorporated potentiometers and cables for focusing and V_{g2} adjustment

QUICK REFERENCE DATA

For transistor line output stages; 90° deflection angle	
I_{eht}	$\leqslant$ 1 mA
EHT	25.5 kV
$R_{i(eht)}$	$\leqslant$ 2 MΩ
I_{p-p} deflection	2.6 A
Supply voltage (V_B)	95 V
Supply current at I_{eht} = 0.9 mA	580 mA
Focusing voltage control	26 to 34.5% of EHT
Grid 2 voltage control	220 to 830 V
Auxiliary voltages	6.8 V (heater supply) + 163.2 V (video supply) + 12.7 V + 7.3 V

APPLICATION

This transformer has been designed to provide the required scanning amplitude for 90° colour picture tubes in transistor equipped television receivers presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA). The transformer may also be used in colour monitors.

DESCRIPTION

The magnetic circuit of the transformer comprises 2 Ferroxcube cores, glued together. The primary winding and the secondary windings are situated on one leg of the core. The primary winding together with its EHT winding and EHT diodes are encapsulated with epoxy resin in a pre-moulded case. The transformer has potentiometers for focusing control and V_{g2} adjustment. External circuit connection is made to connecting pins, positioned as indicated in Fig.1, enabling the unit to be soldered directly into a printed-wiring board.

For mechanized mounting this line output transformer can also be supplied without cables.

MECHANICAL DATA

Outlines

Dimensions in mm

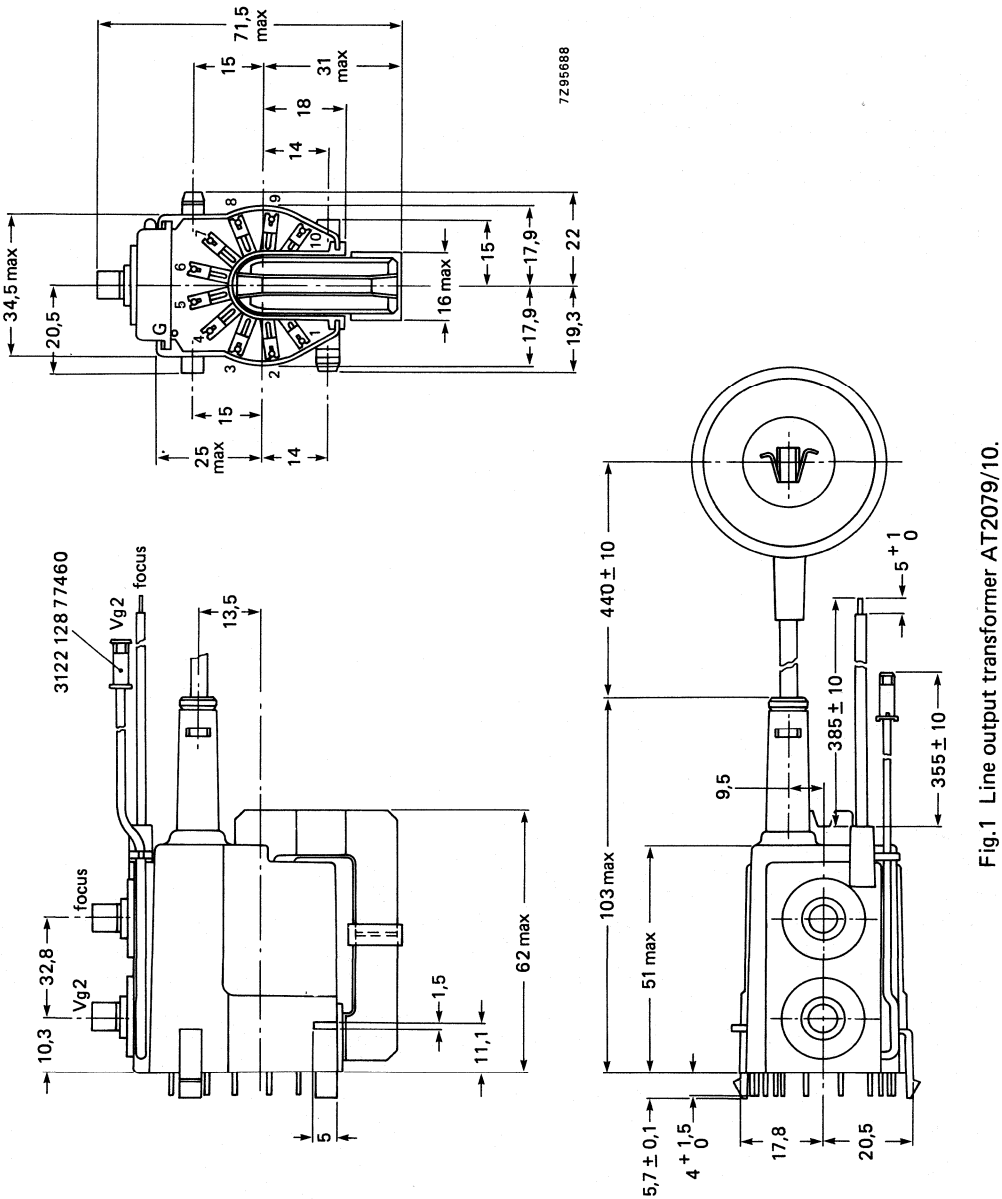


Fig.1 Line output transformer AT2079/10.

Mass approx. 210 g

Solderability in accordance with IEC 68, test Ta

Packing 24 transformers per box

Mounting

For mounting hole pattern see Fig. 2. The transformer core must be earthed via the earth tag (G, Fig. 1).

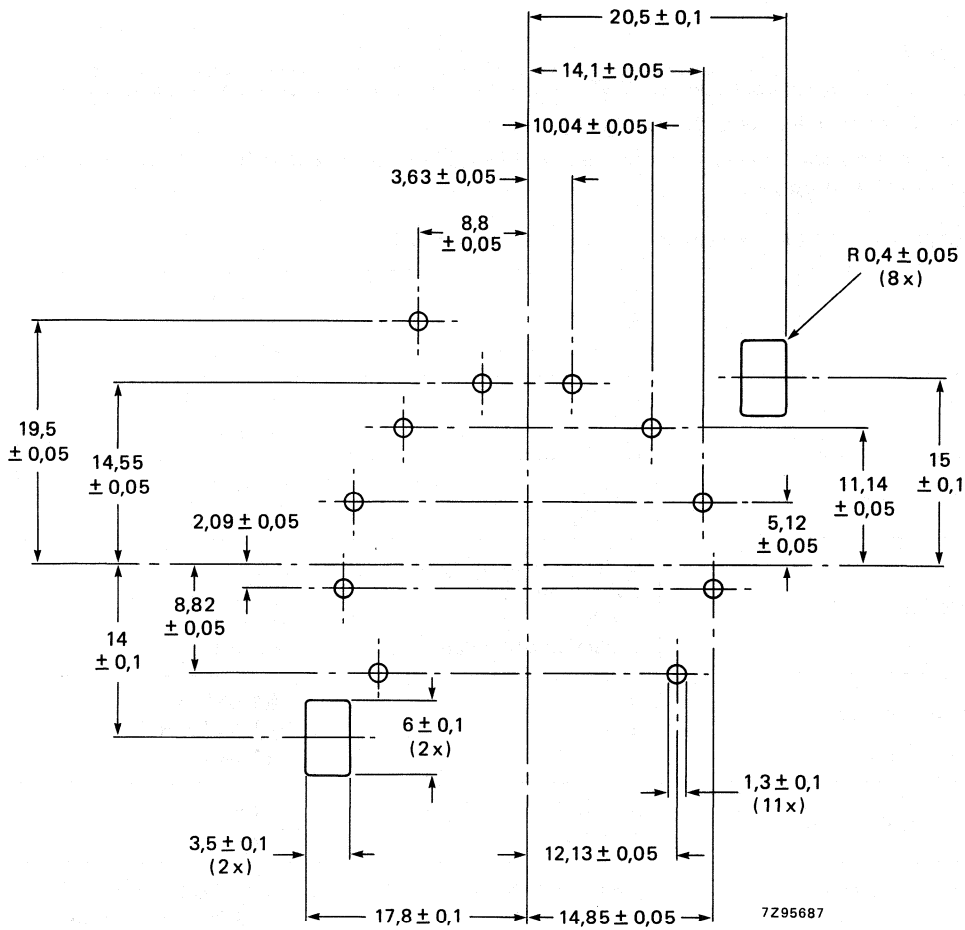


Fig. 2 Mounting hole pattern (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the EHT coil should not exceed + 90 °C under worst conditions, i.e. taking into account:

- over-voltage on the coils;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high ambient temperature (up to 45 °C).

To satisfy this requirement it is recommended to provide sufficient flow of cool air around the transformer.

Distances

The minimum distance between the EHT coil and neighbouring conductive flat surfaces is 10 mm.

Sharp edges of conductive parts must have greater distances.

The transformer leads and components carrying high-voltage pulses, should be kept free from metal particles, solder drops, etc.

ELECTRICAL DATA; see application circuit with diode modulator, Fig. 3.

EHT supply	I_{eht} EHT $R_{i(eht)}$	$\leqslant$ 1 mA 25.5 kV $\leqslant$ 2 MΩ
Power supply	V_B $I_{average}$	95 V 580 mA
Output transistor	V_{CEM} + I_{CEM}	820 V 2.4 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	2.6 A 11.2 μs 15625 Hz 2.5 mH
Focusing voltage Focusing current	min. max.	26% of E.H.T 34.5% of E.H.T. 120 μA
Grid 2 voltage (V_{g2})	min. (DC) max. (DC)	220 V 830 V
Auxiliary voltages	pin 8, V_8 (RMS) pin 1, V_{1a} (DC) pin 2, V_{2a} (DC) pin 3, V_{3a} (DC)	6.8 V (heater voltage) + 163.2 V (video supply) + 12.7 V + 7.3 V

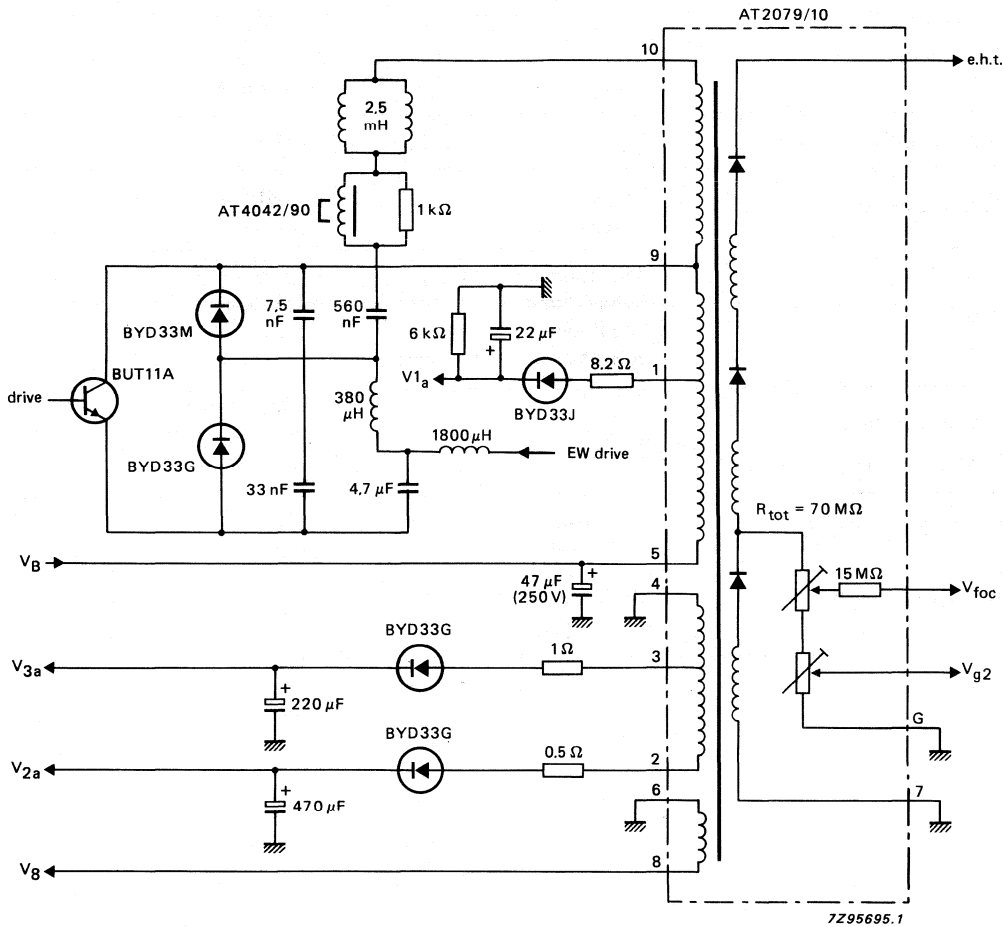


Fig. 3 Application circuit with diode modulator.

ELECTRICAL DATA; see application circuit for 90° flat square picture tube A51EAL00X, Fig. 4.

EHT supply	I_{eht} EHT $R_{i(eht)}$	$\leqslant$ 1 mA 25.5 kV $\leqslant$ 2.5 MΩ
Power supply	V_B	116 V
Output transistor	V_{CEM} + I_{CEM}	950 V 2.4 A
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	2.85 A 11.8 μs 15625 Hz 2.0 mH
Focusing voltage Focusing current	min. max.	26% of EHT 34.5% of EHT 130 μA
Grid 2 voltage (V_{g2})	min. (DC) max. (DC)	220 V 830 V
Auxiliary voltages	pin 8, V_8 (RMS) pin 5, V_{5a} (DC)	6.8 V (heater voltage) + 190 V (video supply)

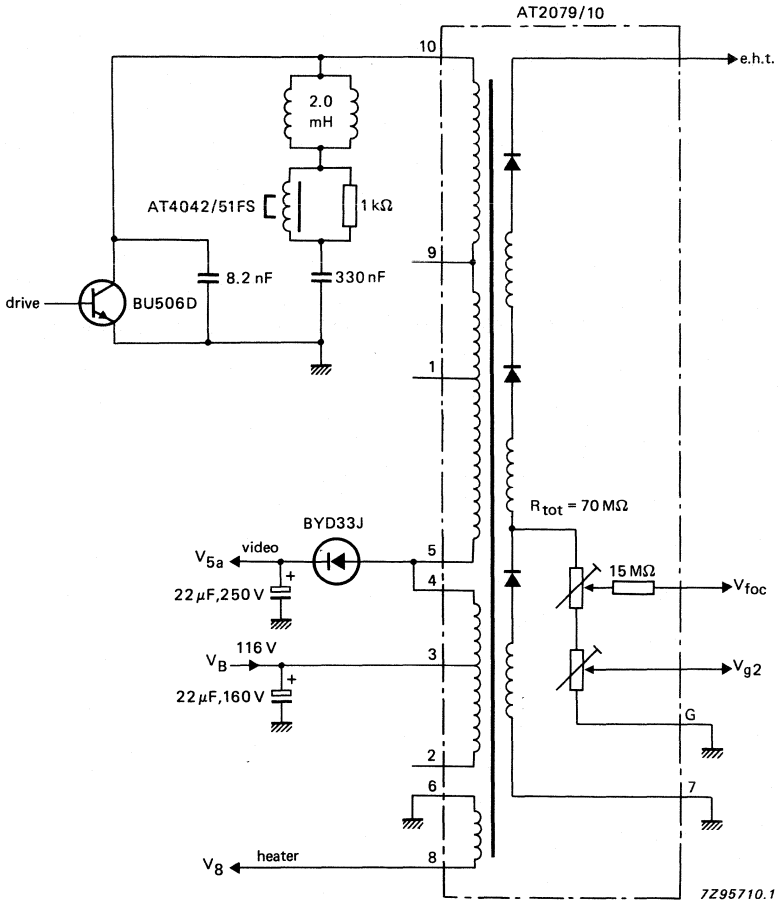


Fig. 4 Application circuit for 90° flat square picture tube A51EAL00X.

LINE OUTPUT TRANSFORMER

" micro slot "

- For monochrome monitor applications
- Without potentiometers

QUICK REFERENCE DATA

For transistor line output stages	
I_{EHT}	0.12 mA
EHT	16.4 kV
$R_{I(EHT)}$	$\leqslant$ 2.5 MΩ
I_{p-p}	8.5 A
Supply voltage (V_B)	93 V
Supply current at I_{EHT} = 0.12 mA	270 mA
Auxiliary voltages	6.6 V (RMS) −174 V (DC) 4.2 V (DC)

APPLICATION

This transformer has been custom designed to provide the required scanning amplitude and EHT for monitor tubes with a line frequency of 42.5 kHz.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores, glued together. The primary and secondary windings, together with the EHT diodes are encapsulated with epoxy resin in a pre-moulded case. External circuit connection is made to connecting pins, positioned as indicated in Fig.1; enabling the unit to be mounted on a printed-wiring board. The EHT connection is fitted with a plug.

MECHANICAL DATA

Dimensions in mm

Outlines

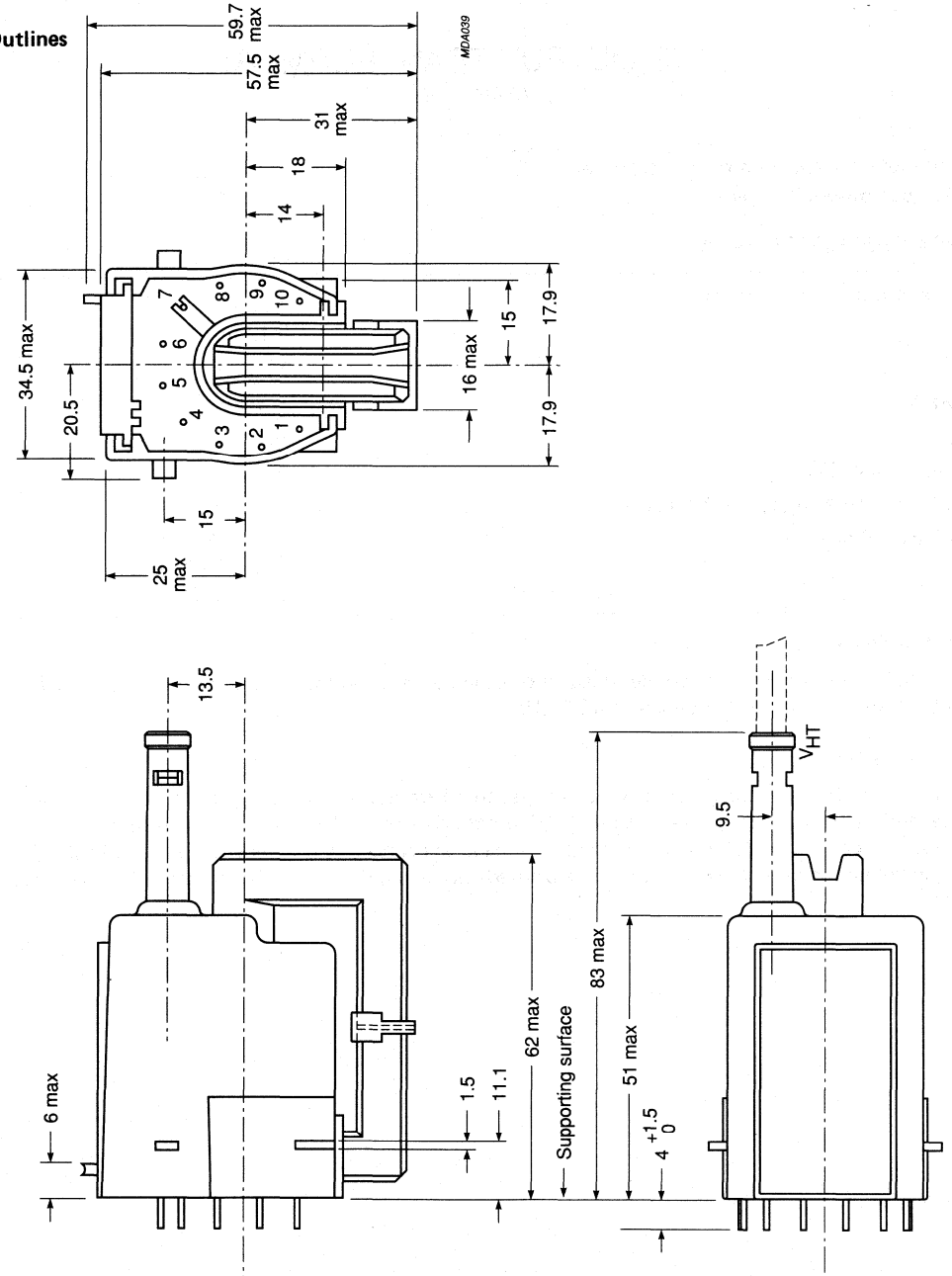


Fig.1 AT2079/12ZP line output transformer.

Mass : approx. 210 grams

Solderability: in accordance with IEC 68, test Ta

Packing : 24 transformers per tray

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

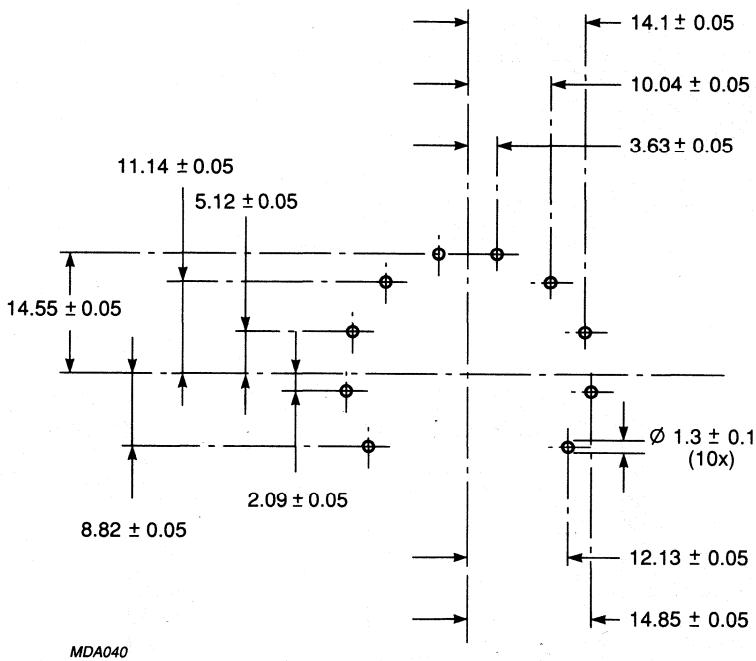


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 60 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

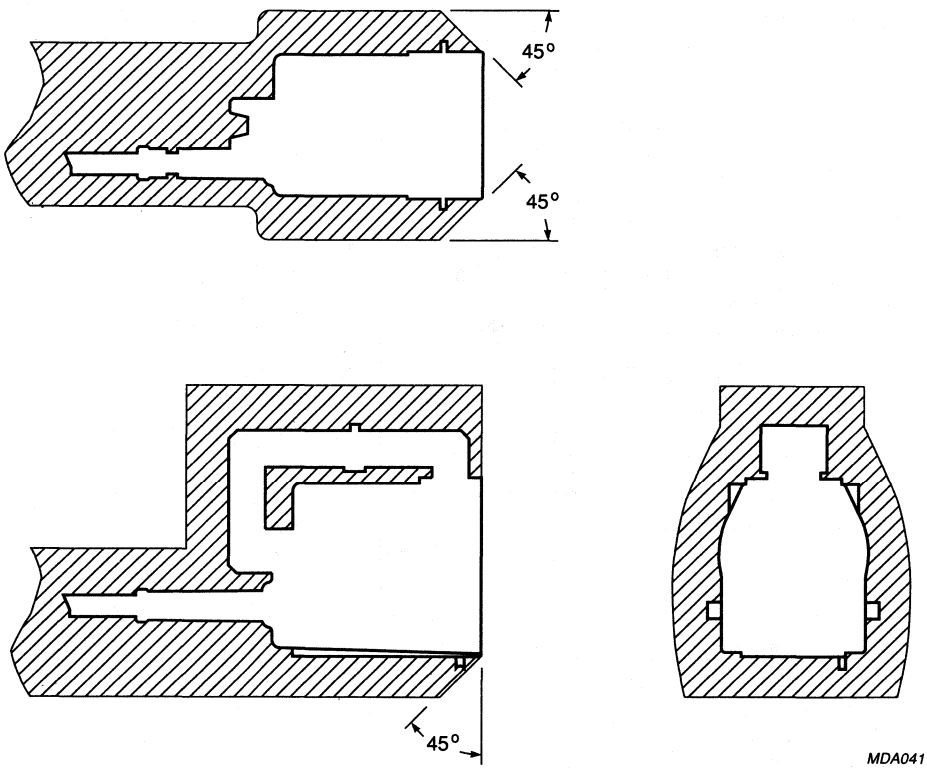


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	0.12 mA 16.4 kV $\leqslant$ 2.5 MΩ
Power supply	V_B I_B	93 V 270 mA
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	8.5 A 3.9 μs 42500 Hz 206 μH
Auxiliary voltages	pin 6, V_6 (RMS) pin 8, V_{8a} (DC) pin 9, V_{9a} (DC)	6.6 V −174 V 4.2 V

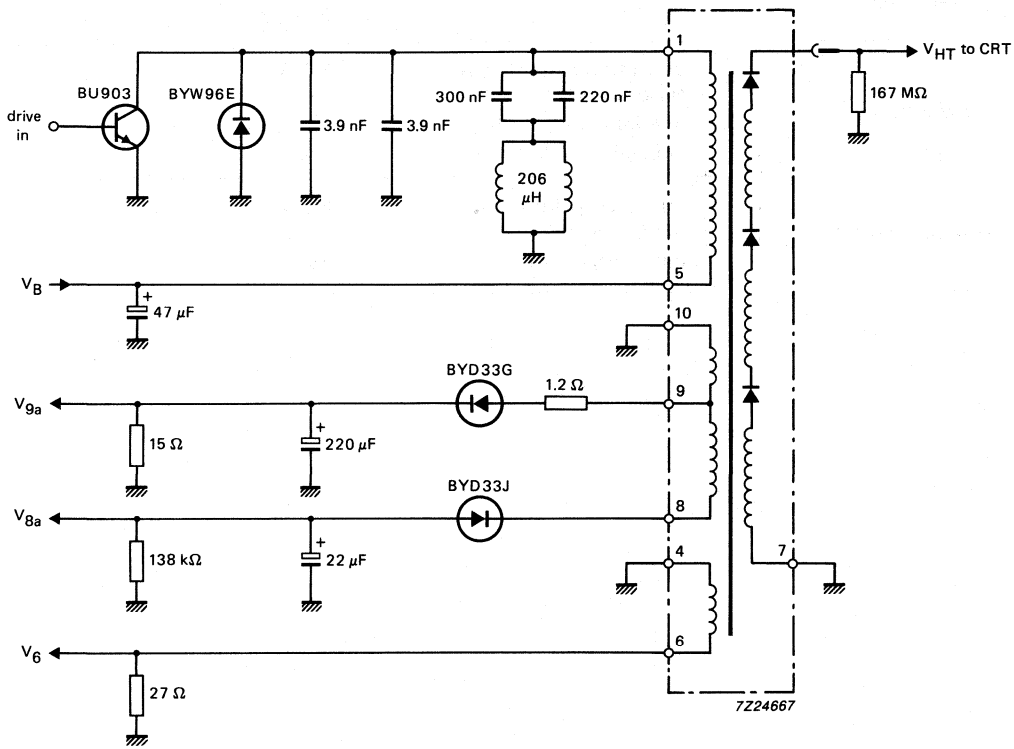


Fig.4 Application circuit.

LINE OUTPUT TRANSFORMER

" polyester "

- For monochrome TV and inexpensive monitors

QUICK REFERENCE DATA

For transistor line output stages; 90° deflection angle

I_{eht}	⩽ 0.2 mA
EHT at I_B = 0 μA	11.7 kV
$R_{i(eht)}$	⩽ 7 MΩ
Flyback time	11.1 μs
Line scan frequency	15 625 Hz
Deflection coil inductance	0.45 mH
Auxiliary voltages	+ 25 V, + 110 V, + 84.5 V

APPLICATION

This transformer has been designed to provide the required line scanning amplitude and EHT for 90° monochrome picture tubes, presenting 625 lines at 50 fields per second (CCIR) or 525 lines at 60 fields per second (USA).

It is intended to be used in conjunction with EHT cable, length 300 mm, catalogue number 3111 108 87080, or the UL approved type, catalogue number 3122 137 63920.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores. The primary windings, the auxiliary windings and EHT winding are situated on one leg of the core, and are encapsulated in flame retardant polyester. An EHT rectifier diode is incorporated in the transformer. The whole transformer meets the self-extinguishing requirements of IEC 65, para. 14.4.

External circuit connection is made to connecting pins, enabling the unit to be soldered directly into a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

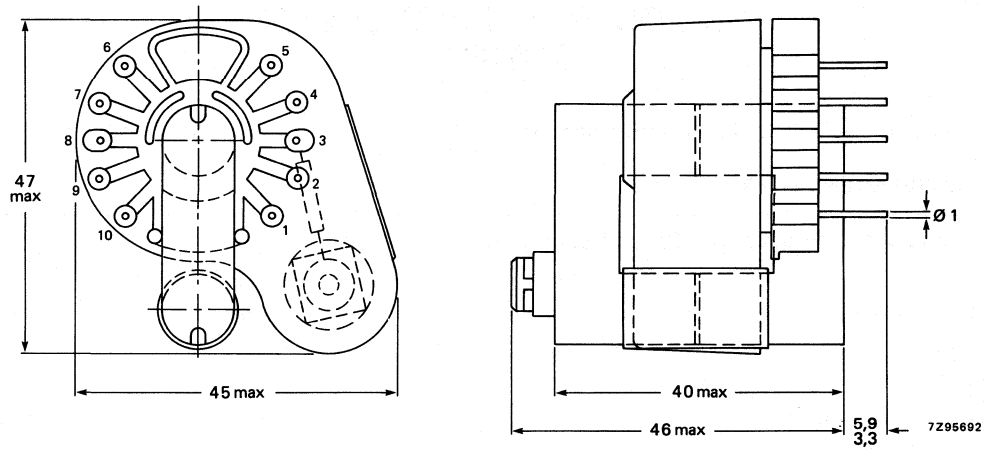


Fig. 1.

MOUNTING

The transformer may be mounted on a printed-wiring board. The fit of the connecting pins in a printed-wiring grid with a pitch of 2,54 mm (0,1 in) is illustrated in Fig. 2.
The core of the transformer must be earthed.

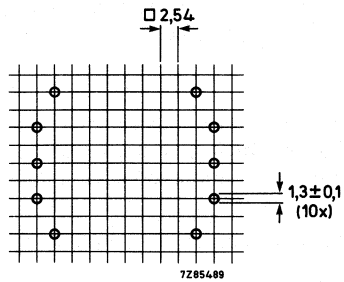


Fig. 2 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the core and the coils should not exceed 90 °C, under worst conditions, i.e. taking into account:

- over-voltage on the windings;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high room temperature (up to 60 °C).

To satisfy this requirement it may be desired to provide ample cool air circulation around the transformer.

Distances

The following minimum distances between the transformer and neighbouring conductive flat surfaces must be maintained (in proportion to their sharpness protruding parts must have a greater distance):

from the EHT winding, radially 15 mm, axially 10 mm.

The transformer, and the leads and components carrying high-voltage pulses should be kept free from metal particles, solder drops etc.
The bending radius of the EHT cable must be $\geqslant$ 12.5 mm.

ELECTRICAL DATA (see also Fig. 3)

EHT at $I_B = 0\ \mu A$	11.7 kV
$R_{i(eht)}$	max. 7 MΩ
I_{eht}	max. 0.2 mA
Supply voltage (V_B)	11 V
Supply current	640 mA
Output transistor voltage, V_{CEM}	200 $V_{(p-p)}$
Deflection current	2.95 $A_{(p-p)}$
Flyback time	11.1 μs
Deflection coil inductance	0.45 mH
Line scan frequency	15625 Hz
Auxiliary voltages	
connecting pin 2, V_2	+ 25 V
connecting pin 6, V_6	+ 84.5 V
connecting pin 9, V_9	+ 110 V

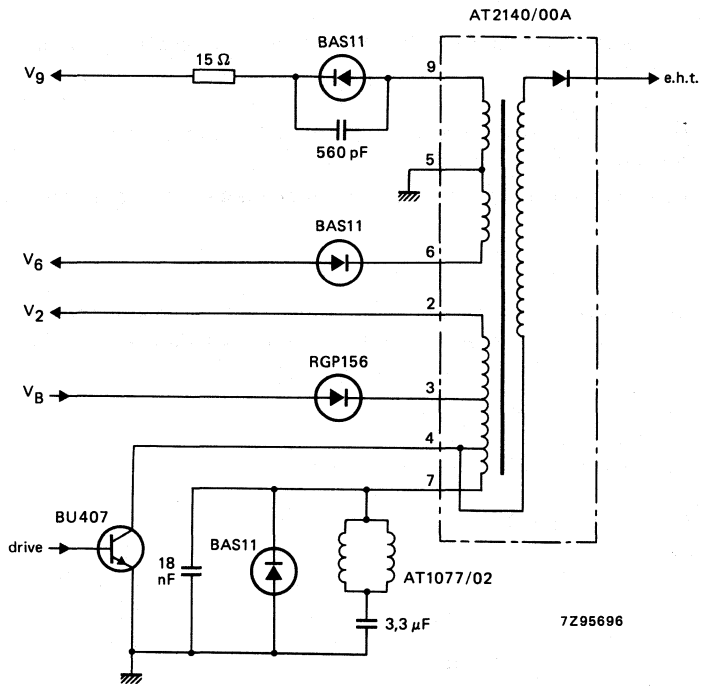


Fig. 3 Application circuit.

Replaces AT2240/16

LINE OUTPUT TRANSFORMER

" polyester "

- For Monochrome Data Graphic Displays

QUICK REFERENCE DATA

For transistor line output stages; 90° deflection angle

	AT2140/16	AT2140/17
I_{eht}	max. 100 μA	
EHT at I_B = 0 μA	12.5 kV	12.5 kV
$R_{i(eht)}$	10 MΩ	
Flyback time	8 μs	6 μs
Line scan frequency range	15 to 23 kHz	22 to 30 kHz
Deflection coil inductance	475 μH	
Auxiliary voltages	+ 60 V (DC),	− 60 V (DC), + 500 V (DC)

APPLICATION

These transformers have been designed to provide the required line scanning amplitude and EHT for 90° monochrome data graphic display tubes, 20 mm neck diameter.
The transformers are intended for use in conjunction with:
- deflection unit AT1077 series,
- linearity control unit AT4042/08A,
- amplitude control unit AT4044/39D,
- eht cable, length 260 mm, catalogue number 3111 108 34490, or the UL approved type, catalogue number 3122 137 63920,
- dynamic focusing transformer AT4043/67.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores. The primary windings, the auxiliary windings and EHT winding are situated on one leg of the core, and are encapsulated in flame retardant polyester. An EHT rectifier diode is incorporated in the transformer. The whole transformer meets the self-extinguishing and non-dripping properties of the American Underwriters' Laboratories rating mentioned in UL94SE-1.

External circuit connection is made to connecting pins, enabling the unit to be soldered directly into a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

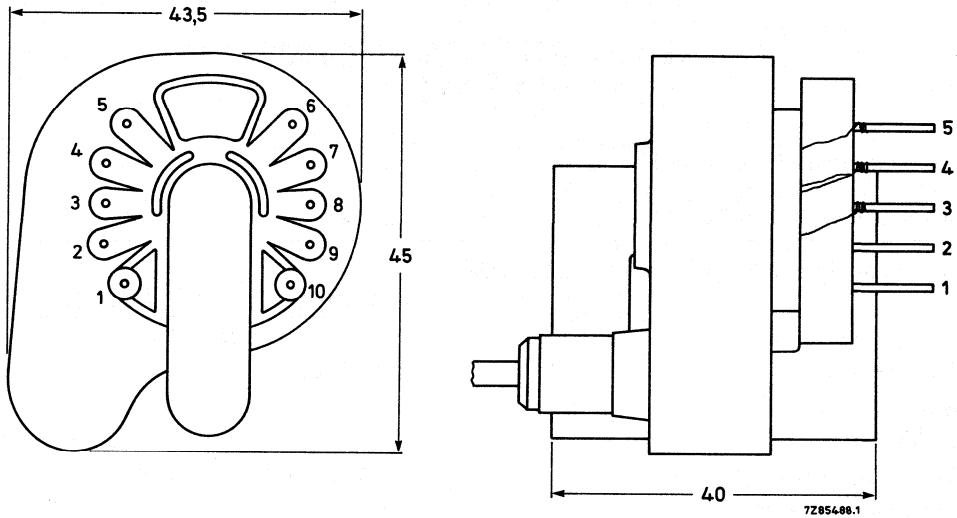


Fig. 1.

MOUNTING

The transformer may be mounted on a printed-wiring board. The fit of the connecting pins in a printed-wiring grid with a pitch of 2,54 mm (0,1 in) is illustrated in Fig. 2.
The core of the transformer must be earthed.

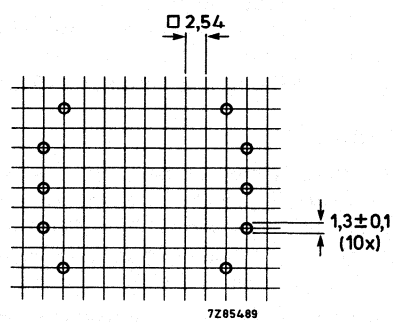


Fig. 2 Hole pattern for mounting on a printed-wiring board (solder side).

Temperature

The operating temperature of the core and the coils should not exceed 90 °C, under worst conditions, i.e. taking into account:

over-voltage on the windings;
low atmospheric pressure (at high altitudes) implying bad cooling by convection;
high room temperature (up to 45 °C).

To satisfy this requirement it may be desired to provide ample cool air circulation around the transformer.

Distances

The following minimum distances between the transformer and neighbouring conductive flat surfaces must be maintained (in proportion to their sharpness protruding parts must have a greater distance):

from the e.h.t. winding, radially 15 mm, axially 10 mm.

The transformer, and the leads and components carrying high-voltage pulses should be kept free from metal particles, solder drops etc.
The bending radius of the e.h.t. cable must be $\geqslant$ 7,5 mm.

ELECTRICAL DATA (see also Fig. 3)

AT2140/16 and AT2140/17 used in conjunction with AT1079/––, AT4042/08A and AT4044/39D.

	AT2140/16	AT2140/17
Line scan frequency range*		
connecting pin 3	15 to 20 kHz	22 to 26 kHz
connecting pin 5	20 to 23 kHz	26 to 30 kHz
EHT at I_B = 0 μA	12.5 kV	12.5 kV
$R_{i(eht)}$	10 MΩ	10 MΩ
I_{eht}	max. 100 μA	max. 100 μA
Supply voltage (V_B)	11 to 14.5 V	11 to 14.5 V
Input power	7 W	10 W
Deflection current	2.9 A	2.9 A
Deflection voltage	300 $V_{(p-p)}$	450 $V_{(p-p)}$
Flyback time	8 μs	6 μs
Flyback capacitor	8.2 nF	5.6 nF
Auxiliary voltages		
connecting pin 1	+ 500 V	+ 500 V
connecting pin 7	+ 60 V	+ 60 V
connecting pin 10	–60 V	–60 V

For further information see Technical Publication "A low-cost monochrome data and graphics display unit (C6E)".

* The transformers are provided with two booster diode connections: pin 3 and pin 5, enabling selection of frequency ranges.

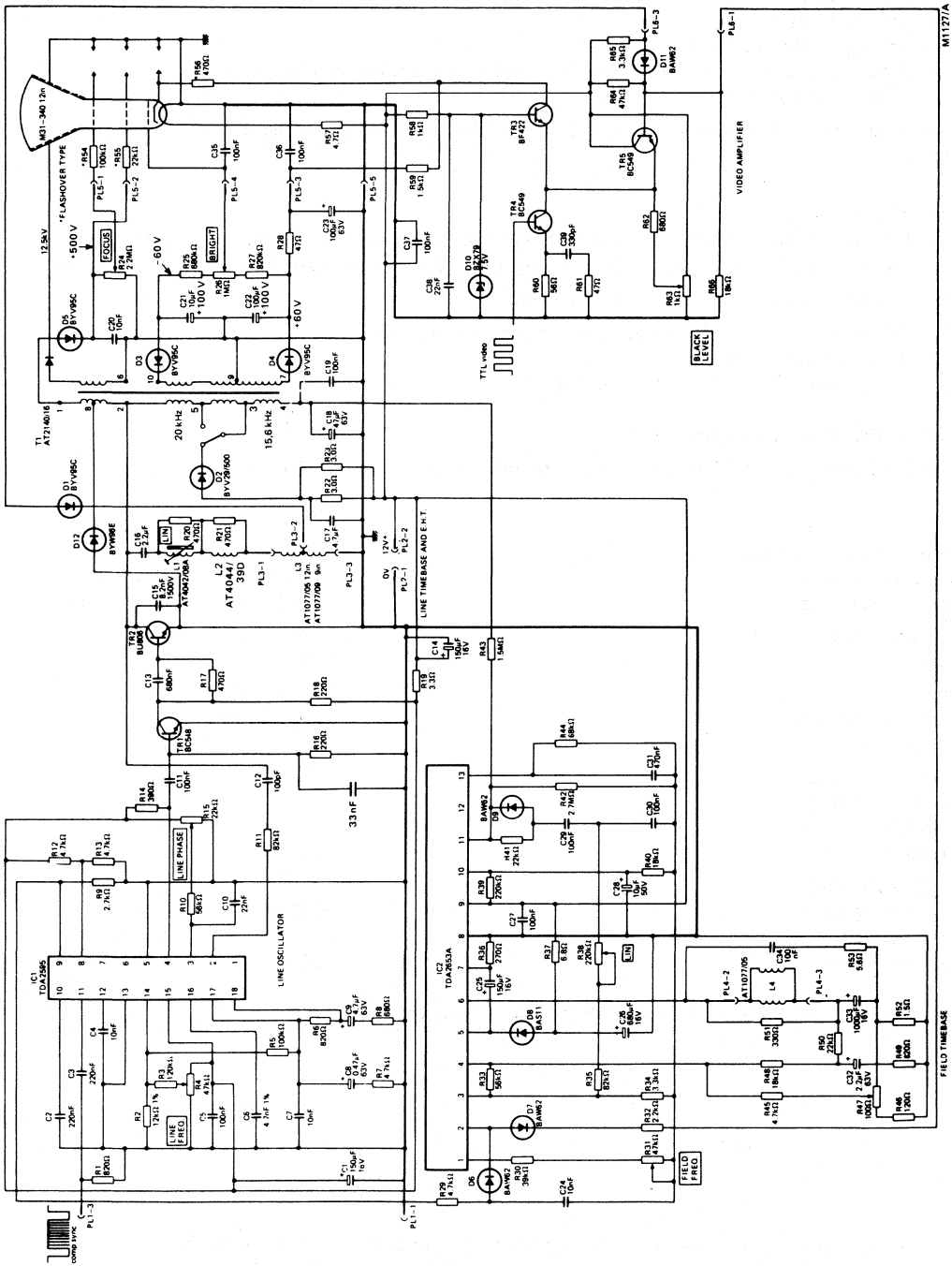


Fig. 3 Circuit diagram of data graphic display unit (C6E).

LINE OUTPUT TRANSFORMER

" alpha box "

- For data graphic displays

QUICK REFERENCE DATA

For transistor line output stages	
I_{EHT}	0.1 mA
EHT	14.2 kV
$R_{I(EHT)}$	$\leqslant$ 6 MΩ
I_{p-p}	7.3 A
Supply voltage (V_B)	31.5 V
Supply current at I_{EHT} = 100 μA	760 mA
Auxiliary voltages	48 $V_{(p-p)}$ +733 V (DC) −160 V (DC) +20.7 V (DC) +56.5 V (DC)

APPLICATION

This transformer has been designed to provide the required scanning amplitude and EHT for data graphic displays at a line frequency of 32.9 kHz.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores. The primary, auxiliary and EHT windings are situated on one leg of the core and are encapsulated in a permanent casing with epoxy resin. External connection is made to connecting pins, enabling the unit to be mounted on a printed-wiring board. The EHT has a plug connection.

MECHANICAL DATA

Dimensions in mm

Outlines

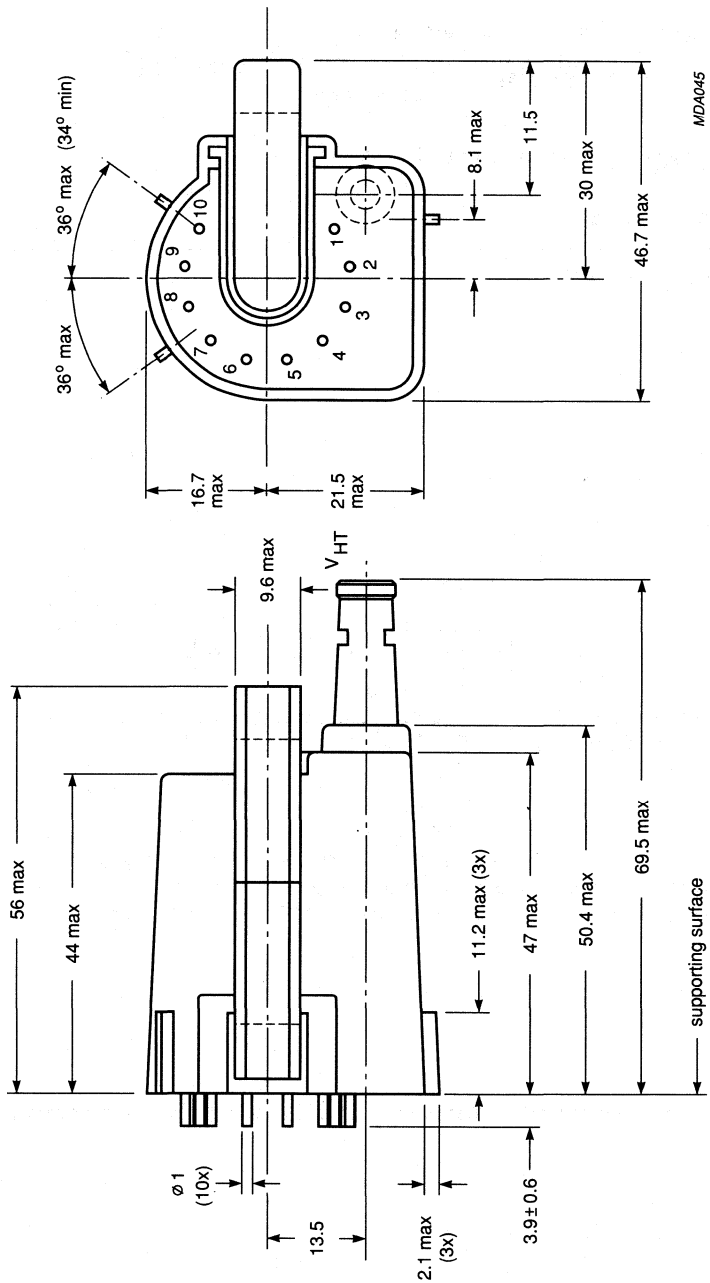


Fig.1 AT2250/12 line output transformer.

Mass : approx. 130 grams including cable

Solderability: in accordance with IEC 68, test Ta

Packing : 30 transformers per tray

Mounting

The transformer may be mounted on a printed-wiring board, see Fig.2.

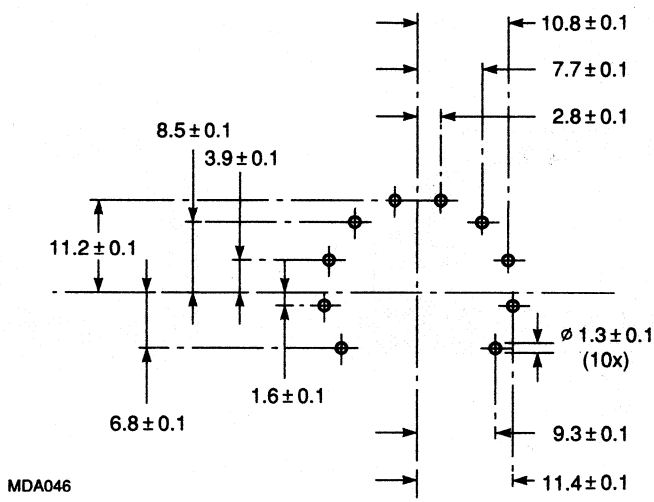


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

MECHANICAL DATA (continued)

Temperature

The operating temperature of the transformer should not exceed 60 °C.

Distances

The hatched area shown in Fig.3 must be free from all conductive parts. The width of the hatched area should be 10 mm. Special care should be taken with respect to sharp edges; these may require greater distances. The transformer leads and components carrying high-voltage pulses should be free from metal particles, solder drops etc.

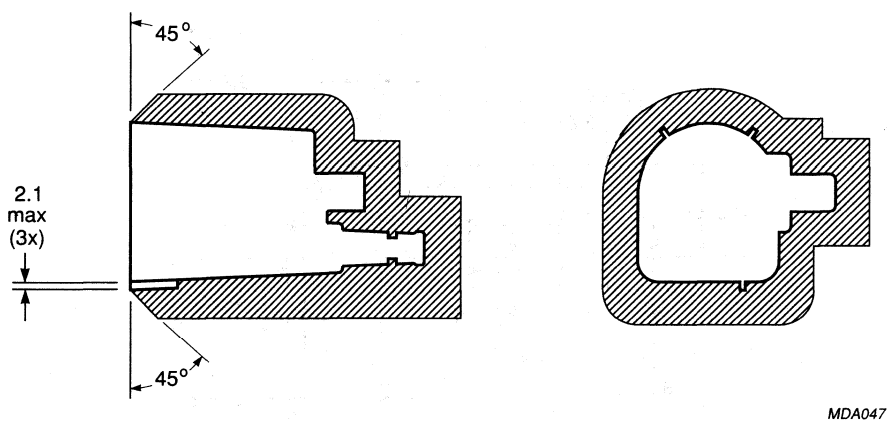


Fig.3 Distances between EHT coil and conductive parts.

ELECTRICAL DATA

EHT supply	I_{EHT} EHT $R_{I(EHT)}$	0.1 mA 14.2 kV $\leqslant$ 6 MΩ
Power supply	V_B I_B	31.5 V 760 mA
Output transistor	V_{ce}	280 V
Deflection	deflection current (p-p) flyback time line frequency deflection coil inductance	7.3 A 5.2 μs 32.9 kHz 100 μH
Auxiliary voltages	pin 4, V_4 (p-p) pin 10, V_{10a} (DC) pin 6, V_{6a} (DC) pin 6, V_{6b} (DC) pin 1, V_{1a} (DC)	48 V +733 V −160 V +20.7 V 56.5 V

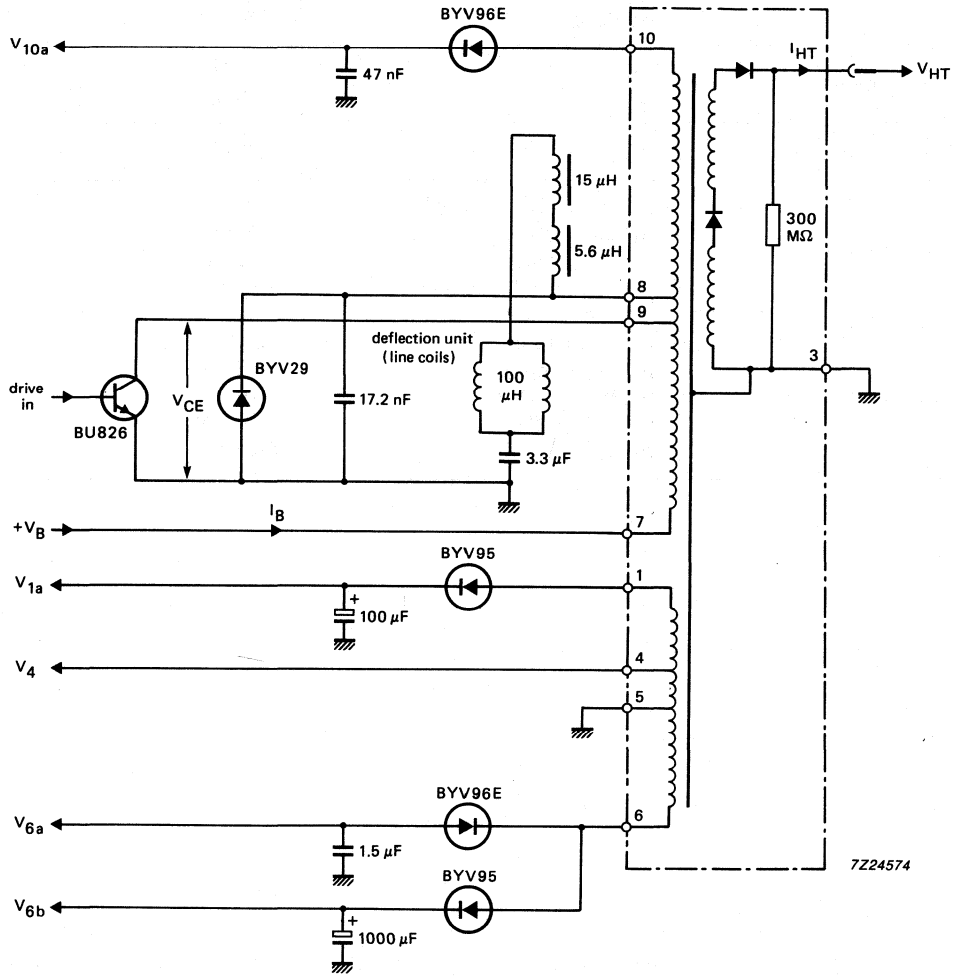


Fig.4 Application circuit.

LINE OUTPUT TRANSFORMER

"Alpha box"

- For Monochrome Data Graphic Displays with 90° monitor tubes
- With or without built-in bleeder resistor

QUICK REFERENCE DATA

I_{eht}	max. 100 μA
EHT at I_B = 0 μA	13 kV
$R_{i(eht)}$	max. 5 MΩ
Flyback time	4.2 μs
Line frequency range	30 to 40 kHz
Deflection coil inductance	310 μH
Auxiliary voltages	+ 60 V (DC), −60 V (DC), + 500 V (DC)

APPLICATION

This transformer has been designed to provide the required scanning amplitude and EHT for 90° monochrome data graphic display tubes, 20 mm neck diameter, at line frequencies between 30 and 40 kHz.
It is intended for use in conjunction with:
– deflection unit AT1079 series;
– linearity control unit AT4042/08A;
– amplitude control unit AT4044/39D;
– dynamic focusing transformer AT4043/67;
– EHT cable, catalogue number 3122 137 64830.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U-cores. The primary windings, the auxiliary windings and EHT windings are situated on one leg of the core, and are encapsulated in flame retardent epoxy resin. An EHT rectifier diode is incorporated in the transformer. The whole transformer meets the self-extinguishing and non-dripping properties of the American Underwriter's Laboratories rating mentioned in UL94SE-1.

External circuit connection is made to connecting pins, enabling the unit to be soldered directly into a printed-wiring board; the EHT has a plug connection.

The transformer is available with or without EHT bleeder resistor.

MECHANICAL DATA

Dimensions in mm

Outlines

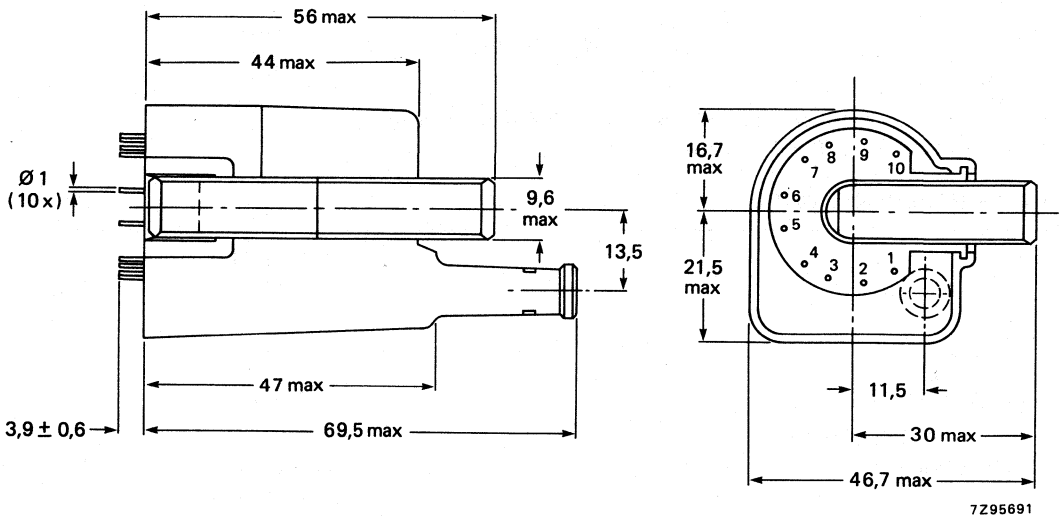


Fig. 1.

Mass approx. 130 g

Mounting

For mounting hole pattern see Fig. 2. The transformer core must be earthed.

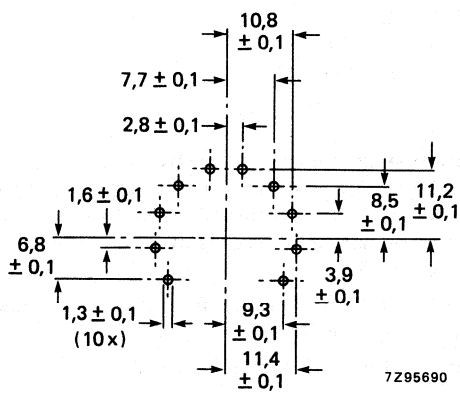


Fig. 2 Mounting hole pattern.

Temperature

The operating temperature of the core and the coils should not exceed 90 °C, under worst conditions, i.e. taking into account:

- over-voltage on the windings;
- low atmospheric pressure (at high altitudes) implying bad cooling by convection;
- high room temperature (up to 45 °C).

To satisfy this requirement it may be desired to provide ample cool air circulation around the transformer.

Distances

The minimum distance between the EHT coil and neighbouring conductive flat surfaces is 5 mm.

Sharp edges of conductive parts must have a minimum distance of 10 mm.

The transformer, leads and components carrying high voltage pulses, should be kept free from metal particles, solder drops etc.

The bending radius of the EHT cable must be $\geqslant$ 12,5 mm.

ELECTRICAL DATA (see also Fig. 3)

AT2250/14 used in conjunction with AT1078/10, AT4042/08A and AT4044/39D.

Line scan frequency range	30 to 40 kHz
EHT at I_B = 0 μA	13 kV
$R_{i(eht)}$	$\leqslant$ 5 MΩ
I_{eht}	$\leqslant$ 100 μA
Supply voltage (V_B)	38–55 V*
Input power	11 W
Deflection current	3.45 A
Deflection voltage	550 $V_{(p-p)}$
Flyback time	4.2 μs
Flyback capacitor	3.3 nF
Auxiliary voltages (DC)	
connecting pin 1	+ 500 V
connecting pin 7	+ 60 V
connecting pin 10	–80 V

* Dependent on operating frequency.

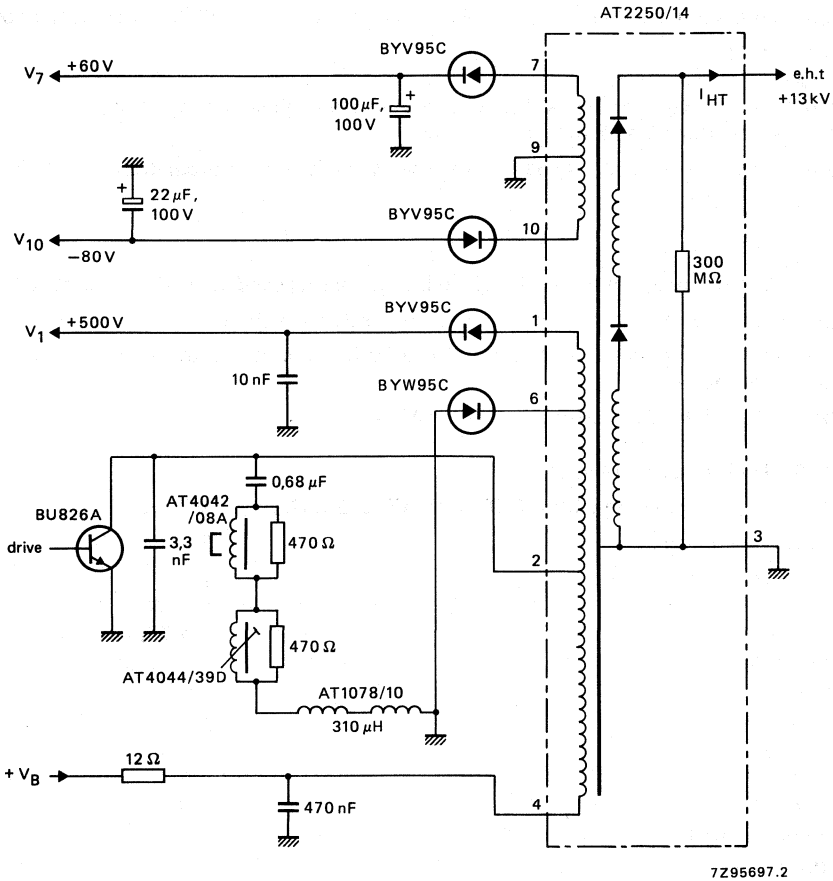


Fig. 3 Application circuit.

CRF-BLOCK

- For stabilized or unstabilized high performance EHT generators in CTV receivers and colour monitors
- PCB mounting

QUICK REFERENCE DATA

EHT	25 kV
Capacitance from EHT to ground	1.5 nF*
Internal protection and filter resistor	33 kΩ
R feedback	550 MΩ
V_{g2} adjustment range (worst case)	0.7 to 2.9% of EHT
Focus adjustment range (worst case)	21.7 to 31.7% of EHT

APPLICATION

This CRF-block has been designed for stabilized EHT generators, but it can also be used in unstabilized generators if there is no focus supply available, or if the focus tracking with the EHT is insufficient. In this application, the feedback signal can be used to compensate for geometry errors caused by load or frequency variations. The insensitivity to frequency variations on the focus and V_{g2} voltage will allow operation in synchronized EHT generators for "auto-sync" or "auto-scan" monitors.

DESCRIPTION

The CRF-block contains a 1.5 nF capacitor to reduce the output ripple and to enable an unscreened connection between the EHT source and the CRF-block. The 33 kΩ flash resistor will limit flash current and, together with the 1.5 nF capacitor and the picture tube capacitance, forms a pi-filter. The 550 MΩ resistor can be used to obtain a feedback signal in stabilized EHT generators or for EHT load compensation circuits in unstabilized generators. The focus/V_{g2} potentiometers are connected via a 140 MΩ resistor, directly to the EHT output voltage. The focus and V_{g2} voltage will track perfectly with the EHT output voltage, independent of load or frequency variations. The focus and V_{g2} potentiometer sub-assembly is mounted on a pre-moulded case. This case also contains an inner holder for the remainder of the parts. The total assembly is encased in epoxy resin. The case can be mounted directly onto a printed-wiring board.

* The EHT capacitor is not required in all applications, so a CRF-block without this capacitor is currently being studied.

Dimensions in mm

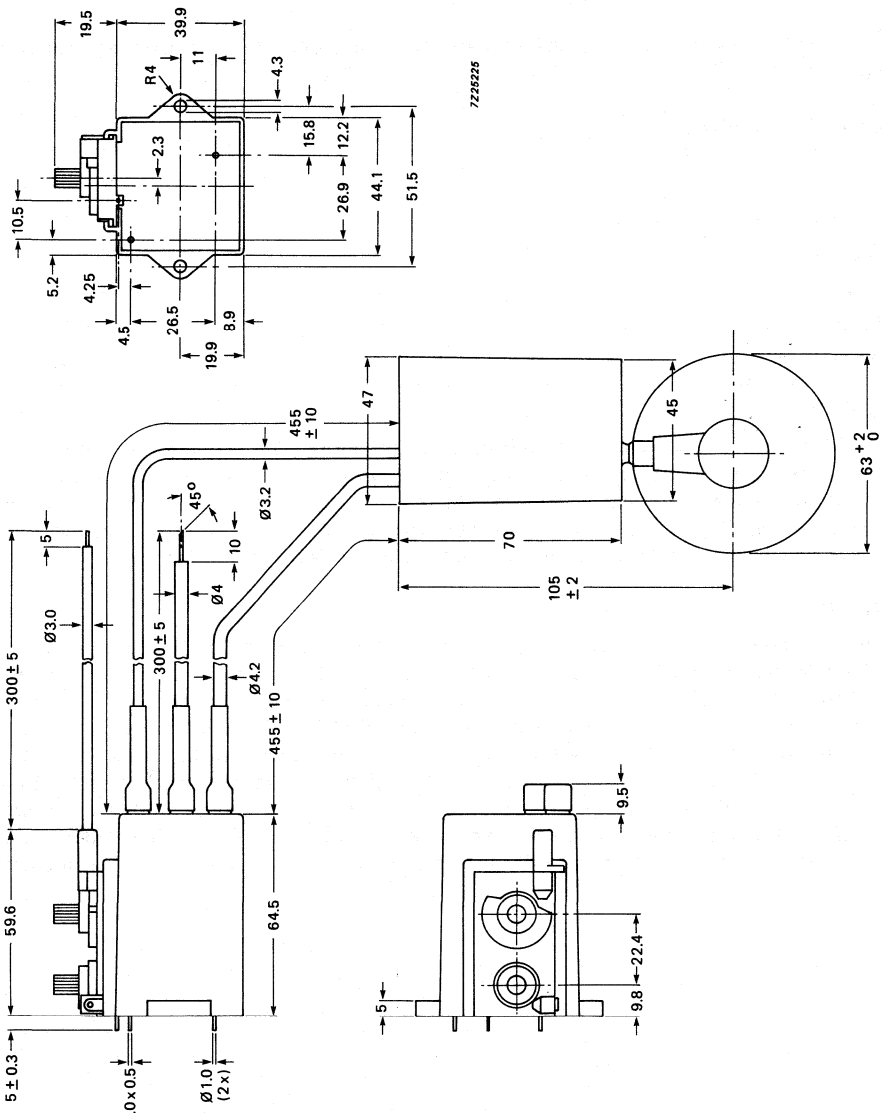


Fig.1 CRF-block TZ 5395.

MECAHNICAL DATA

Outlines

Mass	200 g
Solderability	in accordance with IEC
Packing	72 pieces per box
Mounting	PCB

The CRF-block may be mounted on a printed-wiring board. The fit of the connecting pins in a printed-wiring grid with a pitch of 2.54 mm is shown in Fig.2.

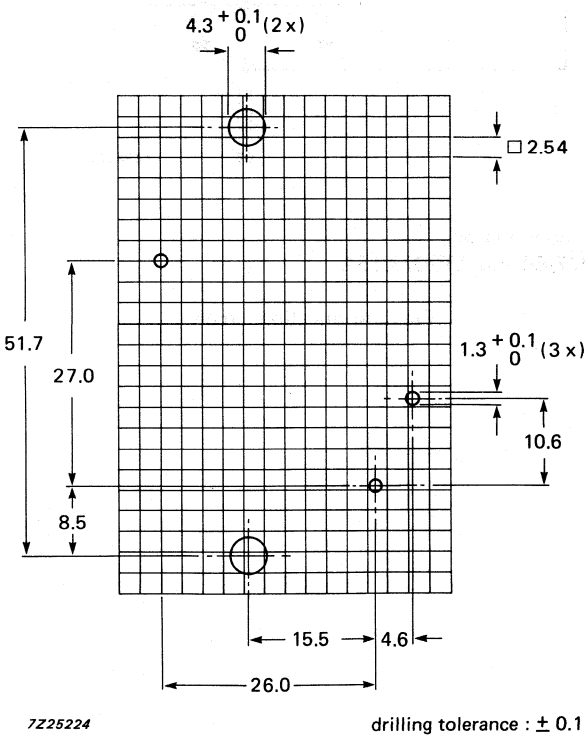
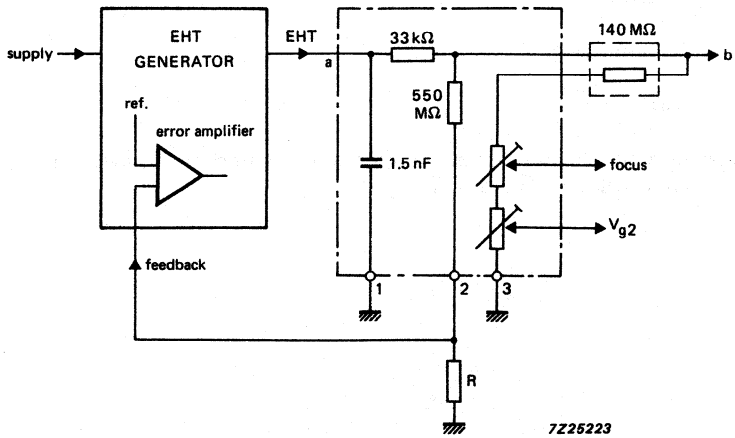


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).



CRF-block to be used in conjunction
with AT2077/60, AT2077/84 and AT2077/85A

Fig.3 Application circuit.

LINEARITY CORRECTORS

LINEARITY CORRECTOR

- For colour TV

APPLICATION

This linearity corrector is for the line deflection output stage of the 30AX system. It is compatible with linearity control unit AT4042/42 (connections 1 and 2 of the AT4042/42 on the printed-wiring board to be connected to 3 and 4 respectively).

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

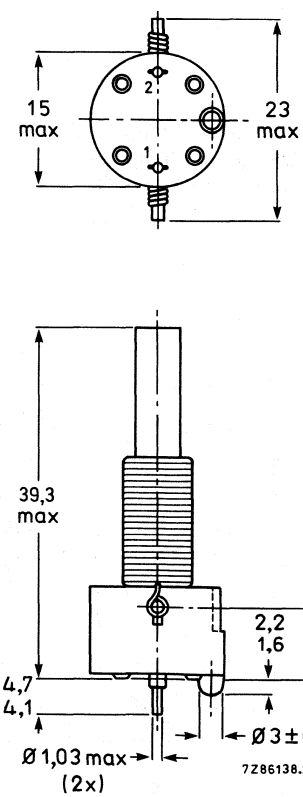


Fig. 1.

The linearity correctors are packed in boxes of 108 pieces.

Mounting

The AT4042/30 can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

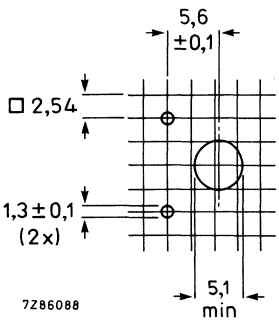


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 5,1 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 11,8 V ± 5,5%.

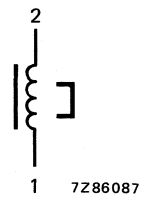


Fig. 3 Circuit diagram.

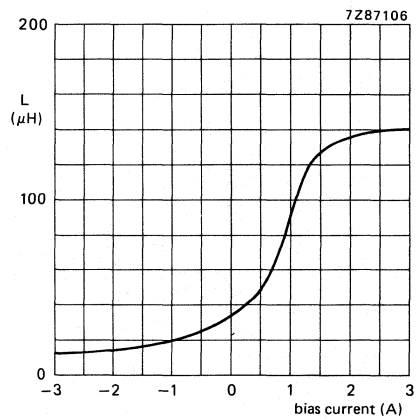


Fig. 4 Inductance as a function of bias current.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, +40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For Colour Data Graphic Displays and Colour TV

APPLICATION

This linearity corrector is for the line deflection output stage of 90° colour monitors and TV receivers.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

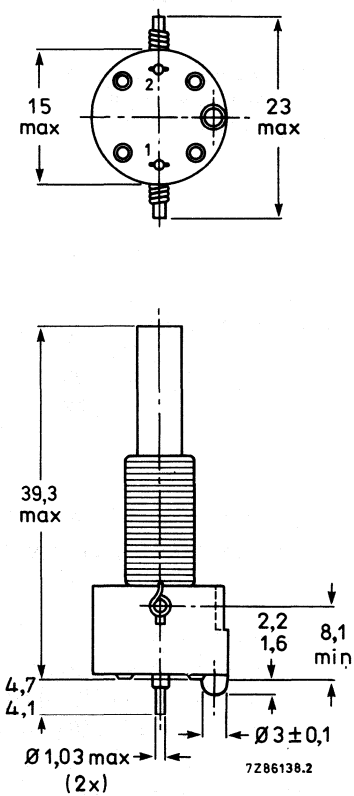


Fig. 1.

The linearity correctors are packed in boxes of 108 pieces.

Mounting.

The AT4042/34 can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

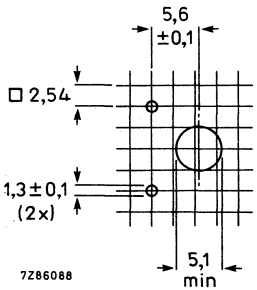


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 3,0 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 15,2 V ± 5,5%.

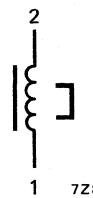


Fig. 3 Circuit diagram.

Reliability

Maximum cumulative percentage catastrophic failures

after 3000 h	⩽ 0,05%
after 10 000 h	⩽ 0,2%
after 30 000 h	⩽ 5%

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz; amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40 g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For colour monitor displays and colour picture tubes

APPLICATION

This linearity corrector is designed for use in the line output stage of television sets with 30AX 110° picture tubes.

DESCRIPTION

The linearity corrector consists of a coil, wound on a Ferroxcube rod and a ring magnet of plastic-bonded Ferroxdure, which is placed around the bottom of the rod. This assembly is fixed in a plastic casing which also contains two mounting pins for mounting on a printed-wiring board. A reference pin is also provided to ensure correct polarity when mounting.

MECHANICAL DATA

Dimensions in mm

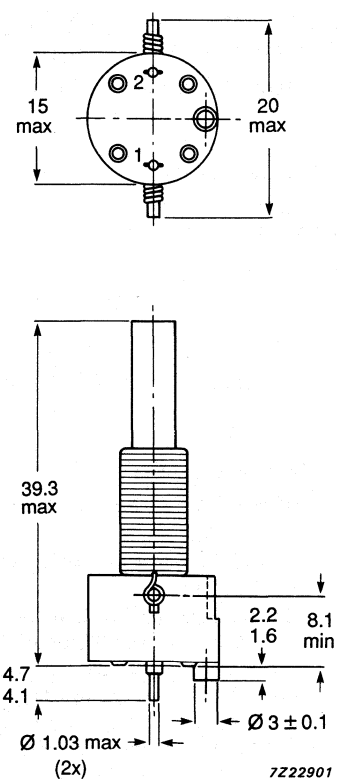


Fig.1 Mechanical assembly.

Packing

The linearity correctors are packed in a box measuring 335 x 160 x 75 mm containing 108 pieces.

Mounting

The AT4042/36 can be mounted on a printed-wiring board by means of its two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be within 3 mm of the magnetic parts of the unit. The coil should be shunted by a carbon resistor to damping ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

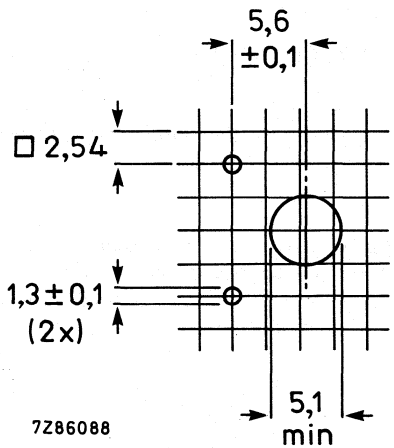


Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 5.1 A (p-p), frequency 19 kHz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 10.9 ± 5.5%.

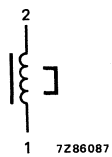


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	in accordance with IEC 65 clause 14.4

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s, 100 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s.
Cold	IEC 68-2-1, test Aa, 96 hours, −25 °C.
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For Colour TV

APPLICATION

This linearity corrector is for the line deflection output stage of colour TV receivers and 90° monitors.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

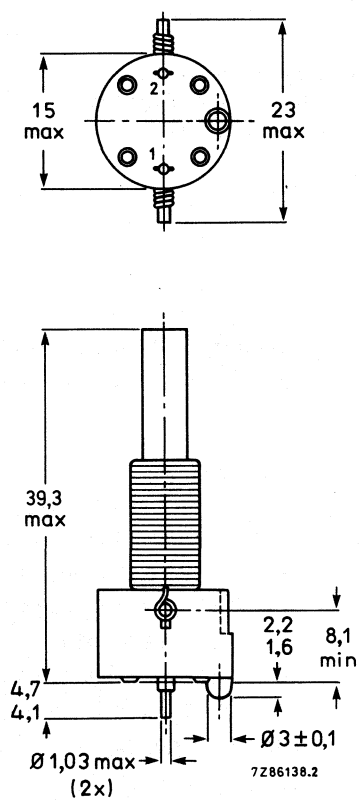


Fig. 1.

The linearity correctors are packed in boxes of 108 pieces.

Mounting

The AT4042/36FS can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

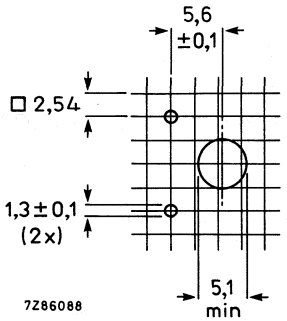


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 1,9 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 17,4 V ± 5,5%.

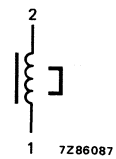


Fig. 3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For colour TV

APPLICATION

This linearity corrector is for the line deflection output stage of 90° colour TV receivers and monitors.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

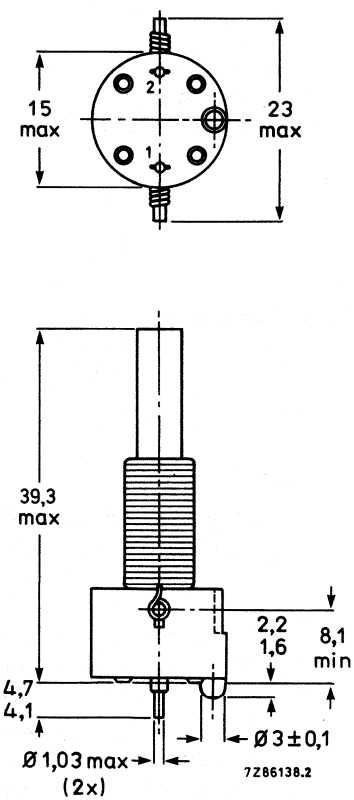


Fig. 1

The linearity correctors are packed in boxes of 108 pieces.

Mounting

The AT4042/41FS can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

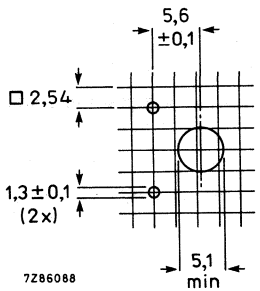


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2,1 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 12,7 V ± 5,5%.

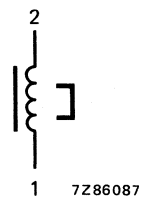


Fig. 3 Circuit diagram.

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,05%
after 10 000 h	⩽ 0,2%
after 30 000 h	⩽ 5%

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For Monochrome Data Graphic Displays.

APPLICATION

This linearity corrector is for the line deflection output stage of 90° monitors for data graphic display in conjunction with line output transformer AT2140/16 and deflection unit AT1079/--.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.

The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

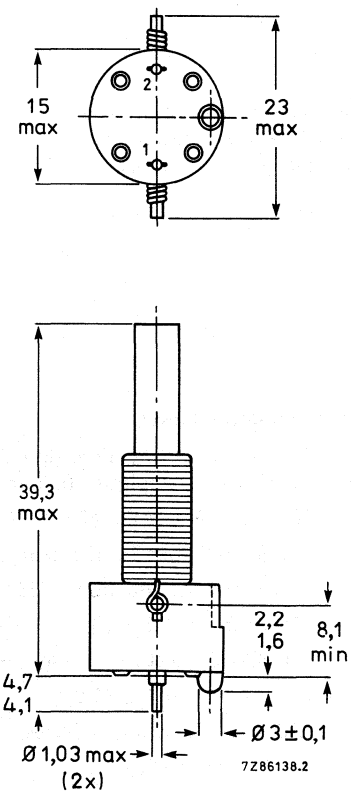


Fig. 1.

Mounting

The AT4042/46 can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

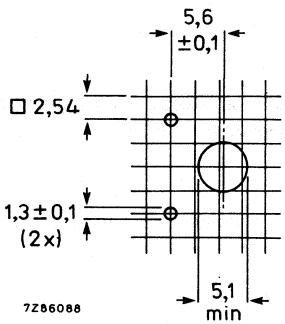


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 3 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 6 V ± 5,5%.

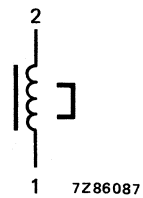


Fig. 3 Circuit diagram.

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.
Flammability of assembly	IEC 65, clause 14.4.
Flammability of materials	UL94, category V1.

LINEARITY CORRECTOR

- For colour monitor displays and colour television sets

APPLICATION

This linearity corrector is designed for use in line deflection output stages of 90° minineck tubes.

DESCRIPTION

The linearity corrector consists of a coil, wound on a Ferroxcube rod and a ring magnet of plastic-bonded Ferroxdure, which is placed around the bottom of the rod. This assembly is fixed in a plastic casing which also contains two mounting pins for mounting on a printed-wiring board. This smaller linearity corrector is pin-compatible with existing, larger correctors.

MECHANICAL DATA

Dimensions in mm

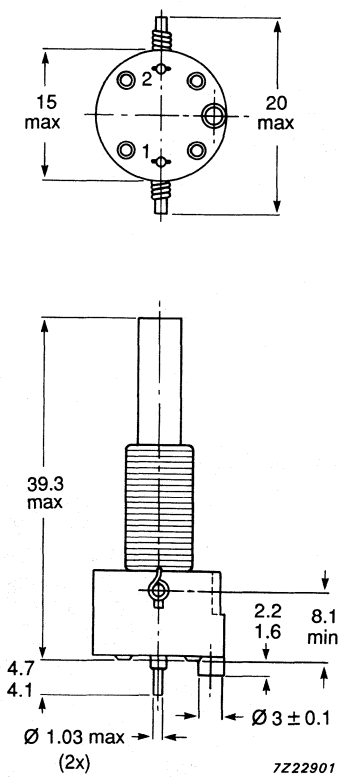


Fig.1 Mechanical assembly.

Packing

The linearity correctors are packed in a box measuring 335 x 160 x 75 mm containing 168 pieces.

Mounting

The AT4042/46S can be mounted on a printed-wiring board by its two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be within 3 mm of the magnetic parts of the unit. The coil should be shunted by a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

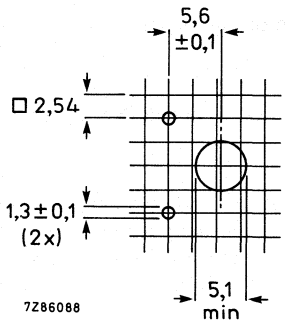


Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 4.0 A (p-p), frequency 38 kHz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 7.9 V ± 5.5%.

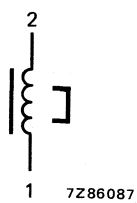


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of materials	in accordance with UL94 class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s², 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, −25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = + 100 °C

LINEARITY CORRECTOR

- For monochrome monitors

APPLICATION

This linearity corrector is designed for use in line deflection output stages of monochrome monitors.

DESCRIPTION

The linearity corrector consists of a coil, wound on a Ferroxcube rod and a ring magnet of plastic-bonded Ferroxdure, which is placed around the bottom of the rod. This assembly is fixed in a plastic casing which also contains two mounting pins for mounting on a printed-wiring board. This smaller linearity corrector is pin-compatible with existing, larger correctors.

MECHANICAL DATA

Dimensions in mm

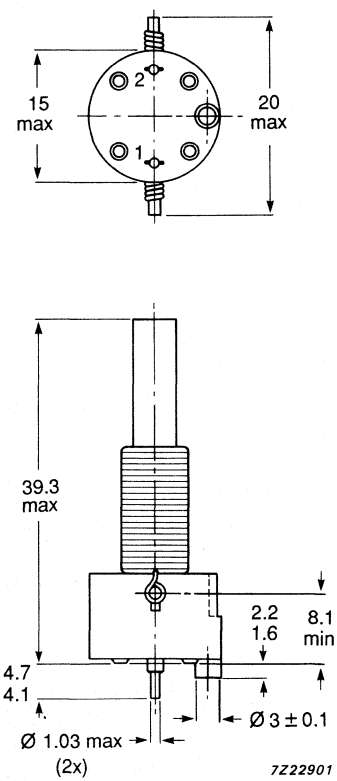


Fig.1 Mechanical assembly.

Packing

The linearity correctors are packed in a box measuring 335 x 160 x 75 mm containing 168 pieces.

Mounting

The AT4042/48 can be mounted on a printed-wiring board by means of its two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-condutive materials should be within 3 mm of the magnetic parts of the unit. The coil should be shunted by a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

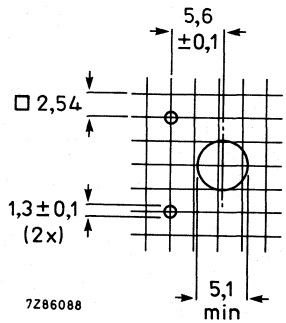


Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2.8 A (p-p), frequency 15625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 4.9 V ± 5.5%.

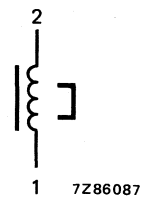


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of materials	in accordance with UL94 class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s^2, 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, −25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3. test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = + 100 °C

LINEARITY CORRECTOR

- For 9 in. colour monitor displays and colour television sets

APPLICATION

This linearity corrector is designed for use in line deflection output stages of 9 in. colour monitors and colour television sets.

DESCRIPTION

The linearity corrector consists of a coil, wound on a Ferroxcube rod and a ring magnet of plastic-bonded Ferroxdure, which is placed around the bottom of the rod. This assembly is fixed in a plastic casing which also contains two mounting pins for mounting on a printed-wiring board. This smaller linearity corrector is pin-compatible with existing, larger correctors.

MECHANICAL DATA

Dimensions in mm

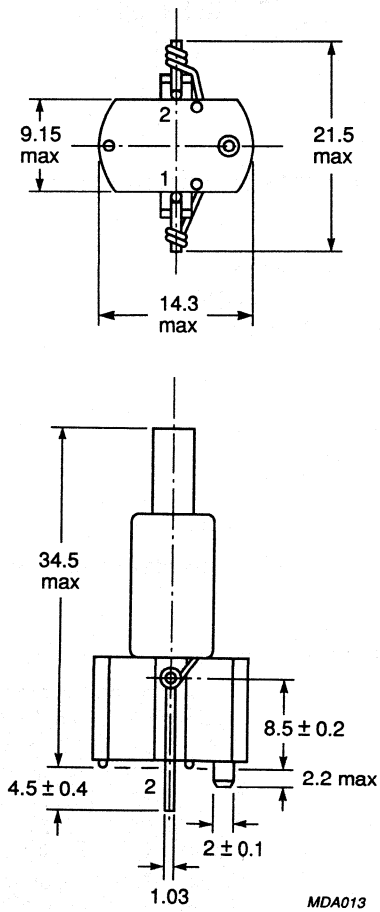


Fig.1 Mechanical assembly.

Packing

The linearity correctors are packed in a box measuring 335 x 160 x 75 mm containing 168 pieces.

Mounting

The AT4042/49 can be mounted on a printed-wiring board by means of its two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be within 3 mm of the magnetic parts of the unit. The coil should be shunted by a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

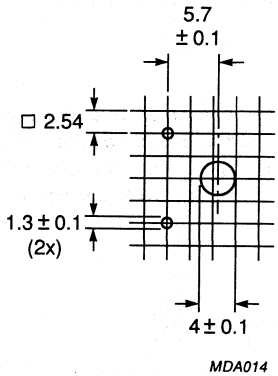


Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2.6 A (p-p), frequency 23 kHz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 5.6 V ± 5.5%.

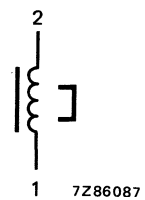


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of materials	in accordance with UL94 class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s², 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, –25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = –25 °C, T_B = + 100 °C

LINEARITY CORRECTOR

- For colour TV

APPLICATION

This linearity corrector is for the line deflection output stage of the 45AX system.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

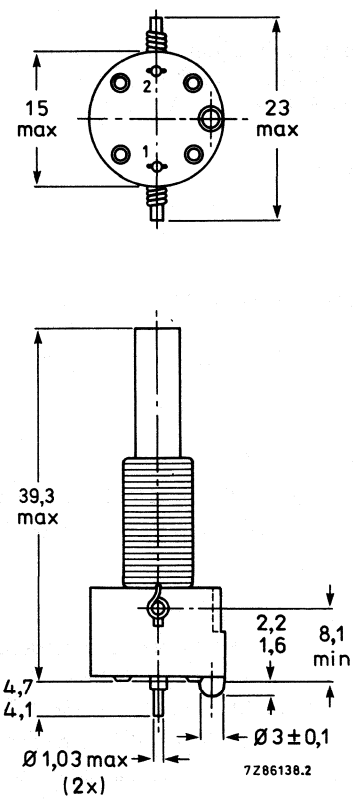


Fig. 1.

The linearity correctors are packed in boxes of 108 pieces.

Mounting

The AT4042/51 can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

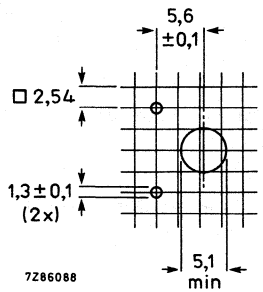


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 3,15 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 12,9 V ± 5,5%.

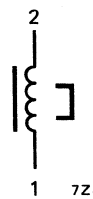


Fig. 3 Circuit diagram.

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,05%
after 10 000 h	⩽ 0,2%
after 30 000 h	⩽ 5%

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For colour Data Graphic Displays and Colour TV

APPLICATION

This linearity corrector is for the line deflection output stage of 90° monitors and TV receivers.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

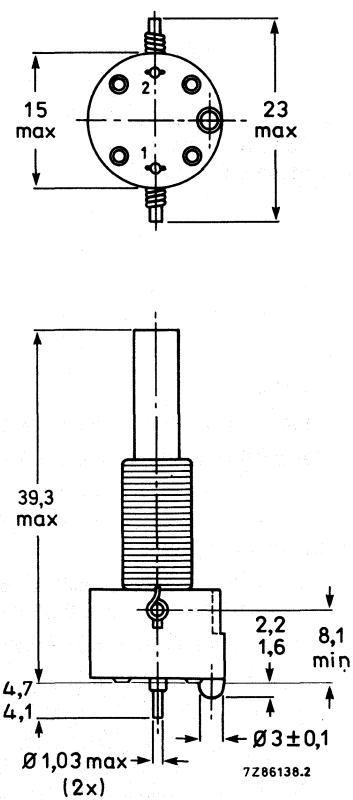


Fig. 1.

The linearity correctors are packed in boxes of 108 pieces.

Mounting

The AT4042/90 can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

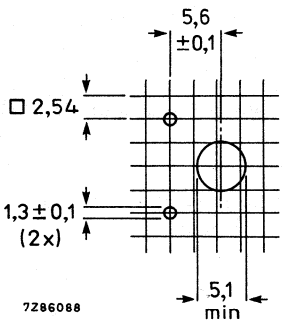


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2,9 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 9,8 V ± 5,5%.

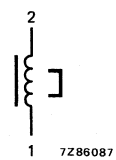


Fig. 3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For colour monitor displays and colour television sets

APPLICATION

This linearity corrector is designed for use in line deflection output stages of colour monitors and colour television sets.

DESCRIPTION

The linearity corrector consists of a coil, wound on a Ferroxcube rod and a ring magnet of plastic-bonded Ferroxdure, which is placed around the bottom of the rod. This assembly is fixed in a plastic casing which also contains two mounting pins for mounting on a printed-wiring board. This smaller linearity corrector is pin-compatible with existing, larger correctors.

MECHANICAL DATA

Dimensions in mm

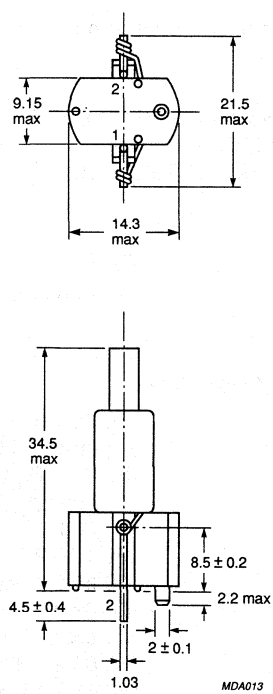


Fig.1 Mechanical assembly.

Packing

The linearity correctors are packed in a box measuring 335 x 160 x 75 mm containing 168 pieces.

Mounting

The AT4042/90G can be mounted on a printed-wiring board by of its two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be within 3 mm of the magnetic parts of the unit. The coil should be shunted by a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

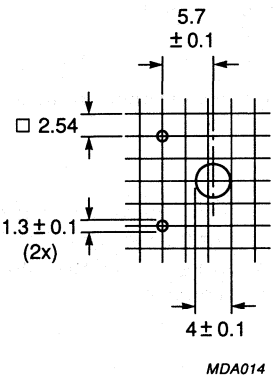


Fig.2 Hole pattern for mounting on a printed-wiring board.

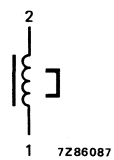


Fig.3 Circuit diagram.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2.7 A (p-p), frequency 15625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 12.8 V ± 5.5%.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of materials	In accordance with UL94 class 94V-1

TESTS

The linearity corrector withstands the following tests

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s², 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s.
Cold	IEC 68-2-1, test Aa, 96 hours, −25 °C.
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C.
Damp heat, cyclic	IEC 68-2-30 test Db, 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For colour TV

APPLICATION

This linearity corrector is for 90° minineck applications.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

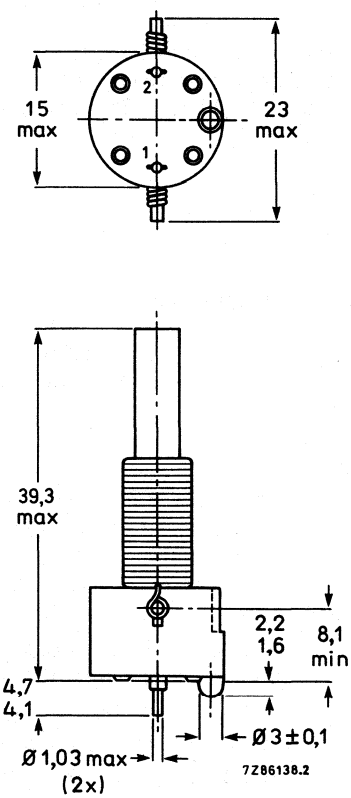


Fig. 1.

The linearity correctors are packed in boxes of 108 pieces.

Mounting

The AT4042/91 can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

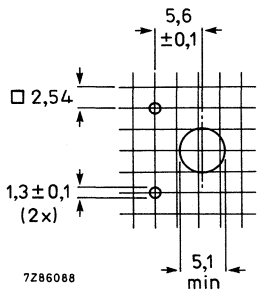


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2,3 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 17,6 V ± 5%.

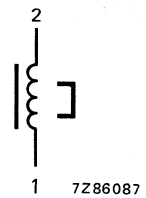


Fig. 3 Circuit diagram.

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,05%
after 10 000 h	⩽ 0,2%
after 30 000 h	⩽ 5%

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test BA; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For colour TV

APPLICATION

This linearity corrector is for the line deflection output stage of colour TV receivers.

DESCRIPTION

The linearity corrector consists of a coil, mounted on a Ferroxcube rod and a ring-shaped magnet of plastic-bonded Ferroxdure, which is placed around the rod at the bottom.
The corrector has pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

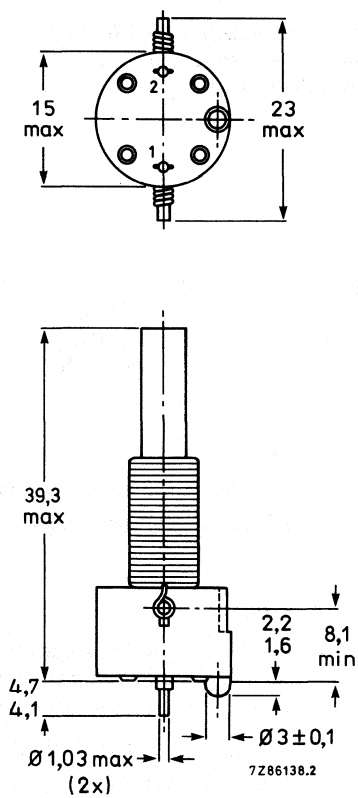


Fig. 1

The linearity correctors are packed in boxes of 108 pieces.

Mounting

The AT4042/92 can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coil should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

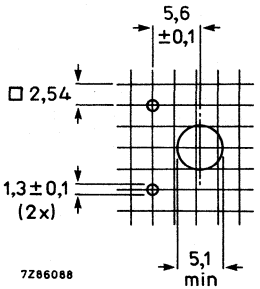


Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 5,5 A (p-p), frequency 15 625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 14,7 V ± 5%.

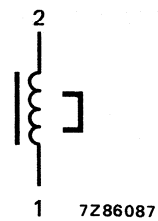


Fig. 3 Circuit diagram.

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,05%
after 10 000 h	⩽ 0,2%
after 30 000 h	⩽ 5%

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

LINEARITY CORRECTOR

- For colour television sets

APPLICATION

This linearity corrector is designed for use in line deflection output stages of colour television sets with 33 in. FS picture tubes.

DESCRIPTION

The linearity corrector consists of a coil, wound on a Ferroxcube rod and a ring magnet of plastic-bonded Ferroxdure, which is placed around the bottom of the rod. This assembly is fixed in a plastic casing which also contains two mounting pins for mounting on a printed-wiring board. This smaller linearity corrector is pin-compatible with existing, larger correctors.

MECHANICAL DATA

Dimensions in mm

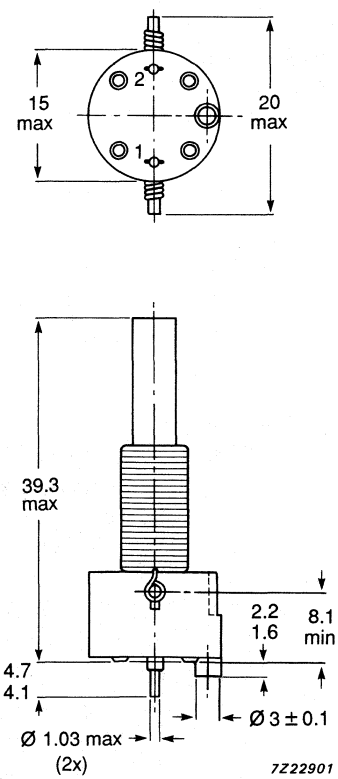


Fig.1 Mechanical assembly.

Packing

The linearity correctors are packed in a box measuring 335 x 160 x 75 mm containing 168 pieces.

Mounting

The AT4042/92B can be mounted on a printed-wiring board by its two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be within 3 mm of the magnetic parts of the unit. The coil should be shunted by a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

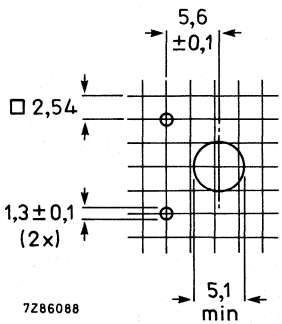


Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 5.6 A (p-p), frequency 15625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 22.5 V ± 5.5%.

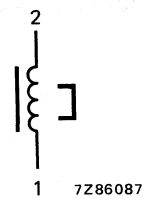


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of materials	in accordance with UL94 class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, provedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s^2, 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, –25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = –25 °C, T_B = + 100 °C

LINEARITY CORRECTOR

- For colour television sets with 66FS picture tube.

APPLICATION

This linearity corrector is designed for use in line deflection output stages of colour television sets with 66FS picture tubes.

DESCRIPTION

The linearity corrector consists of a coil, wound on a Ferroxcube rod and a ring magnet of plastic-bonded Ferroxdure, which is placed around the bottom of the rod. This assembly is fixed in a plastic casing which also contains two mounting pins for mounting on a printed-wiring board. This smaller linearity corrector is pin-compatible with existing, larger correctors.

MECHANICAL DATA

Dimensions in mm

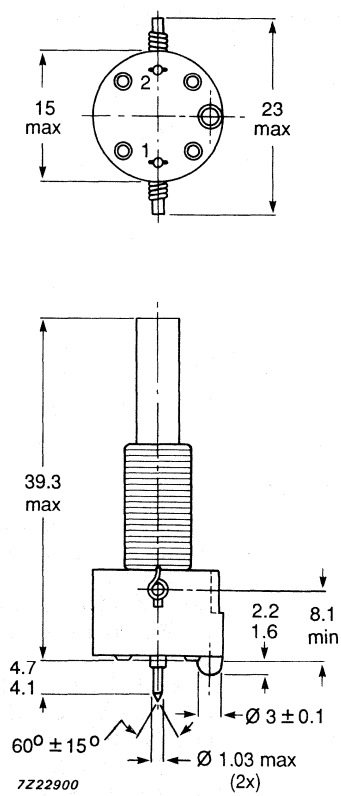


Fig.1 Mechanical assembly.

Packing

The linearity correctors are packed in a box measuring 335 x 160 x 75 mm containing 168 pieces.

Mounting

The AT4042/94 can be mounted on a printed-wiring board by means of its two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be within 3 mm of the magnetic parts of the unit. The coil should be shunted by a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

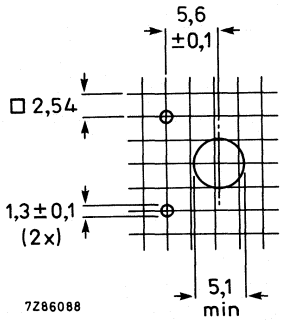


Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 5.5 A (p-p), frequency 15625 Hz, flyback ratio 18%, flows through the linearity corrector, the correction voltage is 14.7 V ± 5.5%.

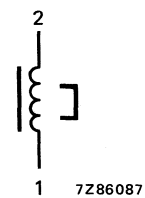


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of materials	in accordance with UL94 class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s^2, 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, −25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = + 100 °C

LINEARITY CONTROL UNITS

Replaces AT4036

ADJUSTABLE LINEARITY CONTROL UNIT

- For monochrome Data Graphic Displays

APPLICATION

This linearity control unit is for use in monochrome monitors.

DESCRIPTION

The unit consists of a coil, mounted on a Ferroxcube rod, and two Ferroxdure magnets. One ring-shaped magnet is placed around the Ferroxcube rod, at the bottom. The other magnet is positioned against the Ferroxcube rod opposite the bottom magnet and clamped. It is provided with a square hole to facilitate adjustment of the biasing field and, therefore, the linearity of the line deflection.

MECHANICAL DATA; Dimensions in mm

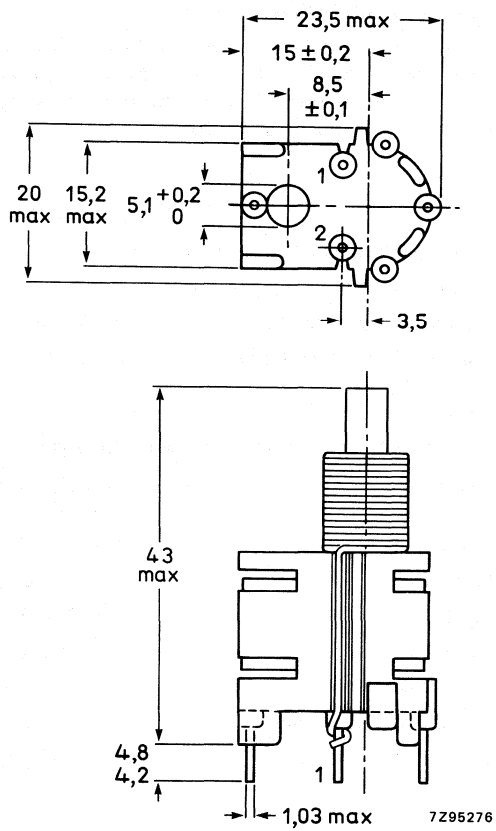


Fig. 1.

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coils should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

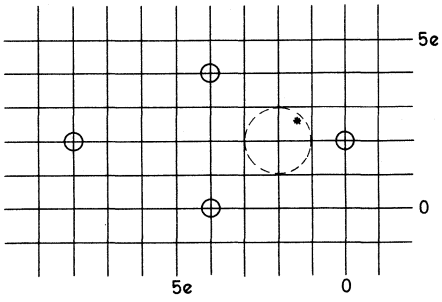


Fig. 2 Hole pattern for mounting on a printed-wiring board. Grid hole diameter = 1,3 ± 0,1 mm; e = 2,54 mm.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 6,0 A (p-p), frequency 16 kHz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable between 0,95 and 2,15 V ± 10%.

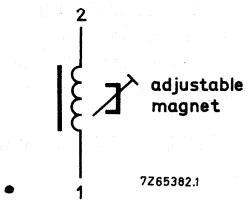


Fig. 3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity control unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40 g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

Replaces AT4042/02
and AT4042/04P

ADJUSTABLE LINEARITY CONTROL UNIT

- For Colour Data Graphic Displays

APPLICATION

This linearity control unit is for use in colour monitors. It can also be used in 90° colour and monochrome television sets.

DESCRIPTION

The unit consists of a coil, mounted on a Ferroxcube rod, and three Ferroxdure magnets. Two ring-shaped magnets are placed around the Ferroxcube rod, one at the top and one at the bottom. The third magnet is positioned against the Ferroxcube rod opposite the bottom magnet and clamped. It is provided with a square hole to facilitate adjustment of the biasing field and, therefore, the linearity of the line deflection.

MECHANICAL DATA; Dimensions in mm

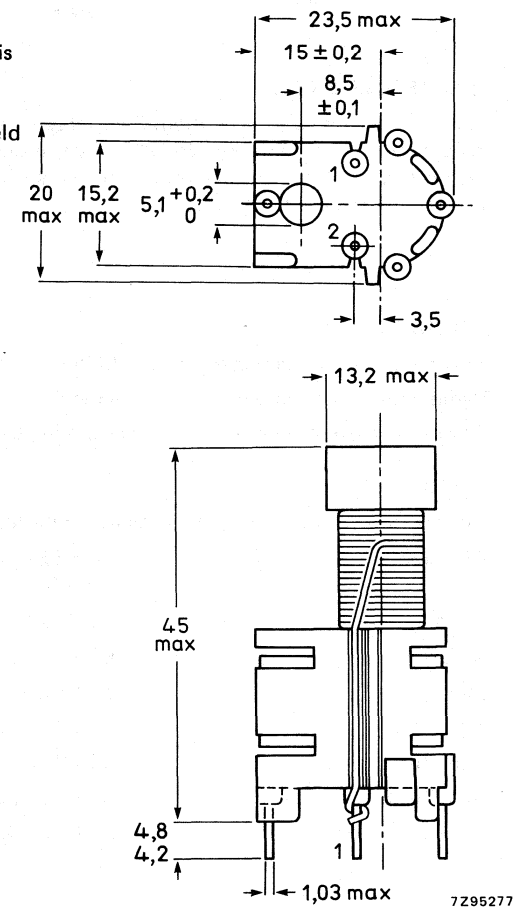


Fig. 1.

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coils should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

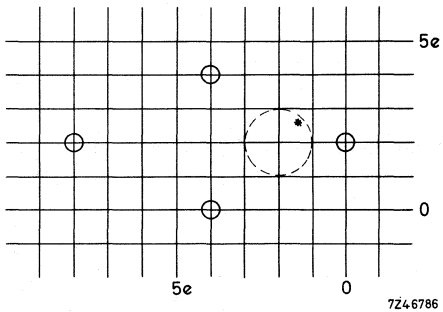


Fig. 2 Hole pattern for mounting on a printed-wiring board. Grid hole diameter = 1,3 ± 0,1 mm; e = 2,54 mm.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2,8 A (p-p), frequency 16 kHz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable between 12,5 and 29 V ± 10%.

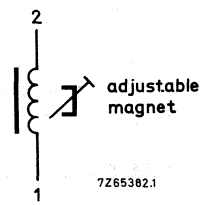


Fig. 3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity control unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

Replaces AT4042/42
and AT4042/08

ADJUSTABLE LINEARITY CONTROL UNIT

- For monochrome Data Graphic Displays

APPLICATION

This linearity control unit is for use in monochrome monitors. It is used in conjunction with a deflection unit of the AT1039 series, with series connected line coils.

DESCRIPTION

The unit consists of a coil, mounted on a Ferroxcube rod, and three Ferroxdure magnets. Two ring-shaped magnets are placed around the Ferroxcube rod, one at the top and one at the bottom. The third magnet is positioned against the Ferroxcube rod opposite the bottom magnet and clamped. It is provided with a square hole to facilitate adjustment of the biasing field and, therefore, the linearity of the line deflection.

MECHANICAL DATA; Dimensions in mm

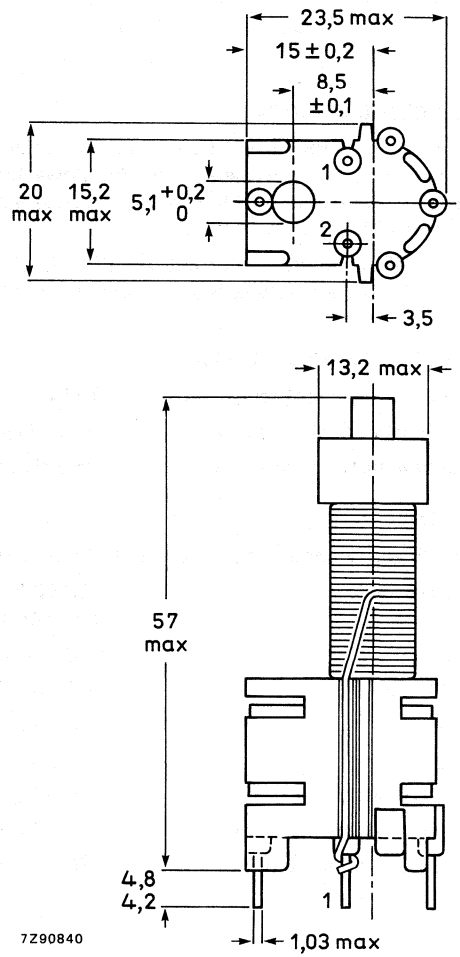


Fig. 1.

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coils should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

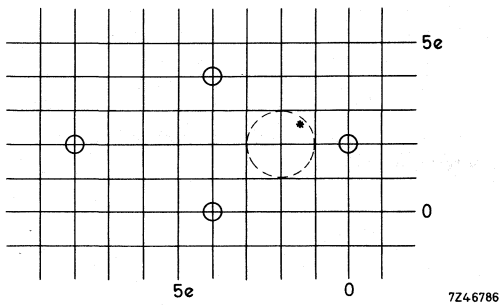


Fig. 2 Hole pattern for mounting on a printed-wiring board. Grid hole diameter = 1,3 ± 0,1 mm; e = 2,54 mm (0,1 in).

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 6,0 A (p-p), frequency 16 kHz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable between 15 and 25 V ± 10%.

Note: With a sawtooth current of 4,65 A (p-p) the correction voltage is adjustable between 8 and 15 V.

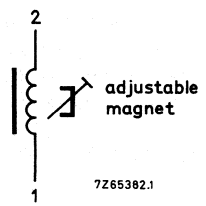


Fig. 3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity control unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = 25 °C, T_B = + 100 °C.

ADJUSTABLE LINEARITY CONTROL UNIT

- For colour monitors and television sets

APPLICATION

This linearity control unit is for use in colour monitors and television sets.

DESCRIPTION

The unit consists of a coil mounted on a Ferroxcube rod. A Ferroxdure ring magnet is placed around the top of the rod and a Ferroxdure half-ring magnet is placed around the bottom. An adjustable Ferroxdure magnet is placed along side the half-ring magnet. This magnet has a square hole in it and is adjustable through a hole in the base of the unit. The magnet is used to adjust the biasing field of the coil and therefore the linearity of the line deflection.

MECHANICAL DATA

Dimensions in mm

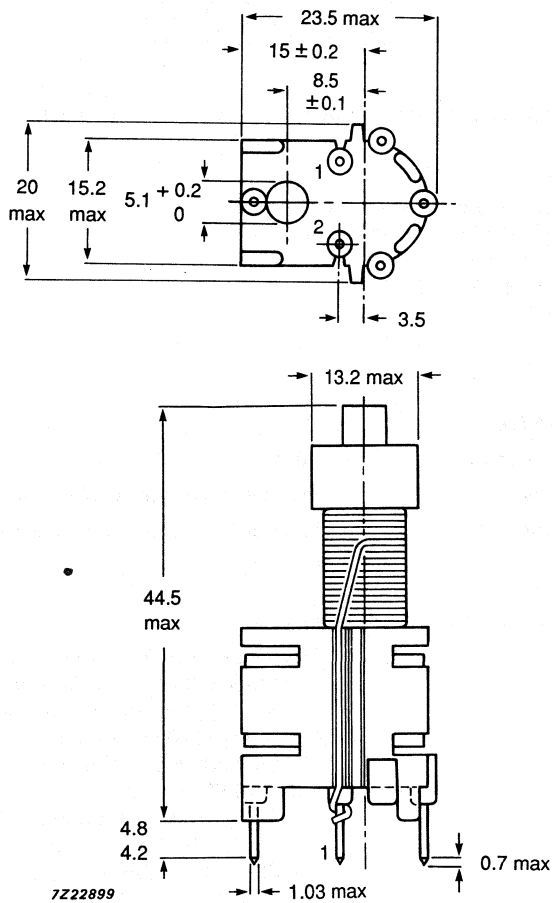


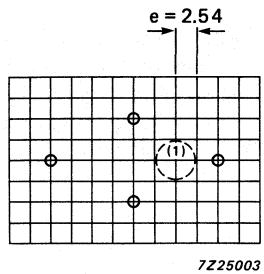
Fig.1 Mechanical assembly.

Packing

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on a printed-wiring board by two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be closer than 3 mm to the magnetic parts of the unit. The coil should be shunted with a carbon resistor to prevent ringing phenomena; the value of the resistor depends on the line output transformer (typical value 560 Ω).



(1) Hole for bottom adjustment.

Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 2.6 A (p-p), frequency 15625 Hz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable from 3.4 V to 13.6 V.

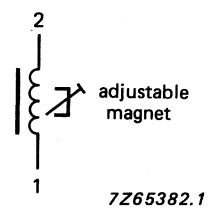


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	in accordance with IEC 65, clause 14.4
Flammability of materials	in accordance with UL94, class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s^2, 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, –25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30 test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = –25 °C, T_B = + 100 °C

ADJUSTABLE LINEARITY CONTROL UNIT

- For colour monitors and television sets

APPLICATION

This linearity control unit is for use in colour monitors and television sets.

DESCRIPTION

The unit consists of a coil mounted on a Ferroxcube rod. A Ferroxdure ring magnet is placed around the top of the rod and a Ferroxdure half-ring magnet is placed around the bottom. An adjustable Ferroxdure magnet is placed along side the half-ring magnet. This magnet has a square hole in it and is adjustable through a hole in the base of the unit. The magnet is used to adjust the biasing field of the coil and therefore the linearity of the line deflection.

MECHANICAL DATA

Dimensions in mm

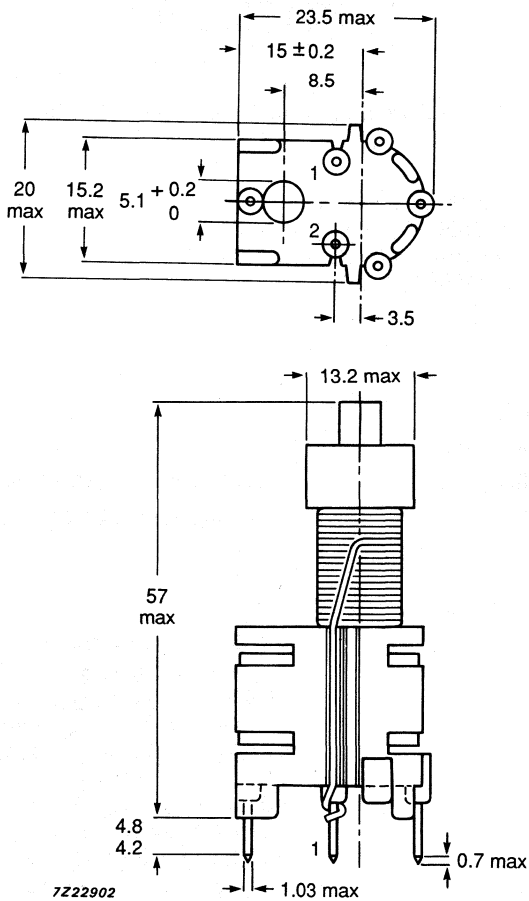


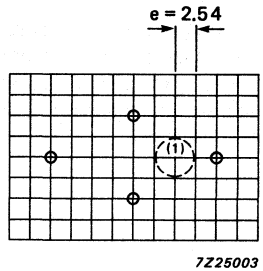
Fig.1 Mechanical assembly.

Packing

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on a printed-wiring board by two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be closer than 3 mm to the magnetic parts of the unit. The coil should be shunted with a carbon resistor to prevent ringing phenomena; the value of the resistor depends on the line output transformer (typical value 560 Ω).



(1) Hole for bottom adjustment.

Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 5.0 A (p-p), frequency 15625 Hz, flyback ratio 18%, flows though the linearity control unit, the correction voltage is adjustable from 9 V to 16.2 V.

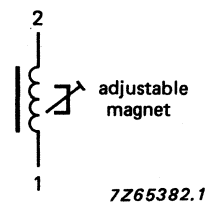


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	in accordance with IEC 65, clause 14.4
Flammability of materials	in accordance with UL94, class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s², 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, –25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = –25 °C, T_B = + 100 °C

ADJUSTABLE LINEARITY CONTROL UNIT

- For colour monitors and television sets

APPLICATION

This linearity control unit is for use in colour monitors and television sets.

DESCRIPTION

The unit consists of a coil mounted on a Ferroxcube rod. A Ferroxdure ring magnet is placed around the top of the rod and a Ferroxdure half-ring magnet is placed around the bottom. An adjustable Ferroxdure magnet is placed along side the half-ring magnet. This magnet has a square hole in it and is adjustable through a hole in the base of the unit. The magnet is used to adjust the biasing field of the coil and therefore the linearity of the line deflection.

MECHANICAL DATA

Dimensions in mm

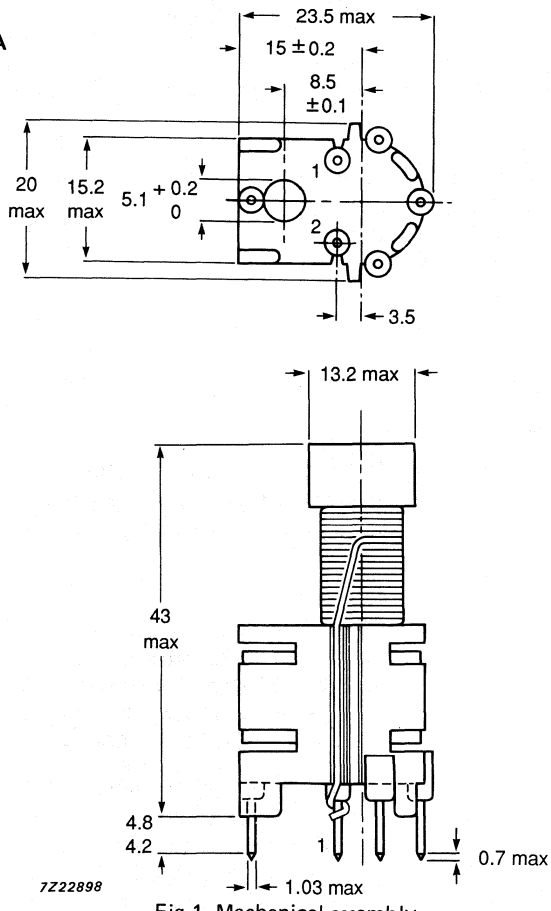


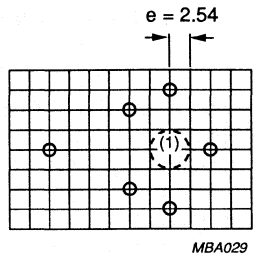
Fig.1 Mechanical assembly.

Packing

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on a printed-wiring board by two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be closer than 3 mm to the magnetic parts of the unit. The coil should be shunted with a carbon resistor to prevent ringing phenomena; the value of the resistor depends on the line output transformer (typical value 560 Ω).



(1) Hole for bottom adjustment

Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 4.4 A (p-p), frequency 15625 Hz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable from 0.65 V to 3.2 V.

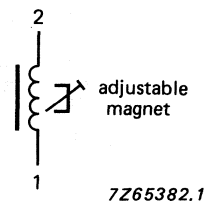


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	in accordance with IEC 65, clause 14.4
Flammability of materials	in accordance with UL94, class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min
Bump	IEC 68-2-29, test Eb, peak acceleration 390 m/s^2, 1000 bumps, 3 directions
Soldering	IEC 68-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, −25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = + 100 °C

ADJUSTABLE LINEARITY CONTROL UNIT

- For monochrome Data Graphic Displays

APPLICATION

This linearity control unit is for use in monochrome monitors. It is used in conjunction with a deflection unit of the AT1039 series, and line output transformer AT2076/84 or AT2077/84.

DESCRIPTION

The unit consists of a coil, mounted on a Ferroxcube rod, and three Ferroxdure magnets. Two ring-shaped magnets are placed around the Ferroxcube rod, one at the top and one at the bottom. The third magnet is positioned against the Ferroxcube rod opposite the bottom magnet and clamped. It is provided with a square hole to facilitate adjustment of the biasing field and, therefore, the linearity of the line deflection.

MECHANICAL DATA; Dimensions in mm

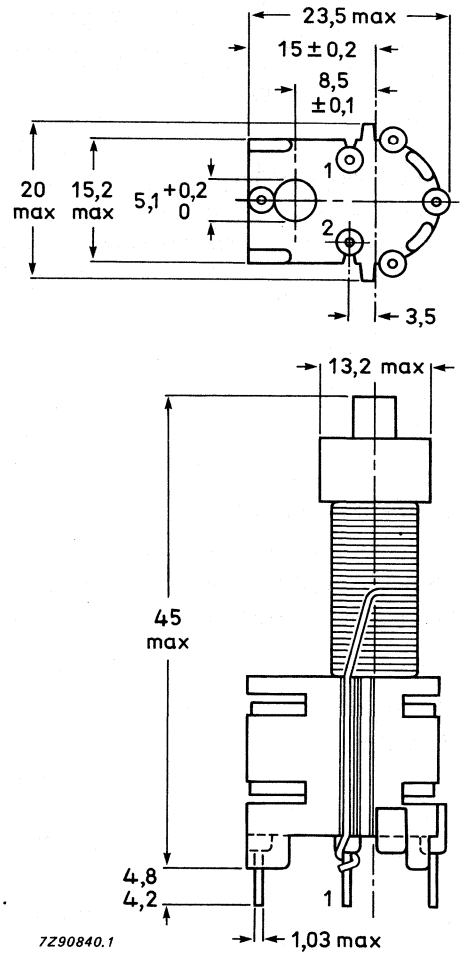


Fig. 1.

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coils should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

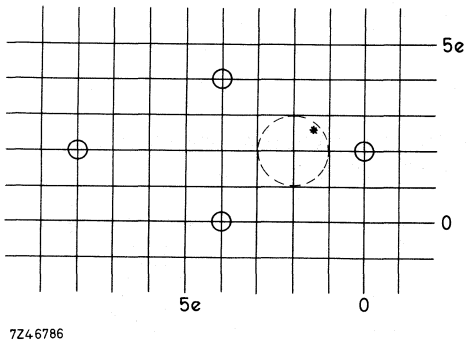


Fig. 2 Hole pattern for mounting on a printed-wiring board; e = 2,54 mm.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 8,8 A (p-p), frequency 32 kHz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable between 6 and 10 V.

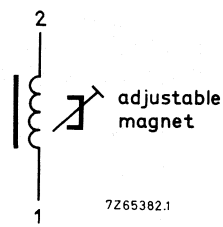


Fig. 3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity control unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, +100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, +40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C.

FIXED LINEARITY CONTROL UNIT

- For colour monitors.

APPLICATION

This fixed linearity control unit is designed for use in the line output stage of colour monitors.

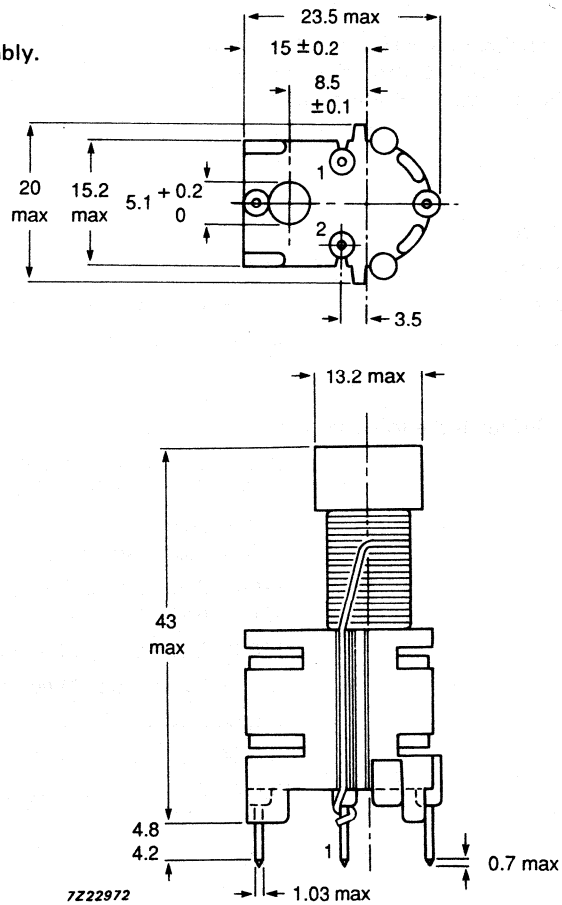
DESCRIPTION

The unit consists of a coil mounted on a Ferroxcube rod. A Ferroxdure ring magnet is placed around the top of the rod and a Ferroxdure half-ring magnet is placed around the bottom. An adjustable Ferroxdure magnet is placed along side the half-ring magnet. This magnet is fixed with glue after adjustment to the set value.

MECHANICAL DATA

Dimensions in mm

Fig.1 Mechanical assembly.



Packing

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit may be mounted on a printed-wiring board by two connecting pins (Fig.2). To prevent distortion of the magnetic field, no magnetic-conductive materials should be closer than 3 mm to the magnetic parts of the unit. The coil should be shunted with a carbon resistor to prevent ringing phenomena; the value of the resistor depends on the line output transformer (typical value 560 Ω).

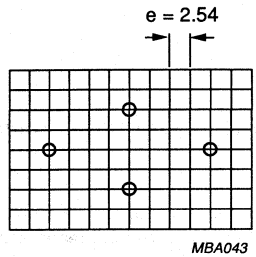


Fig.2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

When a swatooth current (without S-correction) of 4.5 A (p-p), frequency 61 kHz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is 16.3 V.

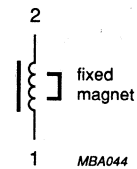


Fig.3 Circuit diagram.

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	in accordance with IEC 65 clause 14.4
Flammability of materials	in accordance with UL94 class 94V-1

TESTS

The linearity corrector withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, Test Eb, peak acceleration 390 m/s, 100 bumps, 3 directions
Soldering	IEC 69-2-20, test Ta, first part, method 1, 230 ± 10 °C, 2 ± 0.5 s
Cold	IEC 68-2-1, test Aa, 96 hours, −25 °C
Dry heat	IEC 68-2-2, test Ba, 96 hours, + 100 °C
Damp heat, cyclic	IEC 68-2-30, test Db, 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = + 100 °C

ADJUSTABLE LINEARITY CONTROL UNIT

- For Colour Data Graphic Displays and Colour TV

APPLICATION

This linearity control unit is for use in colour monitors and television sets.

DESCRIPTION

The unit consists of a coil, mounted on a Ferroxcube rod, and three Ferroxdure magnets. Two ring-shaped magnets are placed around the Ferroxcube rod, one at the top and one at the bottom. The third magnet is positioned against the Ferroxcube rod opposite the bottom magnet and clamped. It is provided with a square hole to facilitate adjustment of the biasing field and, therefore, the linearity of the line deflection.

MECHANICAL DATA; Dimensions in mm

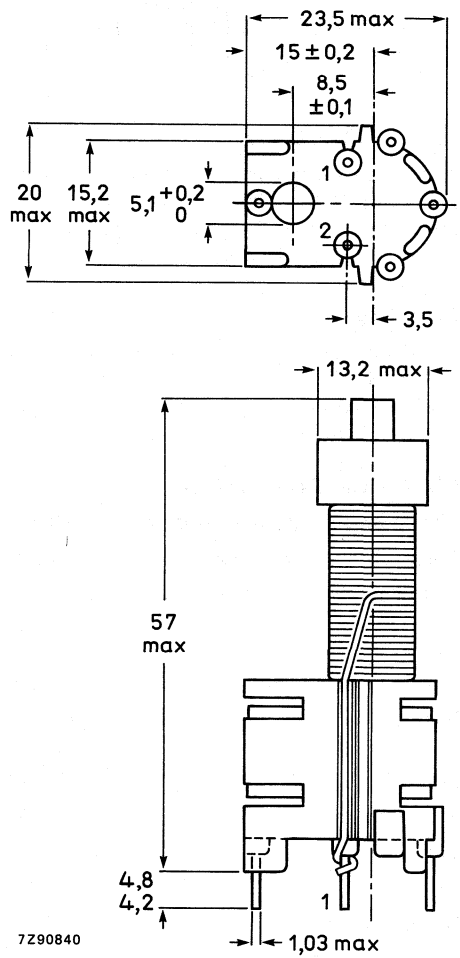


Fig. 1.

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coils should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

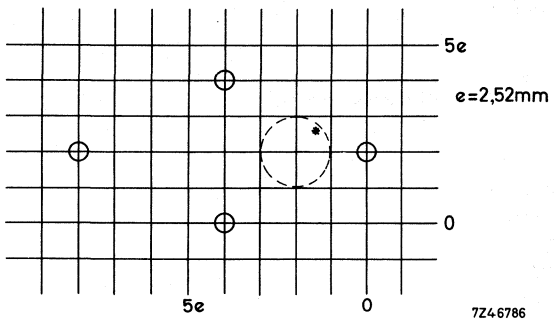


Fig. 2 Hole pattern for mounting on a printed-wiring board; e = 2,54 mm.
* Hole for bottom adjustment.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 6,0 A (p-p), frequency 16 kHz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable between 8,5 and 12,4 V.

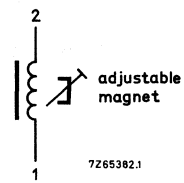


Fig. 3 Circuit diagram.

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,05%
after 10 000 h	⩽ 0,2%
after 30 000 h	⩽ 5%

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity control unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

ADJUSTABLE LINEARITY CONTROL UNIT

- For Colour Data Graphic Displays and Colour TV

APPLICATION

This linearity control unit is for use in colour monitors and television sets.

DESCRIPTION

The unit consists of a coil, mounted on a Ferroxcube rod, and three Ferroxdure magnets. Two ring-shaped magnets are placed around the Ferroxcube rod, one at the top and one at the bottom. The third magnet is positioned against the Ferroxcube rod opposite the bottom magnet and clamped. It is provided with a square hole to facilitate adjustment of the biasing field and, therefore, the linearity of the line deflection.

MECHANICAL DATA; Dimensions in mm

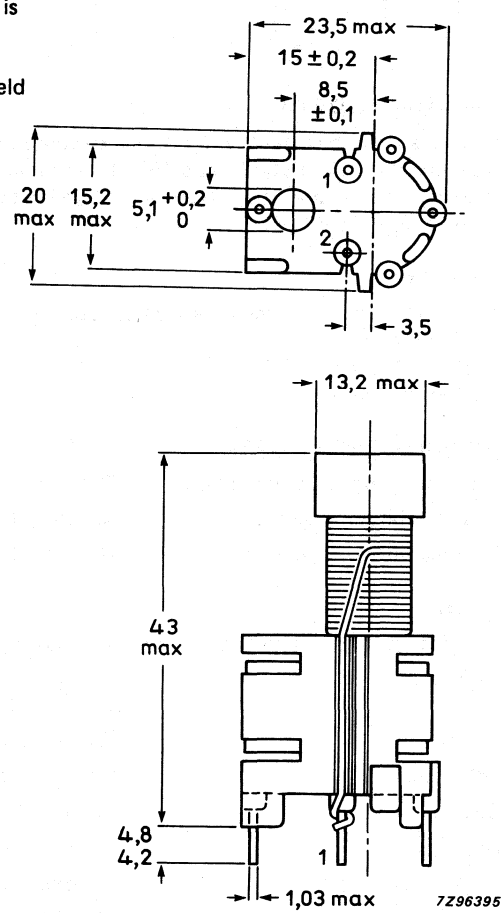


Fig. 1.

The linearity control units are packed in boxes of 300 pieces.

Mounting

The unit can be mounted on printed-wiring boards by means of its two connection pins, see Fig. 2. To prevent distortion of the magnetic field, no magnetic-conductive materials should approach the magnetic parts nearer than 3 mm. The coils should be shunted with a carbon resistor to damp ringing phenomena; the value of the resistor depends on the line output transformer used (typical value 560 Ω).

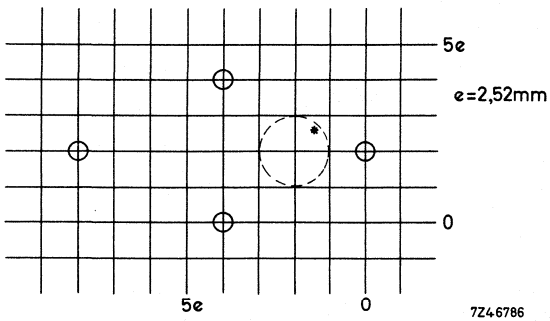


Fig. 2 Hole pattern for mounting on a printed-wiring board; e = 2,54 mm.
* Hole for bottom adjustment.

ELECTRICAL DATA

When a sawtooth current (without S-correction) of 8,5 A (p-p), frequency 32 kHz, flyback ratio 18%, flows through the linearity control unit, the correction voltage is adjustable between 2,4 and 6,5 V.

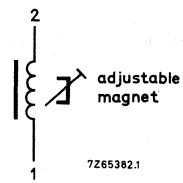


Fig. 3 Circuit diagram.

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,05%
after 10 000 h	⩽ 0,2%
after 30 000 h	⩽ 5%

ENVIRONMENTAL DATA

Maximum ambient temperature	70 °C
Flammability of assembly	according to IEC 65, clause 14.4
Flammability of materials	according to UL94, category V-1

TESTS

The linearity control unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc, procedure B4; 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 1000 bumps, 3 directions.
Soldering	IEC 68-2-20, test Ta, first part, method 1; 230 ± 10 °C, 2 ± 0,5 s.
Cold	IEC 68-2-1, test Aa; 96 h, −25 °C.
Dry heat	IEC 68-2-2, test Ba; 96 h, + 100 °C.
Damp heat, cyclic	IEC 68-2-30, test Db; 21 days, + 40 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C.

AMPLITUDE CONTROL UNITS

AMPLITUDE CONTROL UNIT

- For Monochrome Data Graphic Displays (C64 concept)

MECHANICAL DATA

Dimensions in mm

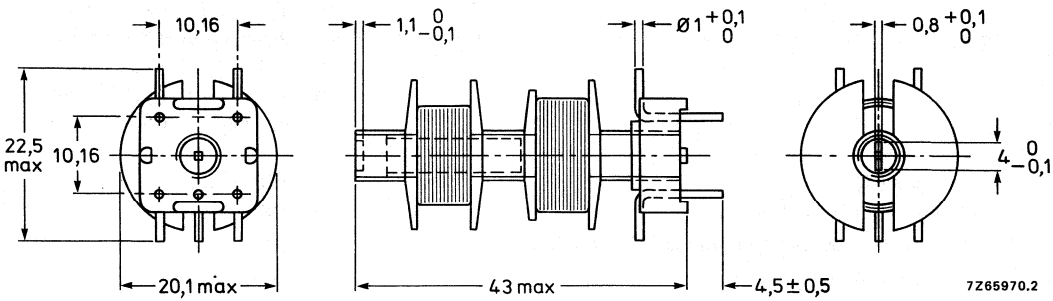


Fig. 1.

The coil has five pins for mounting on a printed-wiring board. It can be adjusted at the top by means of a trimming key.

Torque for adjustment	3 to 40 mNm
Press-through force	⩾ 30 N
ΔL/L per degree of angular rotation of core	typ. $2,5 \times 10^{-4}$

Mounting

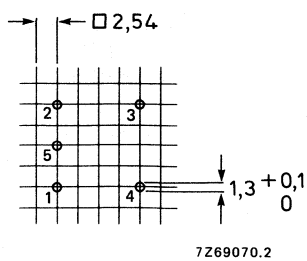


Fig. 2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

Inductance	
L_{1-4}	125 to 290 μH *
L_{2-3}	65 to 20 μH **
L_{2-5}	16,3 μH ± 10% *
Resistance (d.c.)	
R_{4-1}	⩽ 0,58 Ω
R_{2-3}	⩽ 0,215 Ω
Current	
I_{1-4}	⩽ 2,5 $A_{(p-p)}$ at 15 kHz
	⩽ 1,3 $A_{(p-p)}$ at 64 kHz
I_{2-5}	⩽ 9 $A_{(p-p)}$ at ⩽ 50 kHz
	⩽ 7 $A_{(p-p)}$ at 50 to 70 kHz
I_{2-3}	⩽ 4,5 $A_{(p-p)}$ at ⩽ 50 kHz
	⩽ 3,5 $A_{(p-p)}$ at 50 to 70 kHz
Operating voltage	
V_{1-4} (flyback)	⩽ 120 $V_{(p-p)}$
V_{2-5} and V_{2-3} (sawtooth)	⩽ 150 $V_{(p-p)}$
Maximum voltage between windings 1-4 and 2-3	800 V_P
Operating frequency	15 to 64 kHz
Temperature coefficient at 20 to 100 °C	approx. 300×10^{-6}/K
Operating temperature range	−25 to +100 °C
Inflammability	according to UL94 V−1

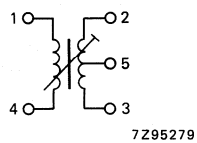


Fig. 3 Electrical diagram.

Reliability

Maximum cumulative percentage catastrophic failures, at maximum current, T_{amb} = 55 + 5°C:

after 300 h	⩽ 0,01%
after 1000 h	⩽ 0,013%
after 10 000 h	⩽ 0,02%
after 30 000 h	⩽ 1%

* At 250 mV, 1 kHz; minimum value, measured with core in position L_{2-3} max.
** At 250 mV, 1 kHz; minimum value, measured with core in position L_{1-4} max.

The coil withstands the following tests:

test	IEC 68 test method	procedure
Bump	Eb	1000 bumps, acceleration 245 m/s^2, 6 directions
Vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/directions
Shock	Ea	half sine pulse shape, duration 11 ms, acceleration 490 m/s^2, 6 directions, 3 shocks per direction
Resistance to soldering heat	Tb	method 1A
Solderability	Ta	230 ± 10 °C, 2 ± 0,5 s
Robustness of terminations	U_a and U_b	
Cold	Ab	−25 °C, 96 h
Dry heat	Bb	+ 100 °C, 96 h
Damp heat, steady state	Ca	21 days, + 40 °C, 93% R.H.
Damp heat, cyclic	Db	21 days, + 40 °C
Change of temperature	Na	−25 °C, + 100 °C; 5 cycles

AMPLITUDE CONTROL UNIT

- For Monochrome Data Graphic Displays

MECHANICAL DATA

Dimensions in mm

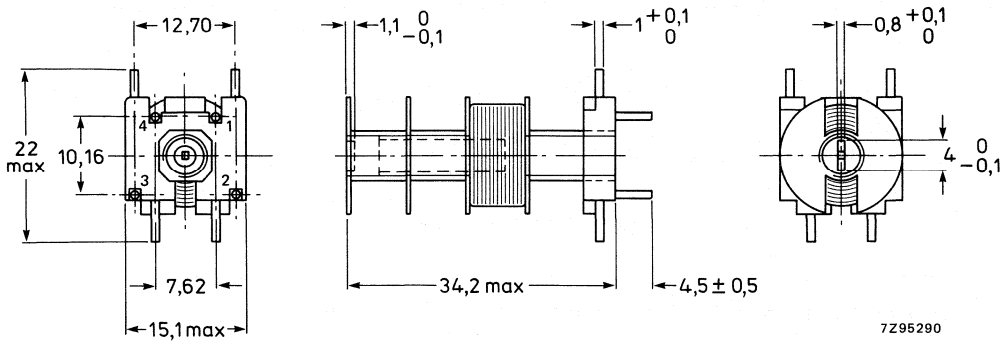


Fig. 1.

The coil has four pins for mounting on a printed-wiring board. It can be adjusted at the top by means of a trimming key.

Torque for adjustment	3 to 40 mNm
Press-through force	⩾ 30 N
ΔL/L per degree of angular rotation of core	typ. 2,5 x 10^{-4}

Mounting

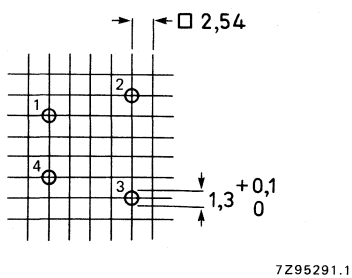
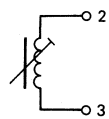


Fig. 2 Hole pattern for mounting on a printed-wiring board (solder side)

ELECTRICAL DATA

Inductance	36 to 50 μH*, typ. 43 μH*
Resistance (d.c.)	$< 0{,}135\ \Omega$
Current	$\leqslant$ 3,5 A(p-p) (sawtooth)
Maximum voltage	30 V(p-p) (flyback)
Operating frequency	16 to 25 kHz
Temperature coefficient at 20 to 100 °C	approx. 300 x 10^{-6}/K
Operating temperature range	−25 to + 100 °C
Inflammability	according to UL94 V-1



7Z95292

Fig. 4 Electrical diagram.

Reliability

Maximum cumulative percentage catastrophic failures, at maximum current, T_{amb} = 55 + 5 °C:

after 300 h	$\leqslant$ 0,01%
after 1000 h	$\leqslant$ 0,013%
after 10 000 h	$\leqslant$ 0,02%
after 30 000 h	$\leqslant$ 1%

* At 250 mV, 1 kHz.

The amplitude control withstands the following tests:

test	IEC 68 test method	procedure
Bump	Eb	1000 bumps, acceleration 245 m/s^2, 6 directions
Vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/directions
Shock	Ea	half sine pulse shape, duration 11 ms, acceleration 490 m/s^2, 6 directions, 3 shocks per direction
Resistance to soldering heat	Tb	method 1A
Solderability	Ta	230 ± 10 °C, 2 ± 0,5 s
Robustness of terminations	U_a and U_b	
Cold	Ab	−25 °C, 96 h
Dry heat	Bb	+ 100 °C, 96 h
Damp heat, steady state	Ca	21 days, + 40 °C, 93% R.H.
Damp heat, cyclic	Db	21 days, + 40 °C
Change of temperature	Na	−25 °C, 100 °C, 5 cycles

AMPLITUDE CONTROL UNIT

- For monochrome Data Graphic Displays

MECHANICAL DATA Dimensions in mm

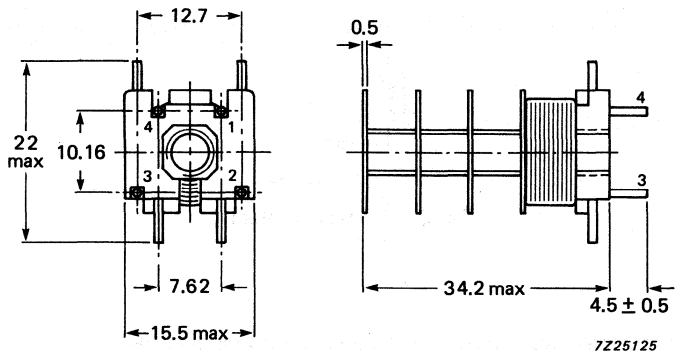


Fig. 1.

The coil has four pins for mounting on a printed-wiring board. It can be adjusted at the top by means of a trimming key.

Torque for adjustment	3 to 40 mNm
Press-through force	⩾ 30 N
ΔL/L per degree of angular rotation of core	typ. 2.5×10^{-4}

Mounting

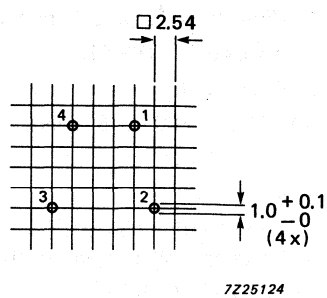


Fig. 2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

Inductance	max. $>24.7\ \mu H$*
Resistance (DC)	typ. $0.08\ \Omega$
Current	max. 4 A (p-p) (sawtooth)
Maximum voltage	200 Vp
Operating frequency	32 kHz
Temperature coefficient at 20 to 100 °C	approx. 300×10^{-6} /°C
Operating temperature range	−25 to + 100 °C
Inflammability	according to UL94 V-2

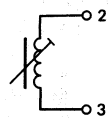


Fig. 3 Electrical diagram.

Reliability

Maximum cumulative percentage catastrophic failures, at maximum current,

T_{amb} = 55 + 5 °C:

after 300 h	⩽ 0.01%
after 1000 h	⩽ 0.013%
after 10 000 h	⩽ 0.02%
after 30 000 h	⩽ 1%

TESTS

The amplitude control unit withstands the following tests:

Bump	1000 bumps, acceleration 245 m/s^2, 6 directions
Vibration	10–55–10 Hz, ampl. 0.35 mm, 3 directions, 30 min/direction
Damp heat, steady state	21 days, 40 °C, 93% RH
Damp heat, cyclic	21 days, 40 °C
Change of temperature	−25 °C to + 100 °C, 5 cycles
Dry heat	96 h, + 100 °C
Cold	96 h, −25 °C
Shock	peak acceleration 490 m/s^2, pulse shape half sine, duration 11 ms, 3 directions, 3 shocks per direction
Solderability	230 ± 10 °C, 2 ± 0.5 s

* At 250 mV, 10 - 100 kHz.

TEST

The amplitude control unit withstands the following tests:

Bump	1000 bumps, acceleration 245 m/s^2, 6 directions
Vibration	10–55–10 Hz, ampl. 0.35 mm, 3 directions, 30 min/direction
Damp heat, steady state	21 days, 40 °C, 93% RH
Damp heat, cyclic	21 days, 40 °C
Change of temperature	–25 °C to + 100 °C, 5 cycles
Dry heat	96 h, + 100 °C
Cold	96 h, –25 °C
Shock	peak acceleration 490 m/s^2, pulse shape half sine, duration 11 ms, 3 directions, 3 shocks per direction
Solderability	230 ± 10 °C, 2 ± 0.5 s

LUMINANCE DELAY LINES

3122 138 99422

LUMINANCE DELAY LINE

QUICK REFERENCE DATA

Delay	270 ns
Dimensions	30 x 19 x 14 mm
Self-extinguishing	

APPLICATION

The DL270 is for use in the luminance circuit of colour television receivers.

DESCRIPTION

The delay line consists of two parallel connected coils which are astatically wound to decrease the influence of magnetic fields from other parts of the receiver. The delay line is in a plastic housing. Three pins enable the unit to be soldered directly onto a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

e = 2,54 mm

Outlines

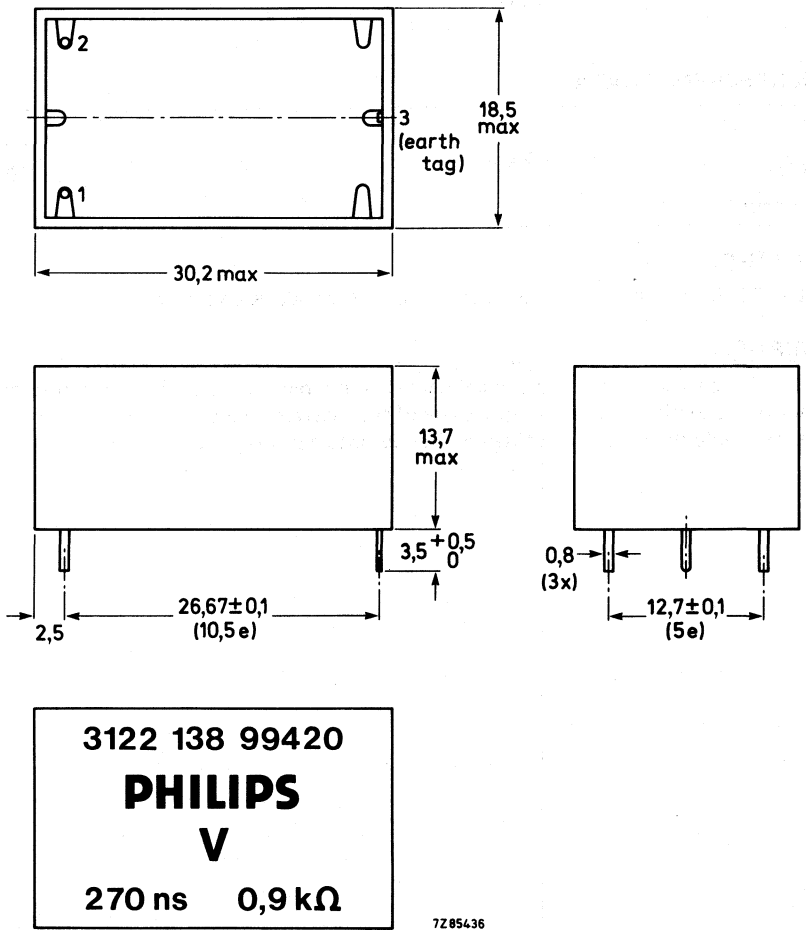


Fig. 1.

Mass 6,5 g

Mounting

The unit can be soldered onto a printed-wiring board pierced with three 1,0 + 0,1 mm diameter holes.

Packaging 108 delay lines per box.

ELECTRICAL DATA (Measured at 25 °C)

Delay	270 ns ± 10%
Characteristic impedance	0,9 kΩ ± 10%
Group delay (with respect to 0,5 MHz)	
at 3,5 MHz	max. 30 ns
at 5,0 MHz	max. 60 ns
Bandwidth at −3 dB	5 MHz
Ripple with 2τ-pulse on pin 2	max. 2,5%
Breakdown voltage between pins 2 and 3	min. 50 V (d.c.)
Permissible temperature range	−25 to + 70 °C

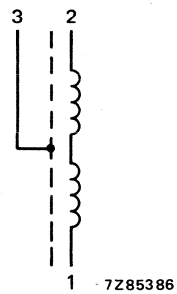


Fig. 2.

The luminance delay line withstands the following tests:

test	according to IEC 68-2 par.		procedure
Climatic			
cold	1	Ab	−25 °C, 96 h
dry heat	2	Bb	+ 70 °C, 96 h
damp heat cyclic	30	Db	+ 40 °C, 21 cycles
damp heat steady state	3	Ca	+ 40 °C, 21 days
change of temperature	14	Na	−25 °C/+ 70 °C, 5 cycles
Mechanical			
vibration sinusoidal	6	Fc	10-55-10 Hz, amplitude 0,35 mm 3 perpendicular directions, 0,5 h each
bump	29	Eb	1000 bumps in 6 directions peak acceleration 245 m/s^2
shock	27	Ea	half-sinewave, 11 ms peak acceleration 490 m/s^2 3 shocks per direction, 6 directions
resistance to soldering heat	20	Tb	method 1A
solderability	20	Ta	first part of method 1 230 ± 10 °C, 2 ± 0,5 s
robustness of terminations	21	Ua Ub	tensile 10 N, thrust 2 N 2 bends, 5 N

3122 138 96044

LUMINANCE DELAY LINE

QUICK REFERENCE DATA

Delay	330 ns
Dimensions	30 x 19 x 14 mm
Self-extinguishing properties	

APPLICATION

The DL330 is for use in the luminance circuit of colour television receivers.

DESCRIPTION

The delay line consists of two parallel connected coils which are astatically wound to decrease the influence of magnetic fields from other parts of the receiver. The delay line is enclosed in a plastic housing. Three pins enable the unit to be soldered directly onto a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

Outlines

e = 2,54 mm

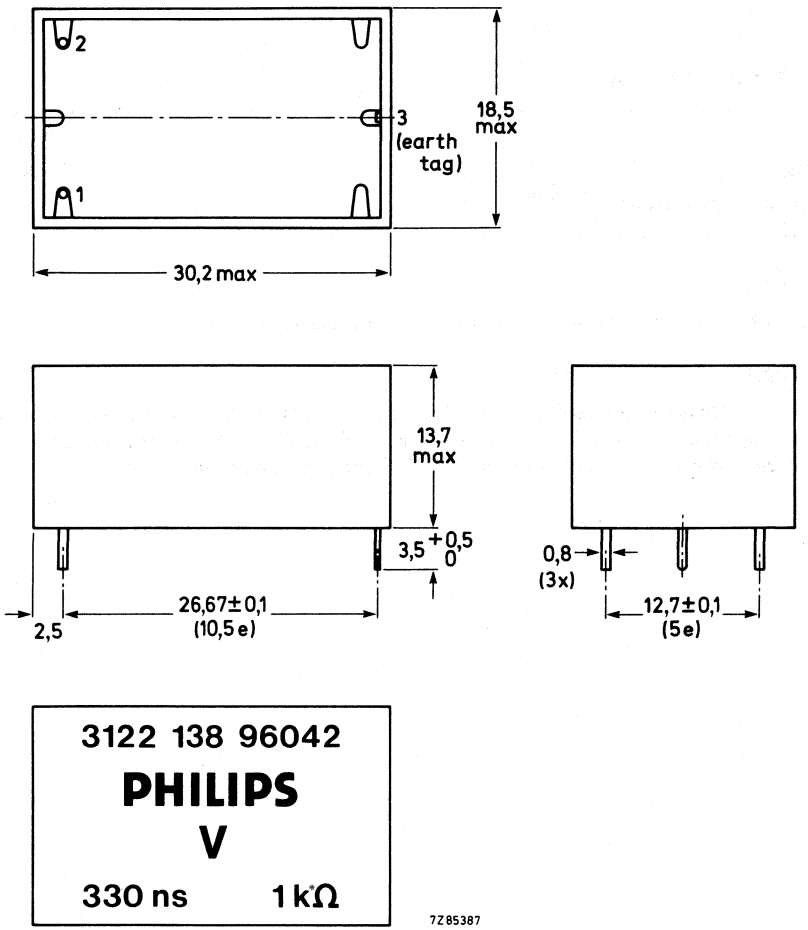


Fig. 1.

Mass 6,5 g

Mounting

The unit can be soldered directly onto a printed-wiring board pierced with three 1,0 + 0,1 mm diameter holes.

Packaging 108 delay lines per box.

ELECTRICAL DATA

Measured at 25 °C

Delay	330 ns ± 10%
Characteristic impedance	1 kΩ ± 10%
Group delay (with respect to 0,5 MHz)	
at 3,5 MHz	max. 30 ns
at 5,0 MHz	max. 60 ns
Bandwidth at −3 dB	5 MHz
Ripple with 2τ-pulse on pin 2	max. 2,5%
Breakdown voltage between pins 2 and 3	min. 50 V (d.c.)
Permissible temperature range	−25 to +70 °C

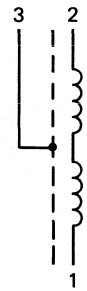


Fig. 2.

The luminance delay line withstands the following tests:

test	according to IEC 68-2 par.		procedure
Climatic			
cold	1	Ab	−25 °C, 96 h
dry heat	2	Bb	+70 °C, 96 h
damp heat cyclic	30	Db	+40 °C, 21 cycles
damp heat steady state	3	Ca	+40 °C, 21 days
change of temperature	14	Na	−25 °C/+70 °C, 5 cycles
Mechanical			
vibration sinusoidal	6	Fc	10-55-10 Hz, amplitude 0,35 mm 3 perpendicular directions, 0,5 h each
bump	29	Eb	1000 bumps in 6 directions peak acceleration 245 m/s²
shock	27	Ea	half-sinewave, 11 ms peak acceleration 490 m/s² 3 shocks per direction, 6 directions
resistance to soldering heat	20	Tb	method 1A
solderability	20	Ta	first part of method 1 230 ± 10 °C, 2 ± 0,5 s
robustness of terminations	21	Ua Ub	tensile 10 N, thrust 2 N 2 bends, 5 N

3122 138 50452

LUMINANCE DELAY LINE

QUICK REFERENCE DATA

Delay	390 ns
Dimensions	30 x 19 x 14 mm
Self-extinguishing properties	

APPLICATION

The DL390 is for use in the luminance circuit of colour television receivers.

DESCRIPTION

The delay line consists of two parallel connected coils which are astatically wound to decrease the influence of magnetic fields from other parts of the receiver. The delay line is enclosed in a plastic housing. Three pins enable the unit to be soldered directly onto a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

Outlines

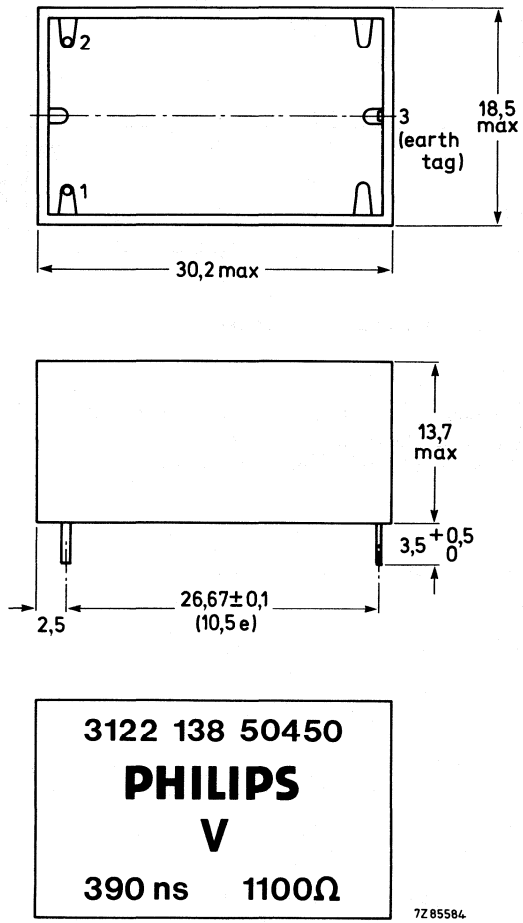


Fig. 1.

Mass 6,5 g

Mounting

The unit can be soldered directly onto a printed-wiring board pierced with three 1,0 + 0,1 mm diameter holes.

Packaging 108 delay lines per box.

ELECTRICAL DATA

Measured at 25 °C

Delay	390 ns ± 10%
Characteristic impedance	1,1 kΩ ± 10%
Group delay (with respect to 0,5 MHz)	
at 3,5 MHz	max. 45 ns
at 5,0 MHz	max. 60 ns
Bandwidth at −3 dB	5 MHz
Ripple with 2τ-pulse on pin 2	max. 3%
Breakdown voltage between pins 2 and 3	min. 50 V (d.c.)
Permissible temperature range	−25 to + 70 °C

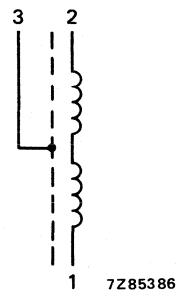


Fig. 2.

The luminance delay line withstands the following tests:

test	according to IEC 68-2 par.		procedure
Climatic			
cold	1	Ab	−25 °C, 96 h
dry heat	2	Bb	+70 °C, 96 h
damp heat cyclic	30	Db	+40 °C, 21 cycles
damp heat steady state	3	Ca	+40 °C, 21 days
change of temperature	14	Na	−25 °C/+ 70 °C, 5 cycles
Mechanical			
vibration sinusoidal	6	Fc	10-55-10 Hz, amplitude 0,35 mm 3 perpendicular directions, 0,5 h each
bump	29	Eb	1000 bumps in 6 directions peak acceleration 245 m/s^2
shock	27	Ea	half-sinewave, 11 ms peak acceleration 490 m/s^2 3 shocks per direction, 6 directions
resistance to soldering heat	20	Tb	method 1A
solderability	20	Ta	first part of method 1 230 ± 10 °C, 2 ± 0,5 s
robustness of terminations	21	Ua Ub	tensile 10 N, thrust 2 N 2 bends, 5 N

3122 138 99472

LUMINANCE DELAY LINE

QUICK REFERENCE DATA

Delay	470 ns
Dimensions	30 x 19 x 14 mm
Self-extinguishing	

APPLICATION

The DL470 is for use in the luminance circuit or transposer circuit of colour television receivers.

DESCRIPTION

The delay line consists of two parallel connected coils which are astatically wound to decrease the influence of magnetic fields from other parts of the receiver. The delay line is in a plastic housing. Three pins enable the unit to be soldered directly onto a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

Outlines

e = 2,54 mm

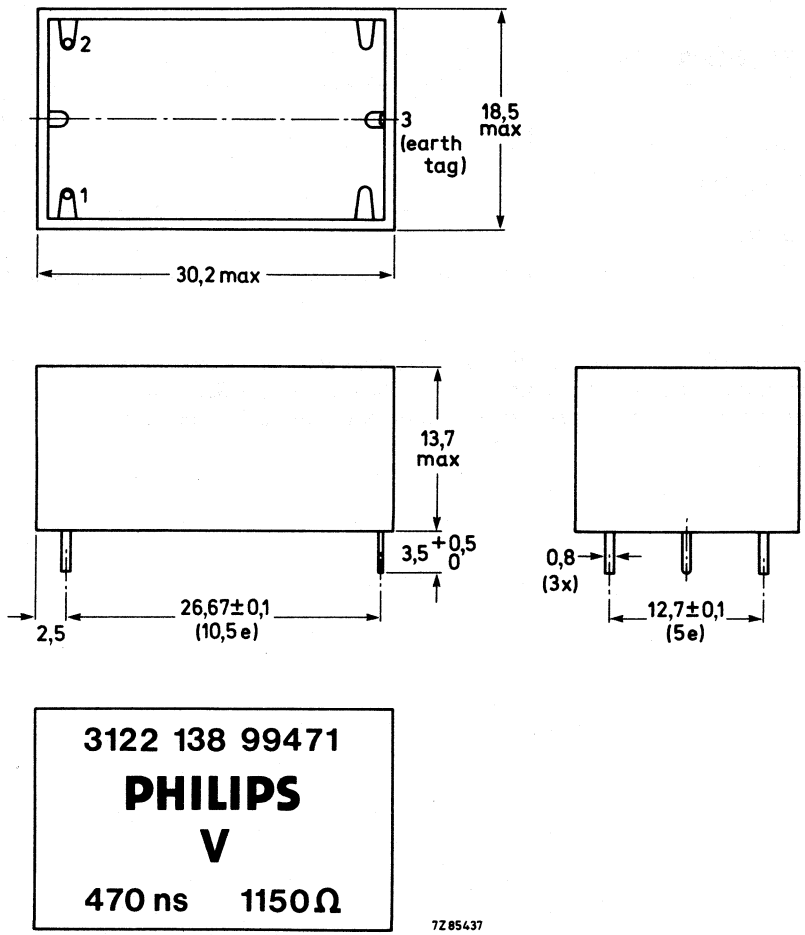


Fig. 1.

Mass 6,5 g

Mounting

The unit can be soldered onto a printed-wiring board pierced with three 1,0 + 0,1 mm diameter holes.

Packaging 108 delay lines per box.

ELECTRICAL DATA (Measured at 25 °C)

Delay	470 ns ± 10%
Characteristic impedance	1150 Ω ± 10%
Group delay (with respect to 1,0 MHz)	
at 3,5 MHz	max. 45 ns
at 5,0 MHz	max. 60 ns
Bandwidth at −3 dB	5 MHz
Ripple with 2τ-pulse on pin 2	max. 3%
Breakdown voltage between pins 2 and 3	min. 50 V (d.c.)
Permissible temperature range	−25 to + 70 °C

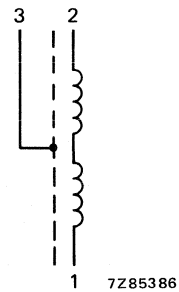


Fig. 2.

The luminance delay line withstands the following tests:

test	according to IEC 68-2 par.		procedure
Climatic			
cold	1	Ab	−25 °C, 96 h
dry heat	2	Bb	+ 70 °C, 96 h
damp heat cyclic	30	Db	+ 40 °C, 21 cycles
damp heat steady state	3	Ca	+ 40 °C, 21 days
change of temperature	14	Na	−25 °C/+ 70 °C, 5 cycles
Mechanical			
vibration sinusoidal	6	Fc	10-55-10 Hz, amplitude 0,35 mm 3 perpendicular directions, 0,5 h each
bump	29	Eb	1000 bumps in 6 directions peak acceleration 245 m/s^2
shock	27	Ea	half-sinewave, 11 ms peak acceleration 490 m/s^2 3 shocks per direction, 6 directions
resistance to soldering heat	20	Tb	method 1A
solderability	20	Ta	first part of method 1 230 ± 10 °C, 2 ± 0,5 s
robustness of terminations	21	Ua Ub	tensile 10 N, thrust 2 N 2 bends, 5 N

DEGAUSSING COILS

DEGAUSSING COIL

- For 220 V mains voltage
- Single coil
- Single insulation

APPLICATION

For 20 inch and 21 inch colour picture tubes and data graphic display tubes. One coil asymmetrically mounted on the top and bottom of the cone of the tube, in conjunction with PTC thermistor 2322 662 96009, produces an decaying alternating field.

MECHANICAL DATA

The coil of copper wire is completely sleeved in flame retardant tape. The ends of the coil are connected via a length of cable to a plug.

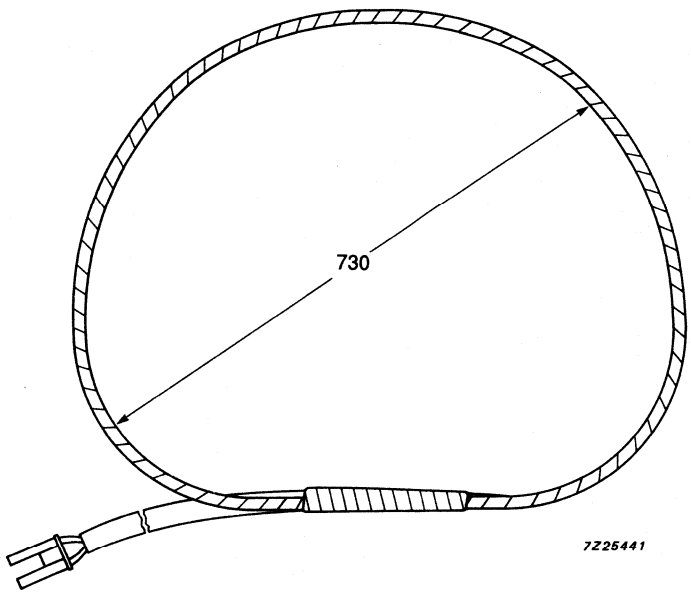


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	28 Ω ± 10%
Number of turns	55
Test voltage (DC)	
between interconnected pins and insulation	5600 V
between interconnected pins and holder	5600 V
Safety	in accordance with CEI 65 sub-clause 14.3.1 amendment 2 and BS415
Maximum working temperature	70 °C

DEGAUSSING COIL

- For 220 V mains voltage
- Single coil
- Single insulation

APPLICATION

For 28 inch colour picture tubes and data graphic display tubes. One coil asymmetrically mounted on the top and bottom of the cone of the tube, in conjunction with PTC thermistor 2322 662 96009, produces an decaying alternating field.

MECHANICAL DATA

The coil of copper wire is completely sleeved in flame retardant tape. The ends of the coil are connected via a length of cable to a plug.

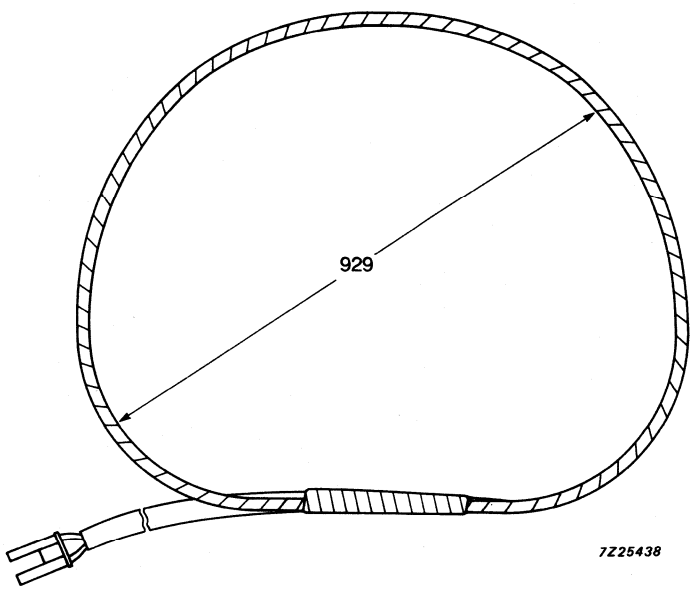


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	24 Ω ± 10%
Number of turns	60
Test voltage (DC)	
between interconnected pins and insulation	5600 V
between interconnected pins and holder	5600 V
Safety	in accordance with CEI 65 sub-clause 14.3.1 amendment 2 and BS415
Maximum working temperature	70 °C

DEGAUSSING COIL

- For 220 V mains voltage
- Single coil
- Single insulation

APPLICATION

For 24 inch colour picture tubes and data graphic display tubes. One coil asymmetrically mounted on the top and bottom of the cone of the tube, in conjunction with PTC thermistor 2322 662 96009, produces an decaying alternating field.

MECHANICAL DATA

The coil of copper wire is completely sleeved in flame retardant tape. The ends of the coil are connected via a length of cable to a plug.

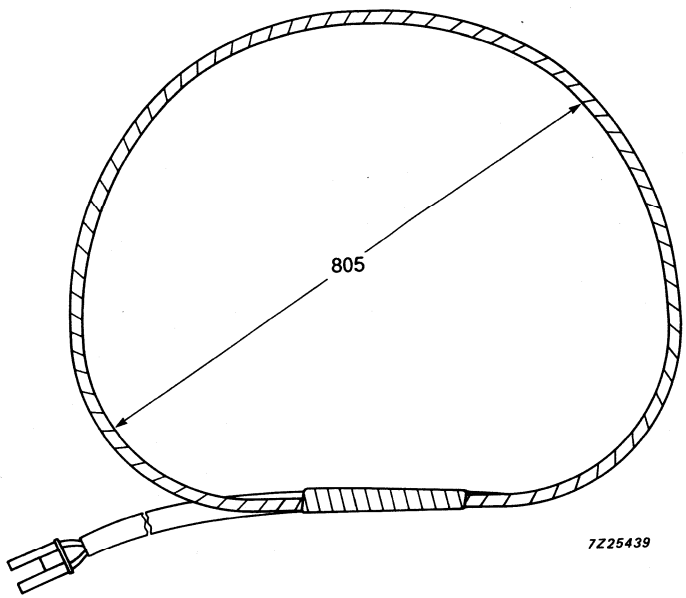


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	24 Ω ± 10%
Number of turns	55
Test voltage (DC)	
between interconnected pins and insulation	5600 V
between interconnected pins and holder	5600 V
Safety	in accordance with CEI 65 sub-clause 14.3.1 amendment 2 and BS415
Maximum working temperature	70 °C

DEGAUSSING COIL

- For 117 V and 220/240 V mains voltage
- Single coil
- Single insulation

APPLICATION

For 14 in, 90° colour picture tubes and high resolution data graphic display tubes. One coil asymmetrically mounted on the top and bottom of the cone of the tube, in conjunction with PTC thermistor 2322 662 98009, produces a decaying alternating field.

MECHANICAL DATA

Dimensions in mm

The coil of aluminium wire is completely sleeved with a flame-retardent foil; the coil ends are connected to pins in a holder. For connecting the coils to the circuit, a cable, length 40 cm, catalogue number 8222 289 36971 is available to special order.

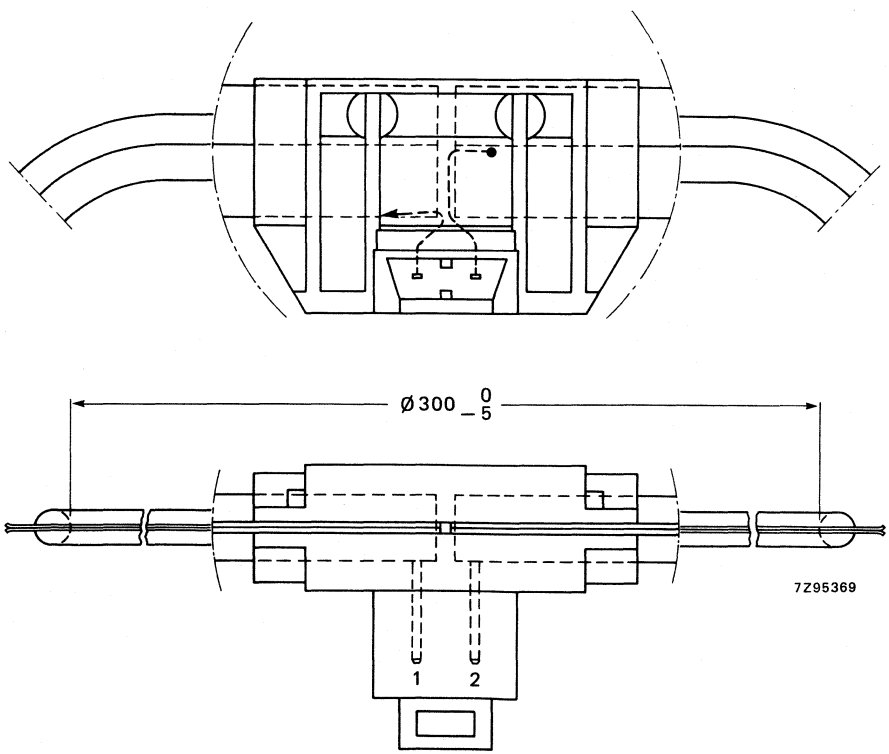


Fig. 1.

ELECTRICAL DATA

Coil resistance	14 Ω ± 10%
Number of turns	134
Test voltage (d.c.)	
between interconnected pins and insulation foil	6000 V
between interconnected pins and holder	6000 V
Maximum working temperature	70 °C

DEGAUSSING COIL

- For 110 V and 220/240 V mains voltage
- Double insulation

APPLICATION

For 20 in, 90° colour picture tubes and high resolution data graphic display tubes. Two coils mounted on the top and bottom of the cone of the tube, in conjunction with PTC thermistor 2322 662 98009, produce a decaying alternating field.

MECHANICAL DATA

Dimensions in mm

The coil of aluminium wire is completely sleeved with a flame-retardent foil; the coil ends are connected to pins in a holder. For connecting the coils to the circuit, a cable, length 40 cm, catalogue number 8222 289 36971 is available to special order.

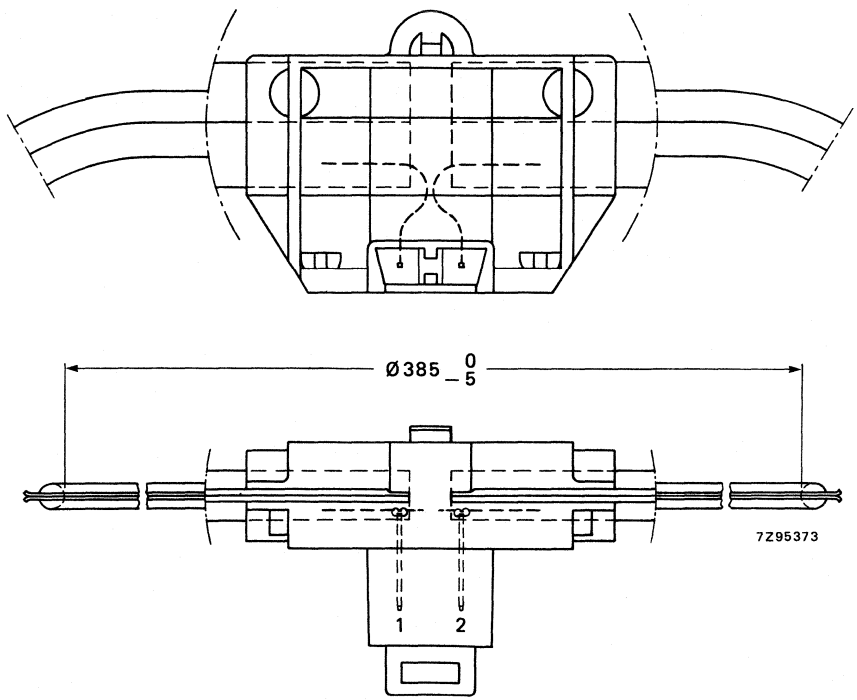


Fig. 1.

ELECTRICAL DATA

Coil resistance	11,4 Ω ± 10%
Number of turns	65
Test voltage (d.c.)	
between interconnected pins and insulation foil	6000 V
between interconnected pins and holder	6000 V
Safety	according to IEC 65.10 and UL 1410
Maximum working temperature	70 °C

DEGAUSSING COILS

- Double insulation (3122 138 61161), single insulation (3122 138 60341)

APPLICATION

For 20 in and 21 in colour picture tubes. One coil is asymmetrically mounted on the top and bottom of the cone of the tube using plastic brackets. This, used in conjunction with PTC thermistor 2322 662 96009, produces a decaying alternating field.

MECHANICAL DATA

The coils of aluminium wire are double insulated for 3122 138 61161 and single insulated for 3122 138 60341. The ends of the coils are connected via a 350 mm length of cable to a plug, type WTB-2.

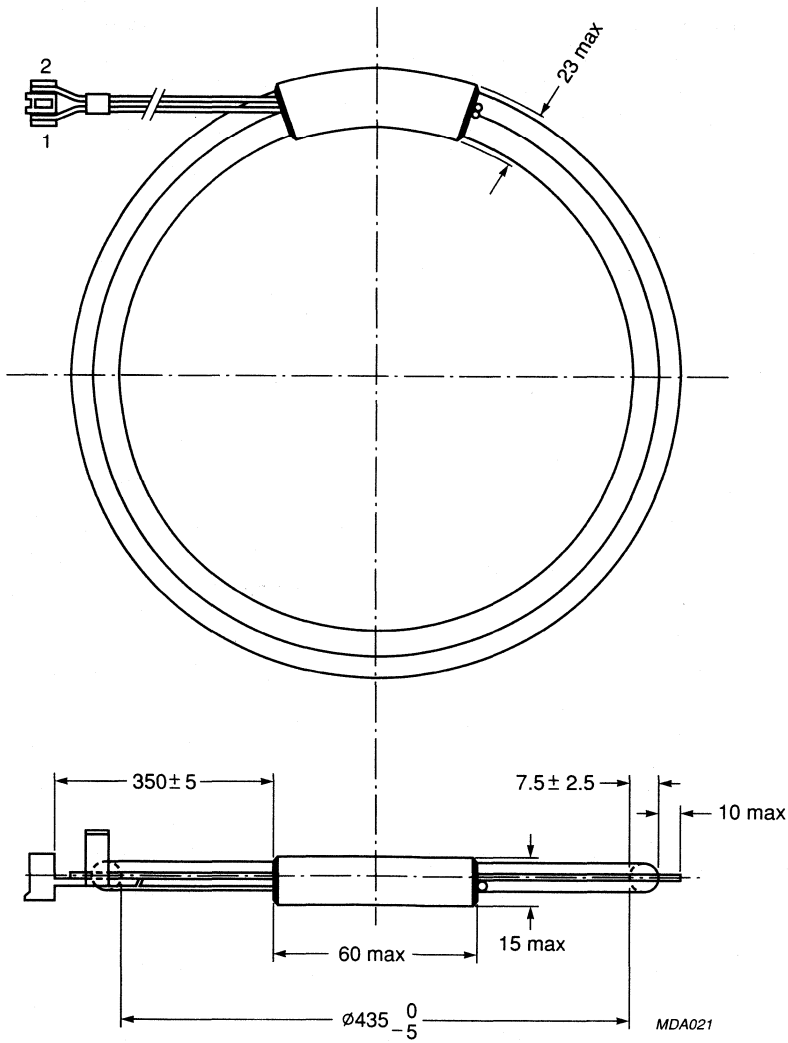


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	19.5 Ω ± 10%
Number of turns	120
Test voltage (DC)	
between interconnected pins and insulation foil	6000 V
between interconnected pins and holder	6000 V
Safety	
3122 138 60341	in accordance with IEC 65 sub-clause 14.3.2a
3122 138 61181	in accordance with IEC 65 sub-clause 14.3.2a and BS415
Maximum working temperature	70 °C

DEGAUSSING COILS

- Double insulation (3122 138 61171), single insulation (3122 138 60351)

APPLICATION

For 16 in and 17 in colour picture tubes. One coil is asymmetrically mounted on the top and bottom of the cone of the tube using plastic brackets. This, used in conjunction with PTC thermistor 2322 662 96009, produces a decaying alternating field.

MECHANICAL DATA

The coils of wire are double insulated for 3122 138 61171 and single insulated for 3122 138 60351. The ends of the coils are connected via a 350 mm length of cable to a plug, type WTB-2.

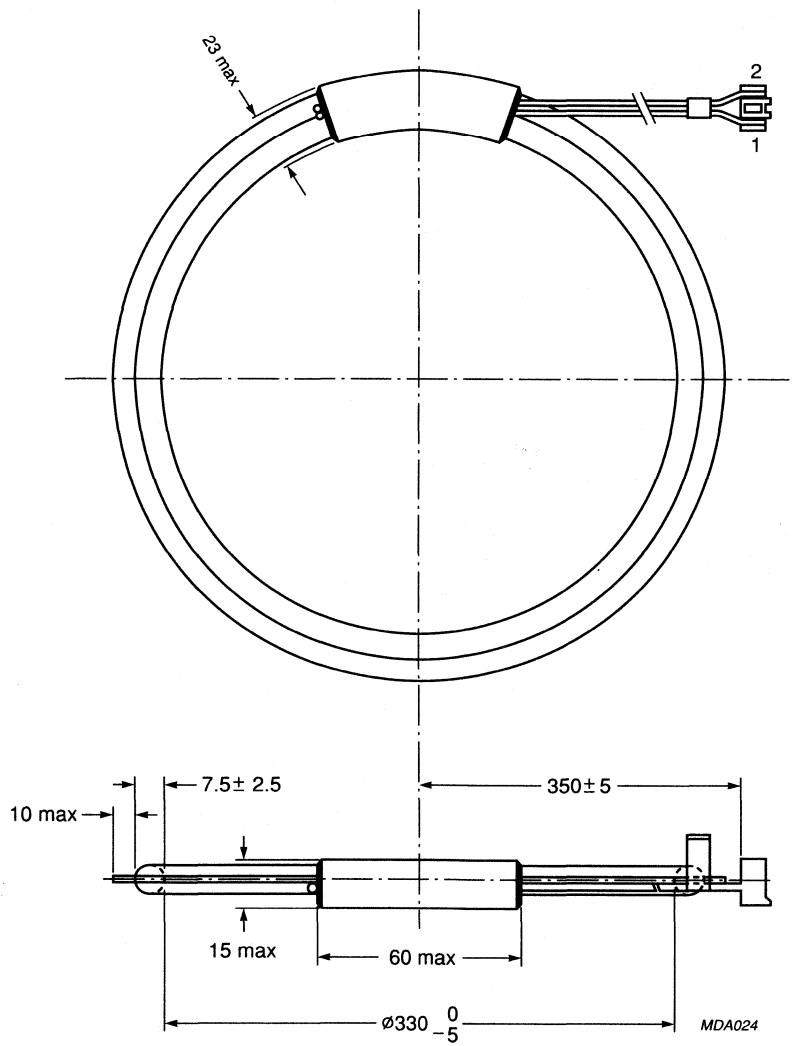


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	26.3 Ω ± 10%
Number of turns	107
Test voltage (DC)	
between interconnected pins and insulation	6000 V
between interconnected pins and holder	6000 V
Safety	
3122 138 61171	in accordance with IEC 65
3122 138 60361	in accordance with IEC 65 and BS415
Maximum working temperature	70 °C

DEGAUSSING COILS

- Double insulation (3122 138 61181), single insulation (3122 138 60361)

APPLICATION

For 14 in and 15 in colour picture tubes. One coil is asymmetrically mounted on the top and bottom of the cone of the tube using plastic brackets. This, used in conjunction with PTC thermistor 2322 662 96009, produces a decaying alternating field.

MECHANICAL DATA

The coils of aluminium wire are double insulated for 3122 138 61181 and single insulated for 3122 138 60361. The ends of the coils are connected via a 350 mm length of cable to a plug, type WTB-2.

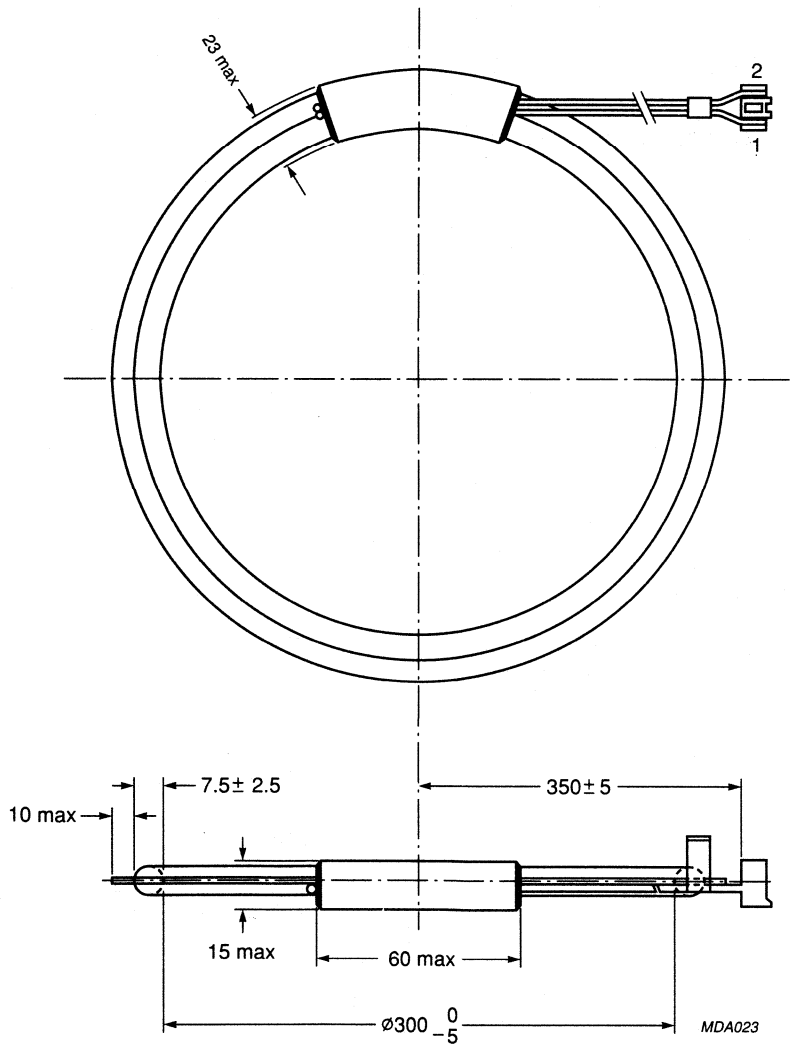


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	21.7 Ω ± 10%
Number of turns	97
Test voltage (DC)	
between interconnected pins and insulation foil	6000 V
between interconnected pins and holder	6000 V
Safety	
3122 138 60361	in accordance with IEC 65
3122 138 61181	in accordance with IEC 65 and BS415
Maximum working temperature	70 °C

DEGAUSSING COILS

- Double insulated (3122 138 61191), single insulated (3122 138 60371)

APPLICATION

For 24 in. colour picture tubes. The two coils are mounted top and bottom of the cone picture tube using plastic brackets. This, used in conjunction with PTC thermistor 2322 662 96009, produces a decaying alternating field.

MECHANICAL DATA

The two coils of aluminium wire are double insulated for 3122 138 61191 and single insulated for 3122 138 60371. The ends of the coils are connected via a 450 mm length of cable to a plug, type WTB-2.

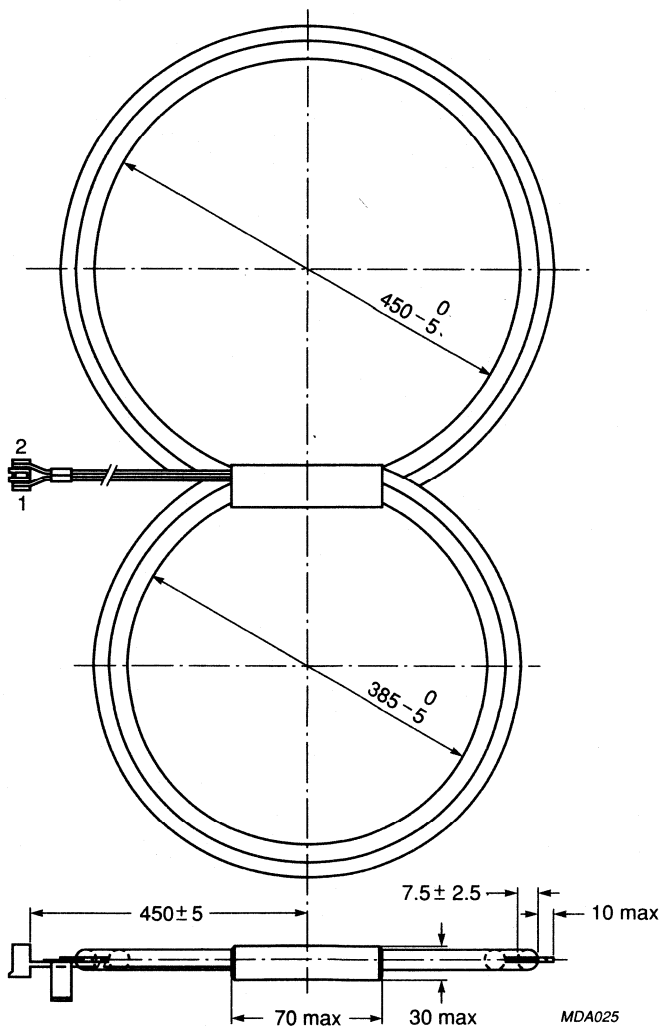


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	24.6 Ω ± 10%
Number of turns	2 x 52
Safety	
3122 138 60371	In accordance with IEC 65 sub-clause 14.3.2a
3122 138 61191	In accordance with IEC 65 sub-clause 14.3.2a and BS415 sub-clause 14.3.1a
Maximum working temperature	70 °C

DEGAUSSING COILS

- Double insulated (3122 138 61201), single insulated (3122 138 60381)

APPLICATION

For 28 in colour picture tubes. The two coils are mounted top and bottom of the cone picture tube using plastic brackets. This, used in conjunction with PTC thermistor 2322 662 96009, produces a decaying alternating field.

MECHANICAL DATA

The two coils of aluminium wire are double insulated for 3122 138 61201 and single insulated for 3122 138 60381. The ends of the coils are connected via a 450 mm length of cable to a plug, type WTB-2.

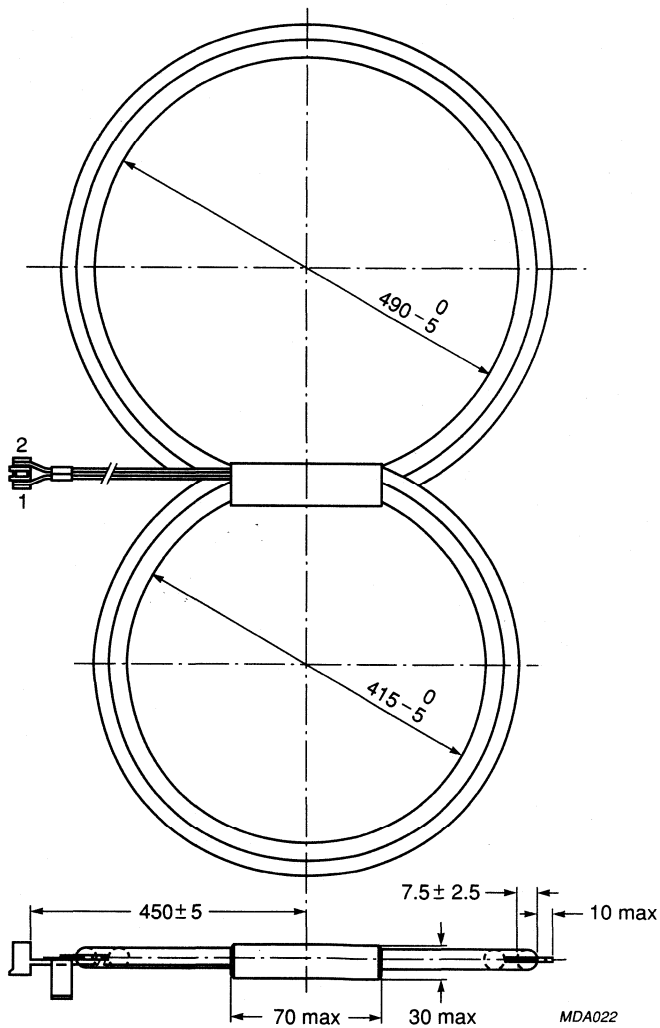


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	17.2 Ω ± 10%
Number of turns	2 x 52
Safety	
3122 138 60381	In accordance with IEC 65 sub-clause 14.3.2a
3122 138 61201	In accordance with IEC 65 sub-clause 14.3.2a and BS415 sub-clause 14.3.1a
Maximum working temperature	70 °C

DEGAUSSING COIL

- For 220 V mains voltage
- Single coil
- Single insulation

APPLICATION

For 14 inch and 15 inch colour picture tubes and data graphic display tubes. One coil asymmetrically mounted on the top and bottom of the cone of the tube, in conjunction with PTC thermistor 2322 662 96009, produces an decaying alternating field.

MECHANICAL DATA

The coil of copper wire is completely sleeved in flame retardant tape. The ends of the coil are connected via a length of cable to a plug.

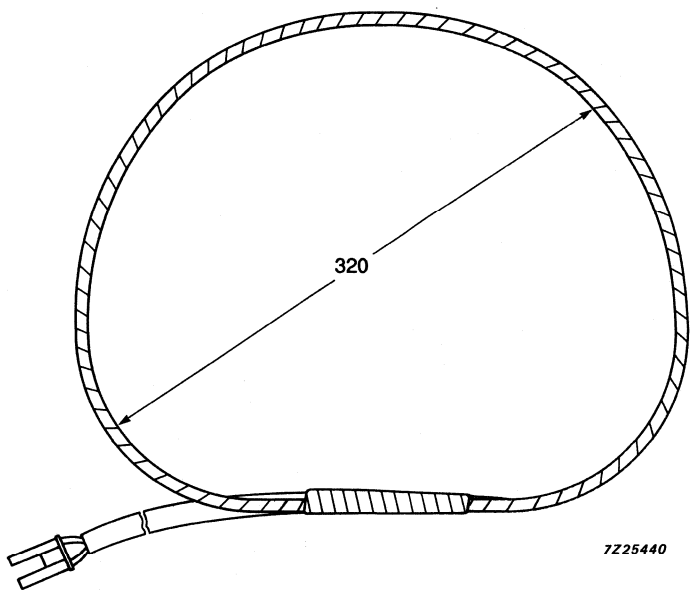


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	22.5 Ω ± 12%
Number of turns	100
Test voltage (DC)	
between interconnected pins and insulation	5600 V
between interconnected pins and holder	5600 V
Safety	in accordance with 1985 IEC 65 14.3.2.a
Maximum working temperature	70 °C

DEGAUSSING COIL

- For 220 V mains voltage
- Single coil
- Single insulation

APPLICATION

For 16 inch colour picture tubes and data graphic display tubes. One coil asymmetrically mounted on the top and bottom of the cone of the tube, in conjunction with PTC thermistor 2322 662 96009, produces an decaying alternating field.

MECHANICAL DATA

The coil of copper wire is completely sleeved in flame retardant tape. The ends of the coil are connected via a length of cable to a plug.

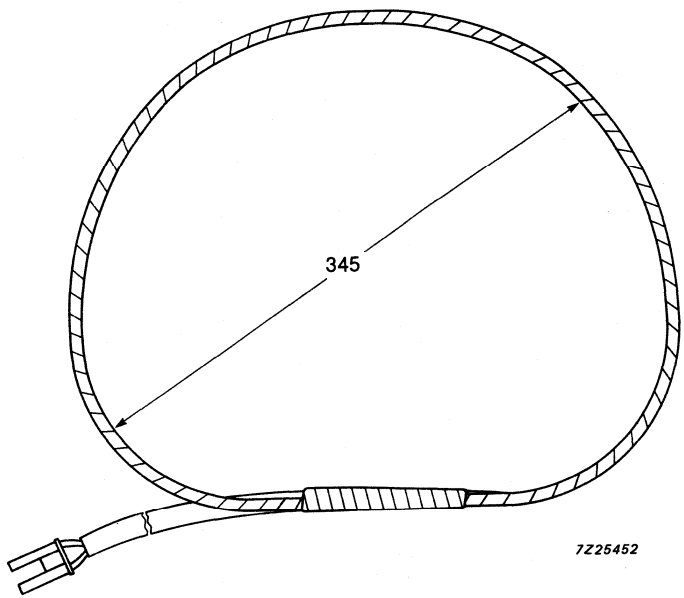


Fig.1 Degaussing coil.

ELECTRICAL DATA

Coil resistance	23 Ω ± 10%
Number of turns	88
Test voltage (DC)	
between interconnected pins and insulation	5600 V
between interconnected pins and holder	5600 V
Safety	in accordance with CEI 65 sub clause 14.3.2.a (1985) and BS415.
Maximum working temperature	70 °C

TRANSFORMERS, CHOKES AND COILS

SWITCHED-MODE TRANSFORMER

- Aluminium foil winding
- Mains insulation
- 60 W output power
- 12 V/2 A, 5 V/3.5 A outputs

APPLICATION

This transformer is for use as a flyback switched-mode transformer for monochrome monitors with mains insulation.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U-cores with a rectangular leg, and a cylindrical leg on which the windings are situated.

The transformer has 11 pins for mounting on a printed-wiring board.

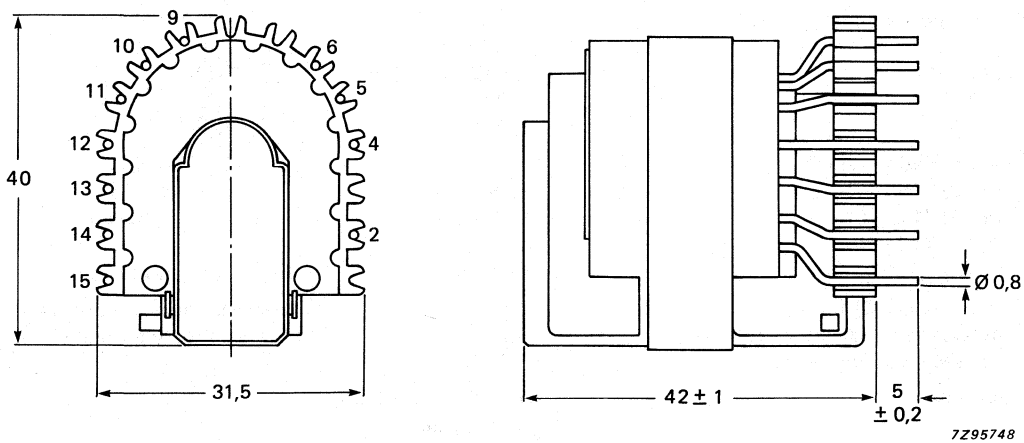


Fig.1 Switched mode transformer AT3010/40.

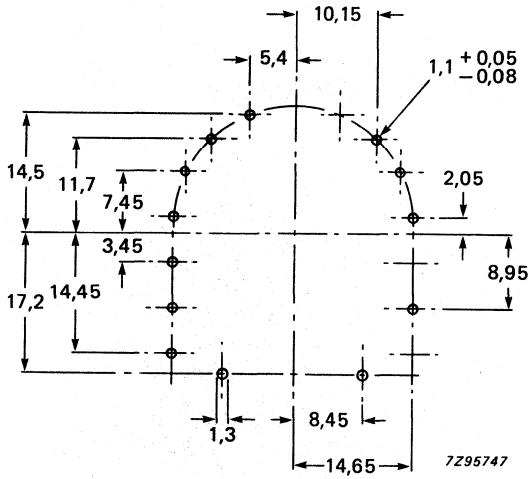


Fig. 2 Hole pattern for mounting on a printed wiring board (solder side).

ELECTRICAL DATA

Inductance, primary (4 - 6)*	1.2 mH ± 10%
→ Leakage inductance, primary (4 - 6)**	< 45 μH
Resistance, primary (4 - 6), at 25 °C	< 0.9 Ω
Resistance, secondary, at 25 °C	
(15 - 11)	< 0.05 Ω
(14 - 10)	< 0.05 Ω
(13 - 9)	< 0.13 Ω
(2 - 5)	< 0.085 Ω
Transformation ratio▲	
(4 - 6)/(15 - 11)	17.5 ± 5%
(4 - 6)/(14 - 10)	17.5 ± 5%
(4 - 6)/(13 - 9)	6.3 ± 5%
(4 - 6)/(2 - 5)	13.45 ± 5%
Test voltage (DC) for 1 min	
between primary and secondary	5600 V
between windings and core	500 V
Mains insulation	according to IEC 65, 14-3-1a, and UL 1410-1411
Maximum operating temperature	115 °C

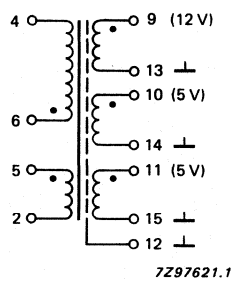


Fig. 3 Circuit diagram.

(The screen must be connected to the secondary ground.)

* At f = 1 kHz, I ⩾ 100 mA.

** At f ⩾ 100 kHz, (13 - 9) short-circuited.

▲ At V_{4-6} = 1 V, f = 1 kHz.

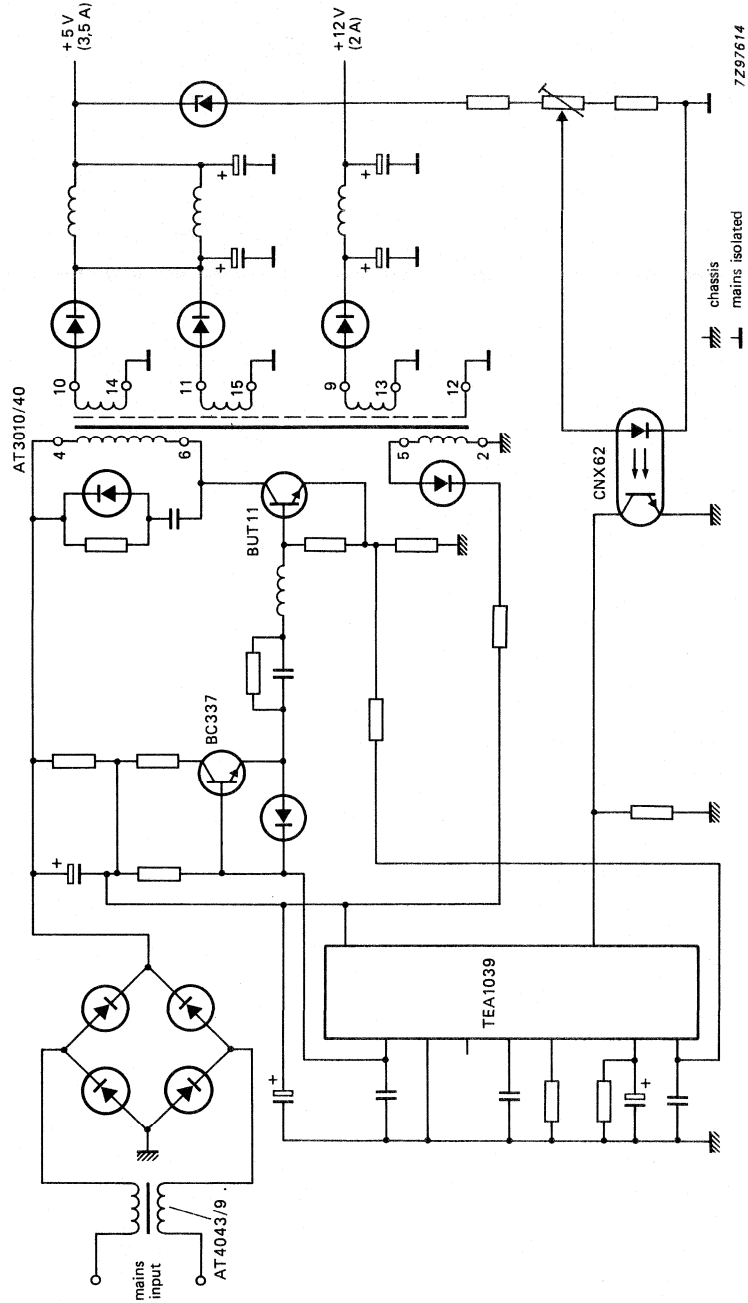


Fig. 4 Application circuit.

SWITCHED-MODE TRANSFORMER

- Aluminium foil
- Mains insulation
- 28 W output power

APPLICATION

This transformer is designed for use as a flyback switched-mode transformer for monochrome monitors.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U-cores with a rectangular leg on which the windings are situated.

The transformer has 18 pins for mounting on a printed-wiring board.

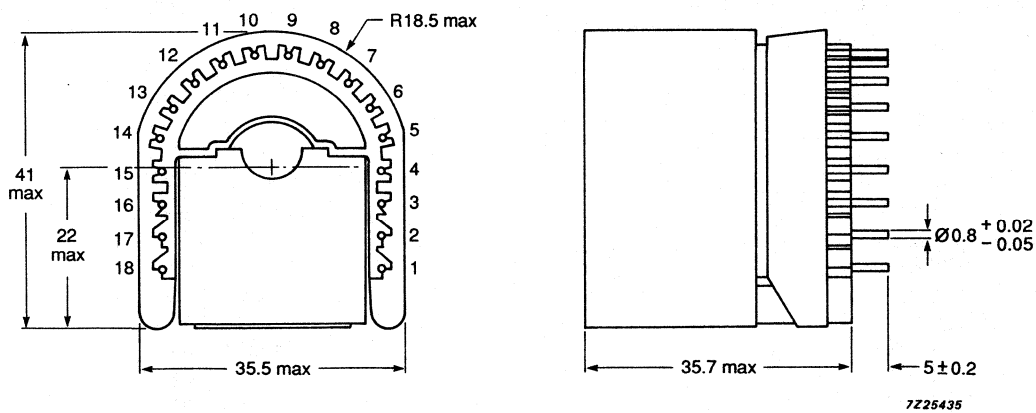


Fig.1 Mechanical assembly.

Note:

On request the transformer can be supplied with a complete screen. Order using 12nc 3111 268 30531.

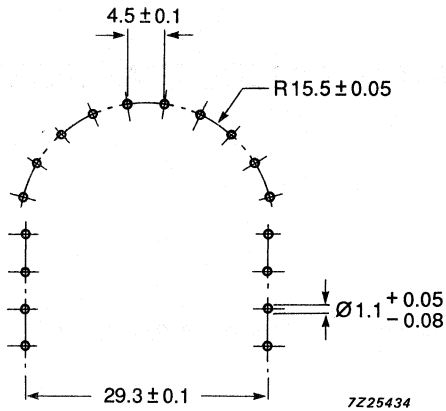


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

Inductance, primary (7-8) (note 1)	2.23 mH ± 10%
Leakage inductance, primary (7-8) (note 2)	< 60 μH
Resistance, primary (7-8) at 20 °C	0.755 Ω ± 25%
Resistance, secondary, at 20 °C	
(6-5)	0.065 Ω ± 25%
(2-1)	0.095 Ω ± 25%
(15-17)	0.150 Ω ± 25%
(17-18)	0.045 Ω ± 25%
(13-16)	0.100 Ω ± 25%
(16-14)	0.090 Ω ± 25%
Transformation ratio (note 3)	
(7-8)/(5-6)	14.12 ± 2.5%
(7-8)/(1-2)	11.83 ± 2.5%
(7-8)/(15-17)	6.29 ± 2.5%
(7-8)/(17-18)	24.00 ± 2.5%
(7-8)/(13-16)	10.11 ± 2.5%
(7-8)/(16-14)	11.82 ± 2.5%
Test voltage (DC) between primary and core	5600 V
Safety	In accordance with RLM 88 and UL 1410 - 1411
Maximum operating temperature	50 °C

Notes

1. At f = 1 kHz, I = 100 mA.
2. At f = 100 kHz, (15-18) short-circuited.
3. At f = 10 kHz.

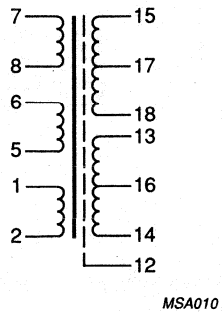


Fig.3 Circuit diagram.

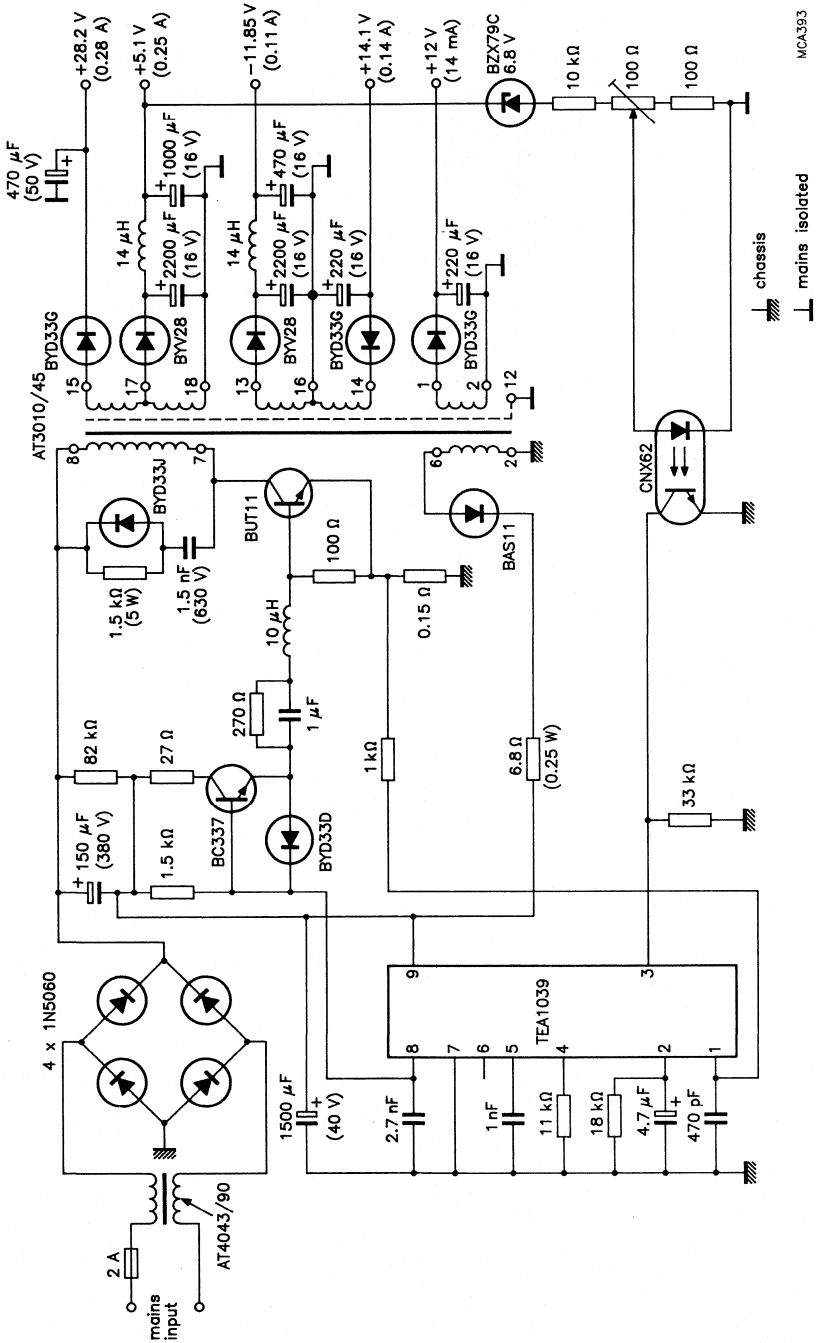


Fig.4 Application circuit.

SWITCHED-MODE TRANSFORMER

- Aluminium foil winding
- Mains insulation
- 50 W output power

APPLICATION

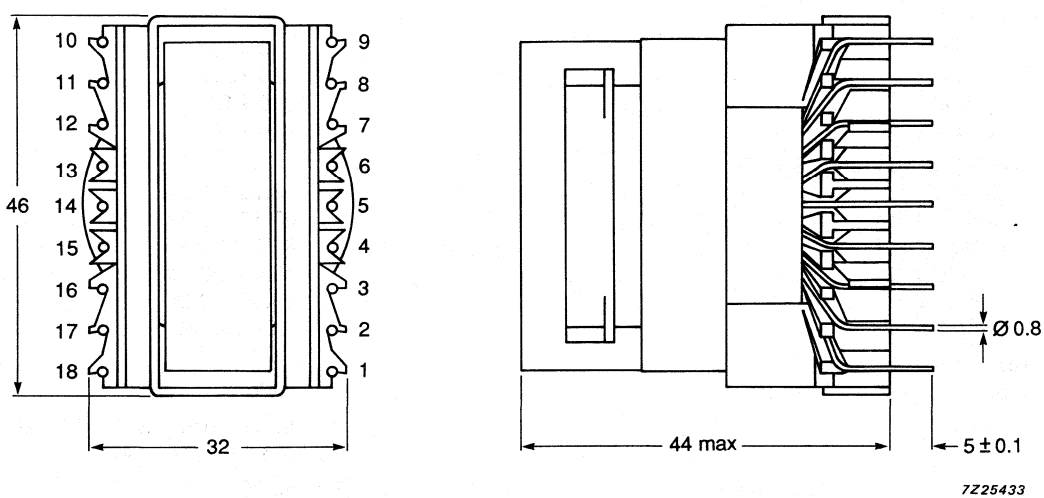
This transformer is designed for use as a flyback switched-mode transformer for colour television sets and monitors.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube ETD 39 cores with the windings situated on the centre leg.

The transformer has 18 pins for mounting on a printed-wiring board.



Tolerances unless otherwise stated: ± 0.1

Fig.1 Mechanical assembly.

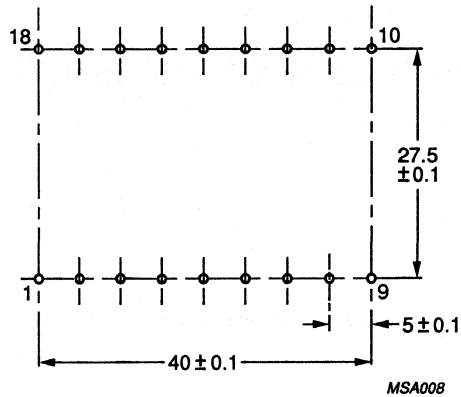


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

Inductance, primary (9-8) (note 1)	1.6 mH ± 10%
Leakage inductance, primary (9-8) (note 2)	< 90 μH
Resistance, primary (9-8) at 20 °C	1.058 Ω ± 25%
Resistance, secondary, at 20 °C	
(3-1)	< 0.092 Ω
(15-17)	< 0.06 Ω
(17-14)	< 0.150 Ω
(13-12)	< 0.1 Ω
(12-11)	< 0.1 Ω
Transformation ratio (note 3)	
(9-8)/(3-1)	13.78 ± 2.5%
(9-8)/(14-10)	27.17 ± 2.5%
(9-8)/(17-14)	8.13 ± 2.5%
(9-8)/(13-12)	13.43 ± 2.5%
(9-8)/(12-11)	13.39 ± 2.5%
(9-8)/(6-7)	7.05 ± 2.5%
Test voltage (DC)	
between primary and core	5600 V
Safety	In accordance with RLM 88 and UL 1410 - 1411
Maximum operating temperature	50 °C

Notes

1. At f = 1 kHz, I = 100 mA.
2. At f = 100 kHz, (14-15) short-circuited.
3. At f = 10 kHz.

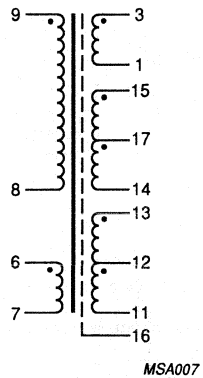


Fig.3 Circuit diagram.

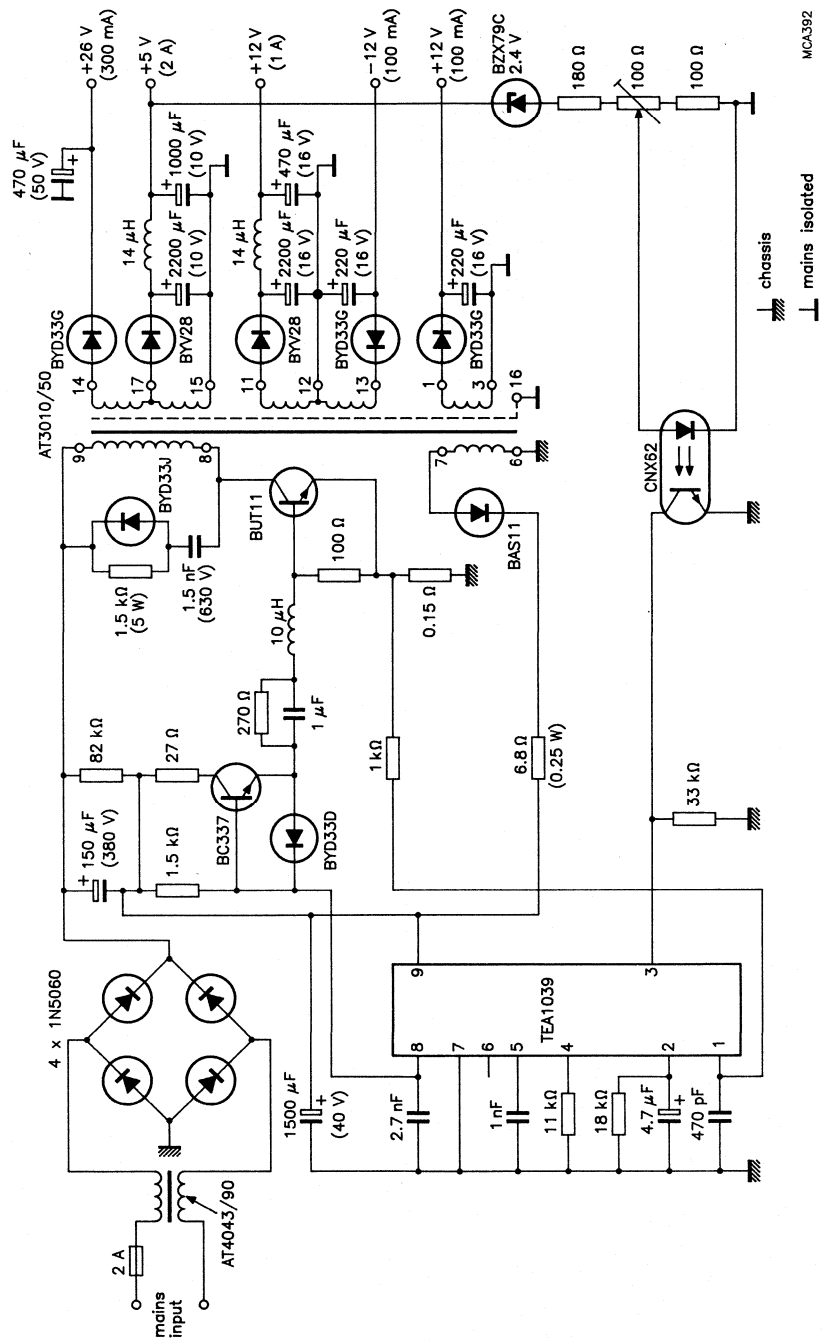


Fig.4 Application circuit.

SWITCHED-MODE TRANSFORMER

- Aluminium foil winding
- Mains insulation
- Maximum 60 W output power

APPLICATION

This transformer is designed for use as a flyback switched-mode transformer for use in colour television sets and monitors.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U-cores with a rectangular leg on which the windings are situated.

The transformer has 15 pins for mounting on a printed-wiring board.

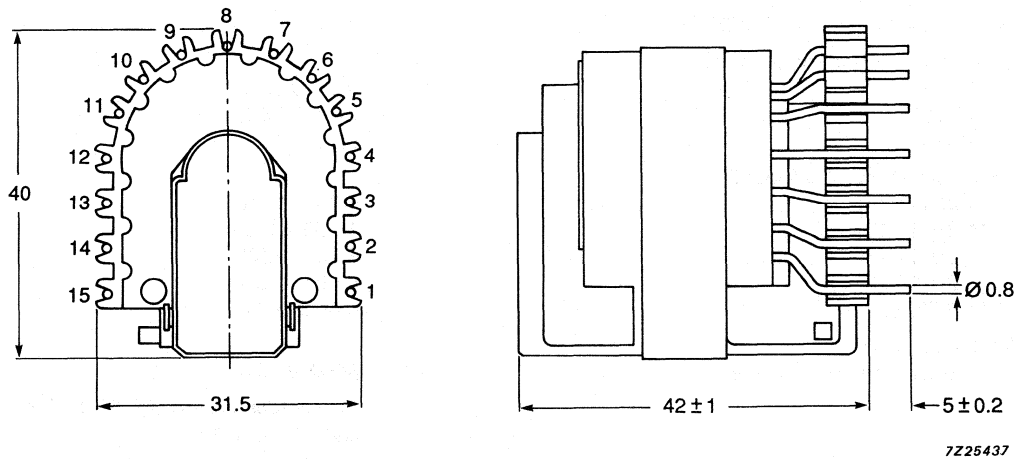


Fig.1 Mechanical assembly.

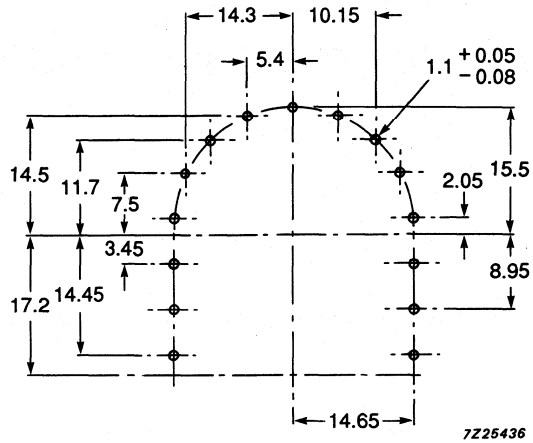


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

Inductance, primary (4-2) (note 1)	1.84 mH ± 10%
Leakage inductance (4-2) (note 2)	max. 68 μH
Resistance, primary (4-2) at 20 °C	max. 1 Ω
Resistance, secondary, at 20 °C	
(11-12)	max. 0.05 Ω
(11-15)	max. 0.23 Ω
(10-13)	max. 0.11 Ω
Transformation ratio (note 3)	
(4-2)/(11-14)	9.25 ± 2.5%
(4-2)/(11-12)	18.50 ± 2.5%
(4-2)/(11-15)	3.70 ± 2.5%
(4-2)/(10-13)	8.10 ± 2.5%
(4-2)/(6-5)	5.50 ± 2.5%
Test voltage (DC) between primary and core	5600 V
Safety	In accordance with IEC 65 14-3-1a and UL 1410-1411
Maximum operating temperature	50 °C

Notes

1. At f = 1 kHz, I > 100 mA.
2. At f = 100 kHz, (14-15) short-circuited.
3. At f = 1 kHz.

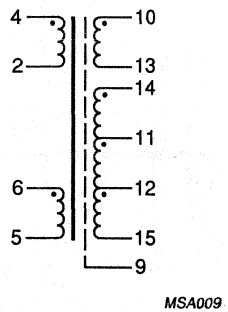


Fig.3 Circuit diagram.

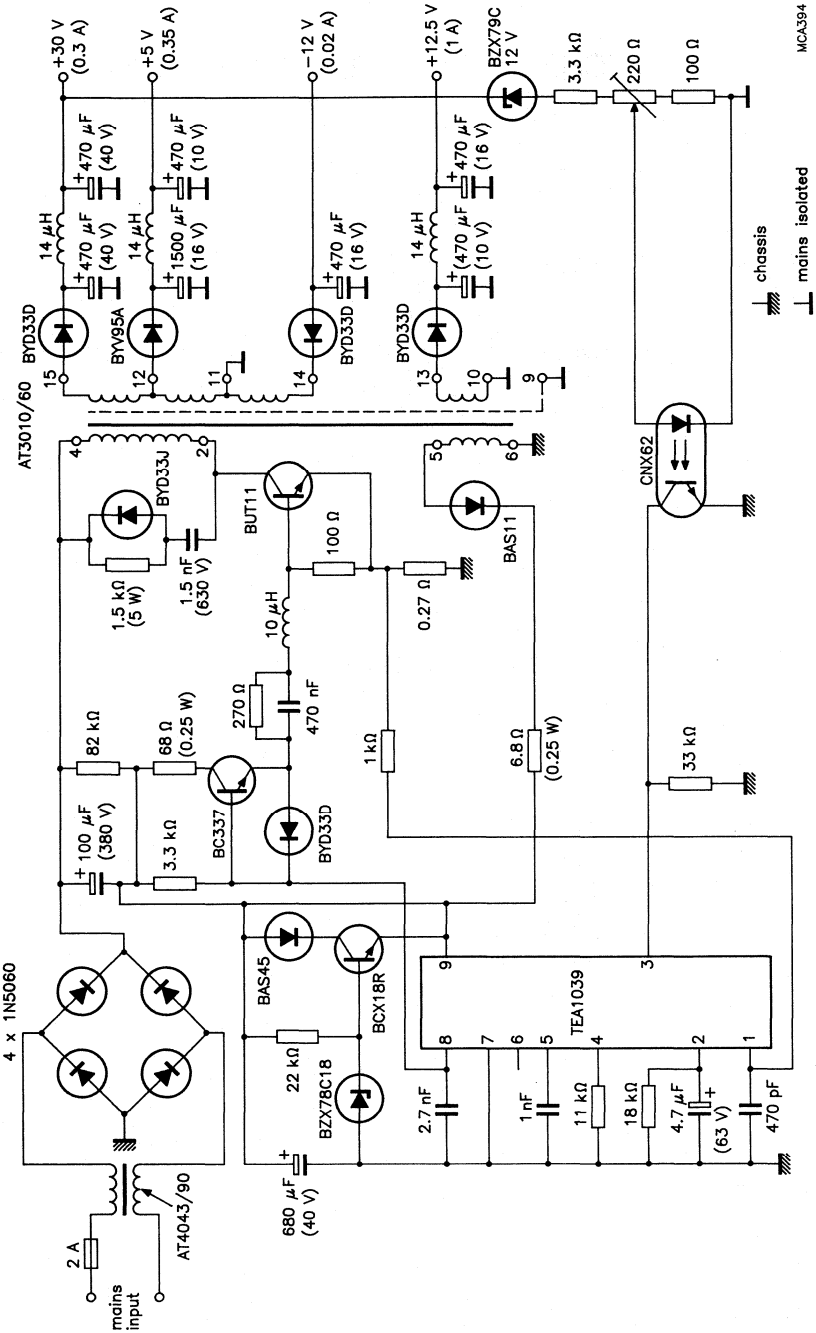


Fig.4 Application circuit.

SWITCHED-MODE TRANSFORMER

- Aluminium foil winding
- Mains insulation
- 55 W output power
- 105 V/0,4 A, 25 V/1 A, 15 V/0,6 A, 6 V/1 A outputs

APPLICATION

This transformer is for use as a flyback switched-mode transformer for 90° colour TV receivers and colour monitors with mains insulation.

It can be used in conjunction with line output transformer AT2079 (Micro slot).

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U-cores with a rectangular leg, and a cylindrical leg on which the windings are situated.

The transformer has 13 pins for mounting on a printed-wiring board.

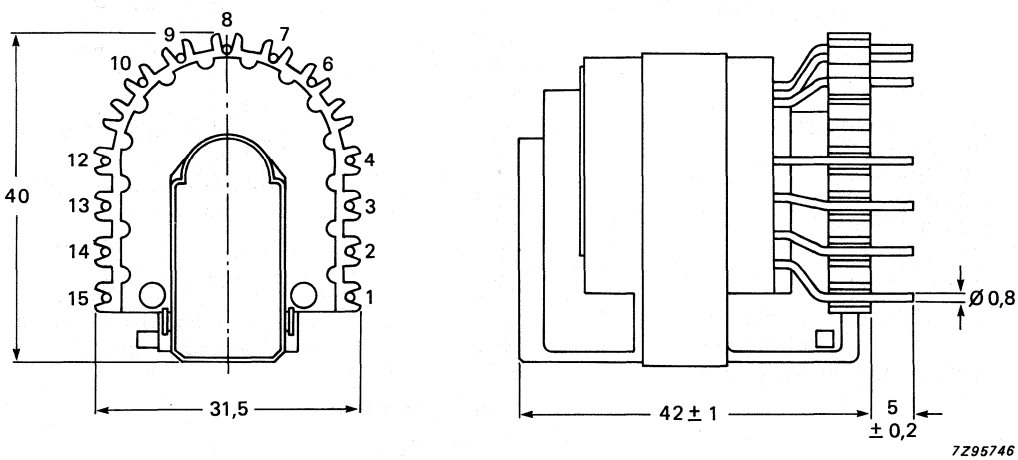


Fig. 1.

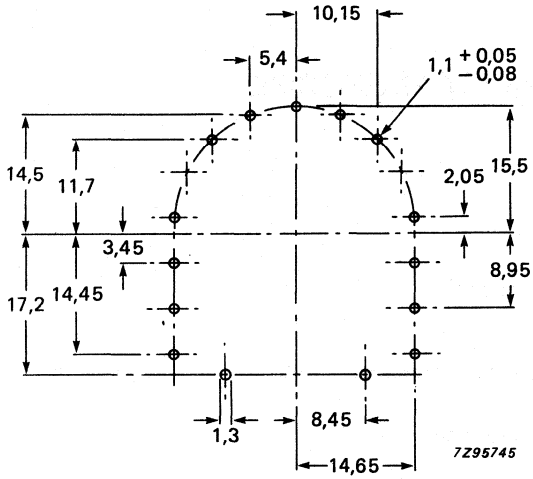


Fig. 2 Hole pattern for mounting on a printed wiring board (solder side).

ELECTRICAL DATA

Inductance, primary (10 - 9)*	1,15 mH ± 10%
Leakage inductance, primary (10 - 9)**	⩽ 55 μH
Resistance, primary (10 - 9), at 25 °C	< 1 Ω
Resistance, secondary, at 25 °C	
(12 - 3)	< 0,18 Ω
(15 - 2)	< 0,06 Ω
(13 - 14)	< 1 Ω
Transformation ratio▲	
(10 - 9)/(12 - 3)	4,55 ± 5%
(10 - 9)/(15 - 2)	12,1 ± 5%
(10 - 9)/(13 - 1)	7,2 ± 5%
(10 - 9)/(13 - 14)	1,1 ± 5%
(10 - 9)/(8 - 6)	17 ± 5%
(10 - 9)/(6 - 7)	6,2 ± 5%
Test voltage (d.c.) for 1 min	
between primary and secondary	5600 V
between windings and core	500 V
Mains insulation	according to IEC 65, 14-3-1a, and UL 1410-1411
Maximum operating temperature	115 °C

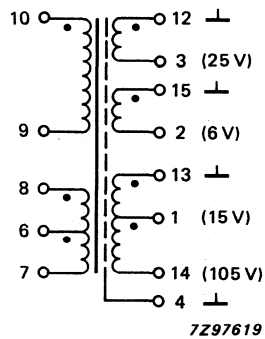


Fig. 3 Circuit diagram.

(The screen must be connected to the secondary ground.)

* At f = 1 kHz, I ⩾ 100 mA.

** At f ⩾ 100 kHz, (13 - 14) short-circuited.

▲ $V_{10\text{-}9}$ = 1 V, f = 1 kHz.

Replaces AT3010/110 and AT3010/110L

SWITCHED-MODE TRANSFORMER

- Aluminium foil winding
- Mains insulation
- 120 W or 80 W output power
- 145 V/0.4 A, 105 V/0.4 A, 25 V/0.25 A, 25 V/1 A, 15 V/0.6 A, 8 V/1 A outputs

APPLICATION

This transformer is for use as a flyback switched-mode transformer for 90° and 110° colour TV receivers and colour monitors with mains insulation.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube ETD-cores with a rectangular leg, and a cylindrical leg on which the windings are situated.

The transformer has 15 pins for mounting on a printed-wiring board.

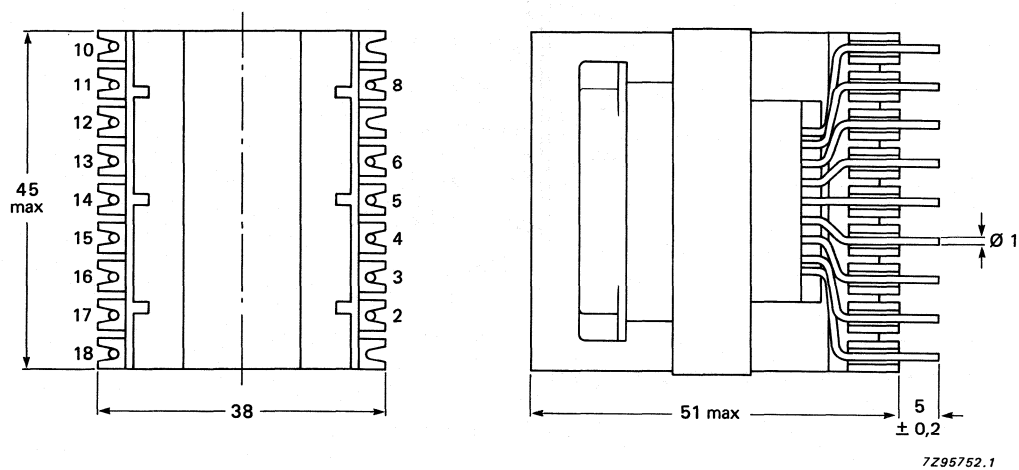


Fig. 1 The AT3010/110 LL transformer.

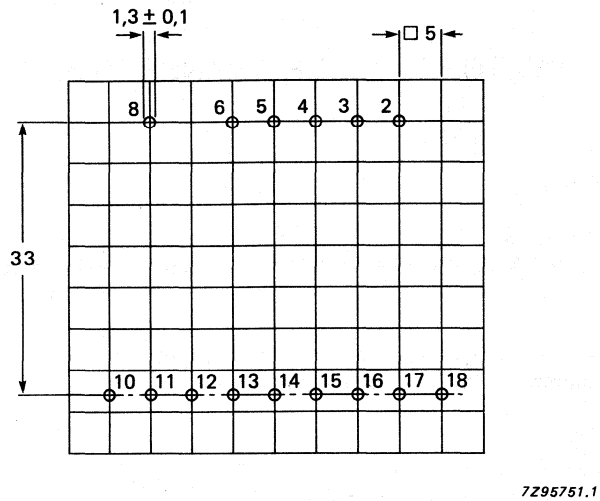
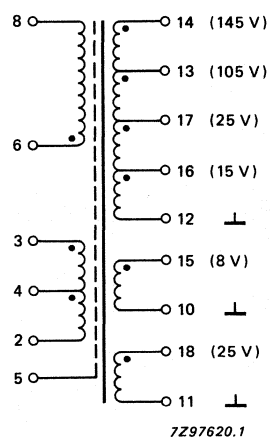


Fig. 2 Hole pattern for mounting on a printed wiring board (solder side).



1. Pin 5 must be connected to the primary ground.

Fig. 3 Circuit diagram.

ELECTRICAL DATA (See Fig. 3)

Inductance, primary (6 - 8)*	1.24 mH ± 10%
Maximum current, primary (6 - 8)	3 A
Leakage inductance, primary (6 - 8)**	$\leqslant$ 50 μH
Resistance, primary (6 - 8), at 25 °C	$<$ 0.6 Ω
Resistance, secondary, at 25 °C	
(11 - 18)	$>$ 0.060 Ω
(10 - 15)	$>$ 0.025 Ω
(12 - 14)	$>$ 0.300 Ω
(8 - 6)	$>$ 0.600 Ω
(3 - 2)	$>$ 0.100 Ω
Transformation ratio▲	
(8 - 6)/(18 - 11)	9.00 ± 2.5%
(8 - 6)/(15 - 10)	24.30 ± 2.5%
(8 - 6)/(16 - 12)	14.10 ± 2.5%
(8 - 6)/(17 - 16)	23.40 ± 2.5%
(8 - 6)/(13 - 17)	2.95 ± 2.5%
(8 - 6)/(14 - 13)	6.50 ± 2.5%
(8 - 6)/(4 - 2)	17.00 ± 2.5%
(8 - 6)/(3 - 4)	11.25 ± 2.5%
Test voltage (DC) for 1 min	
between primary and secondary	5600 V
between windings and core	500 V
Mains insulation	according to IEC 65, 14-3-1a, and UL 1410-1411
Maximum operating temperature (foil)	115 °C
Maximum output power	120 W

* At f = 1 kHz, I $\geqslant$ 100 mA.
** At f $\geqslant$ 100 kHz, (12 - 14) short-circuited.
▲ At $V_{6\text{-}8}$ = 1 V, f = 1 kHz.

ENVIRONMENTAL TESTING

The assembly meets the requirements for climatic testing as specified in test procedures published by the Commission Electrotechnique Internationale (CEI). These tests are listed below, the relevant CEI publication for each test being shown in brackets.

1. Cold. (CEI 68.2.1, Ab test)
   temperature −25 °C
   duration 96 hours
2. Dry heat. (CEI 68.2.2, Bb test)
   temperature + 100 °C
   duration 96 hours
3. Cyclic damp heat. (CEI 68.2.30, Db test)
   temperature + 40 °C
   number of cycles 21
4. Change of temperature. (CEI 68.2.14, Na test)
   temperature range −25 °C - + 125 °C
   number of cycles 5
5. Steady damp heat. (CEI 68.2.3, Ca test)
   temperature 40 °C
   relative humidity 93%
   duration 21 days

MECHANICAL TESTING

The assembly meets the requirements for mechanical testing as specified in test procedures published by the Commission Electrotechnique Internationale (CEI). These tests are listed below, the relevant CEI publication for each test being shown in brackets.

1. Vibration. (CEI 68.2.6, Fc test)

frequency range	10 - 50 - 10 Hz
amplitude	0.35 mm
duration	30 minutes per axis

2. Bumps. (CEI 68.2.29, Eb test)

peak acceleration	245 m/s^2
number	1000 per direction
number of directions	6

3. Shocks. (CEI 68.2.27, Ea test)

function	pulse ½ sinusoidal
duration of pulse	11 ms
peak acceleration	490 m/s^2
number of shocks	3 per direction
number of directions	6

4. Resistance to soldering heat. (CEI 68.2.20, Tb test, method 1A)
5. Solderability. (CEI 68.2.20, Ta test, method 1)

temperature	230 °C ± 10 °C
duration	11 s ± 0.55 s

6. Robustness of printed circuit pins. (CEI 68.2.21, Ua and UB tests)
7. Safety. Class b in accordance to UAN-L1082

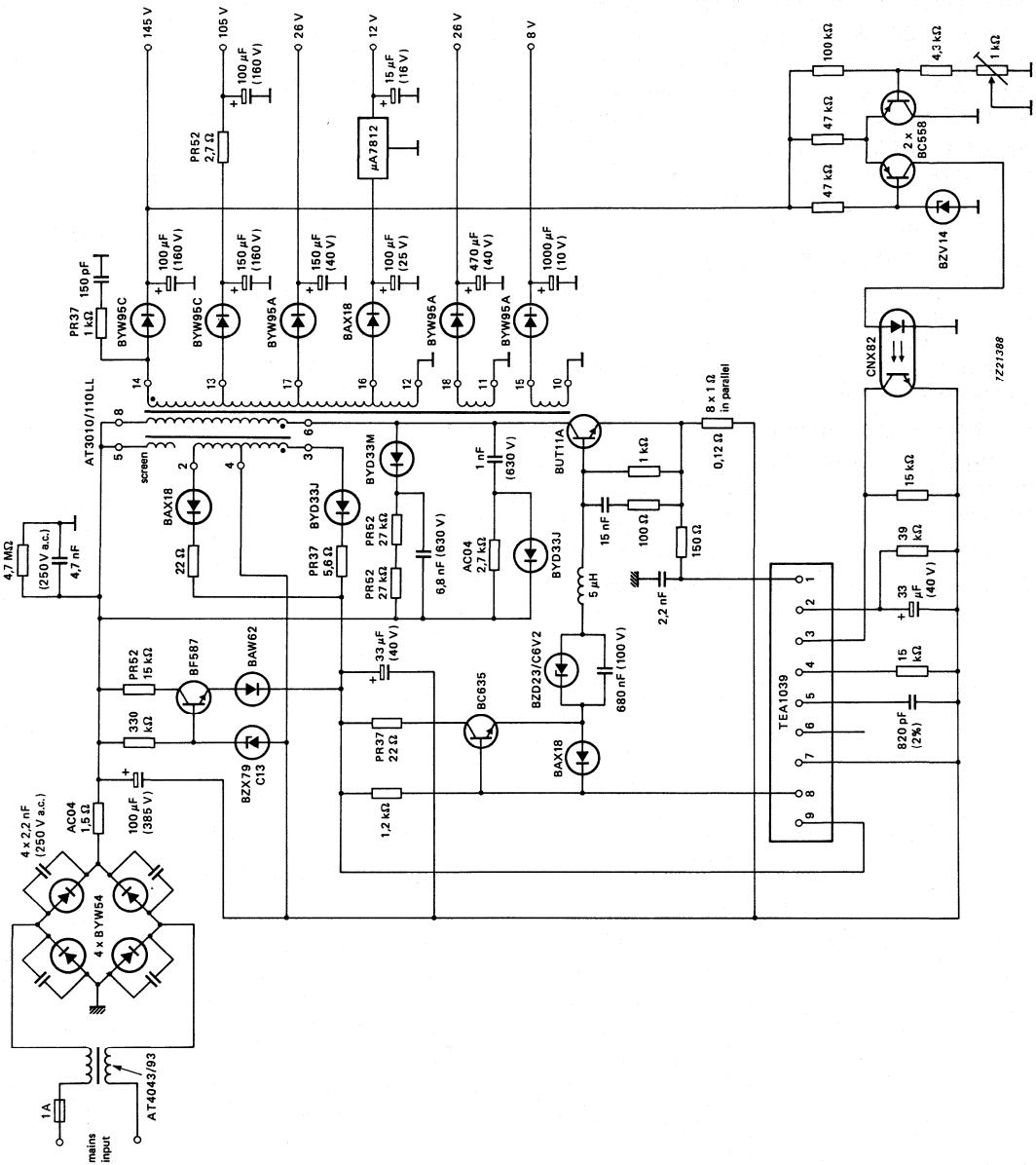


Fig. 4 Application circuit for colour monitors and TV; 120 W output power.

DEVELOPMENT DATA

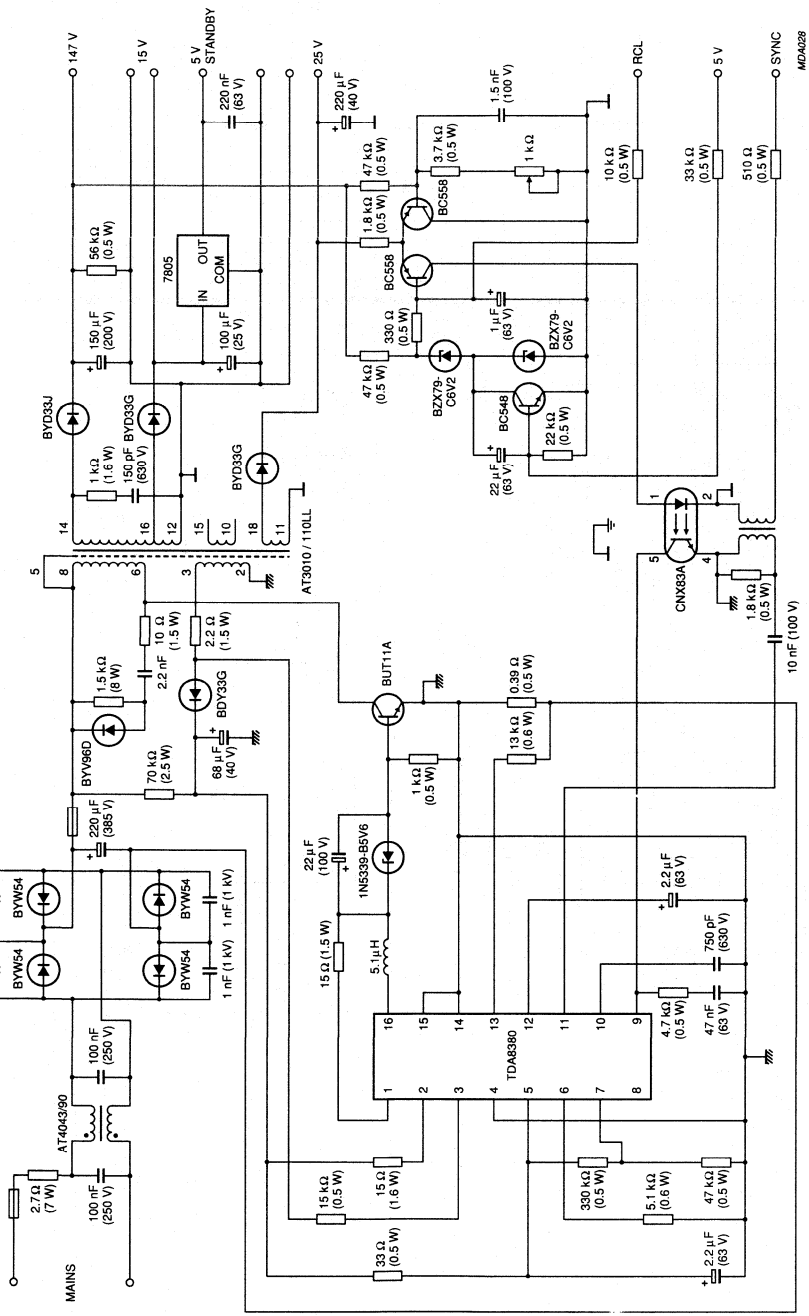


Fig. 5 Application circuit for TV with standby and remote on/off 220/240 V mains input, 120 W output power.

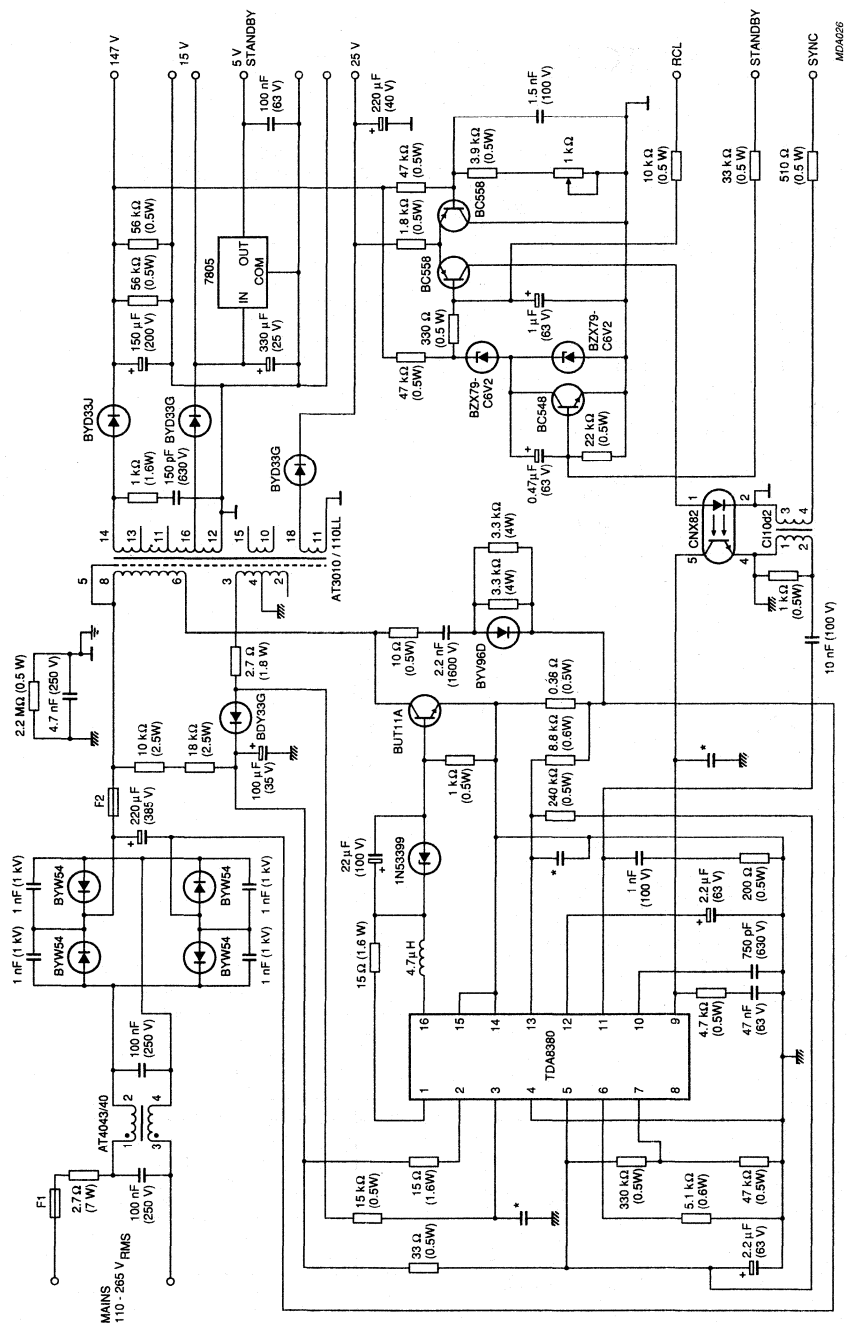


Fig. 6 Application circuit for TV or monitor. 90 - 270 V mains input, 80 W output power.

SWITCHED-MODE TRANSFORMER

- Aluminium foil winding
- Mains insulation
- 120 W output power
- 145 V/0,4 A, 105 V/0,4 A, 25 V/0,11 A, 18 V/0,7 A, 8 V/0,2 A outputs

APPLICATION

This transformer is for use as a flyback switched-mode transformer for 90° and 110° colour TV receivers and colour monitors with mains insulation.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube ETD-cores with a rectangular leg and a cylindrical leg on which the windings are situated.

The transformer has 15 pins for mounting on a printed-wiring board.

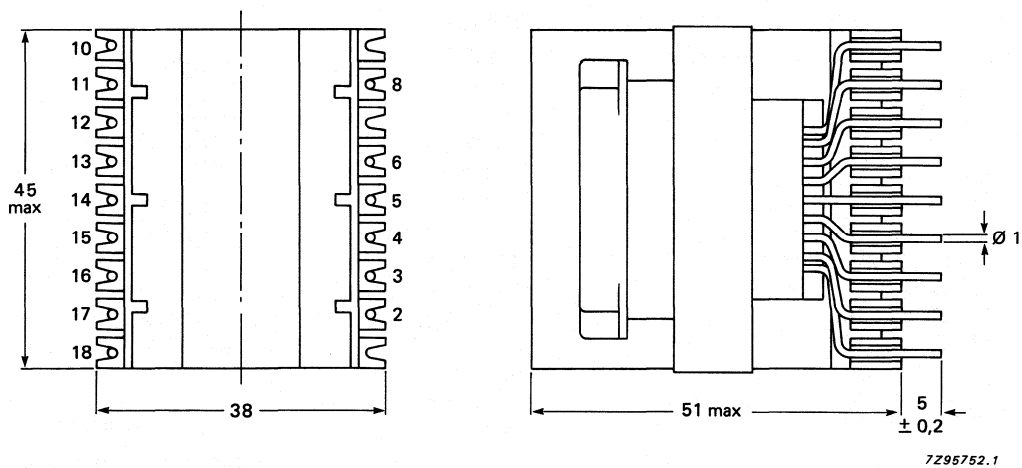


Fig. 1.

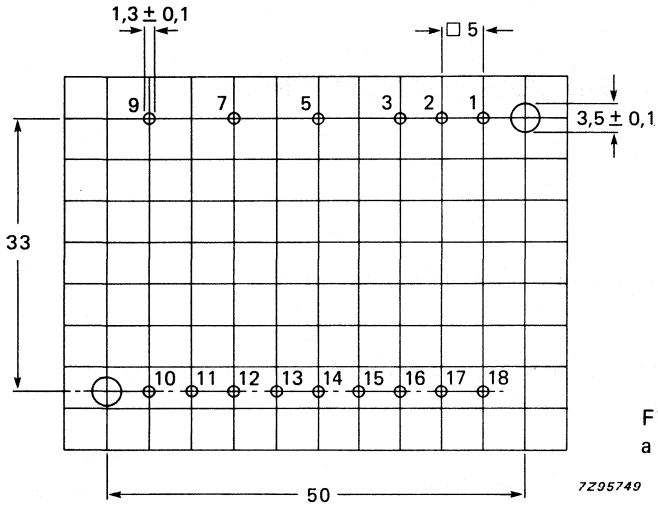


Fig. 2 Hole pattern for mounting on a printed wiring board (solder side).

ELECTRICAL DATA

Inductance, primary (7 - 5)*	1,7 mH ± 10%
Leakage inductance, primary (7 - 5)**	< 65 μH
Resistance, primary (7 - 5), at 25 °C	< 0,7 Ω
Resistance, secondary, at 25 °C	
(10 - 12)	< 0,3 Ω
(11 - 12)	< 0,4 Ω
(13 - 18)	< 0,08 Ω
(14 - 17)	< 0,05 Ω
Transformation ratio▲	
(7 - 5)/(3 - 2)	14,5 ± 5%
(7 - 5)/(2 - 1)	24,1 ± 5%
(7 - 5)/(12 - 16)	11,9 ± 5%
(7 - 5)/(12 - 11)	2,2 ± 5%
(7 - 5)/(12 - 10)	1,6 ± 5%
(7 - 5)/(14 - 17)	23,5 ± 5%
(7 - 5)/(13 - 18)	8,7 ± 5%
Test voltage (D.C.) for 1 min	
between primary and secondary	5600 V
between windings and core	500 V
Mains insulation	according to IEC 65, 14-3-1a, and UL 1410-1411
Maximum operating temperature	115 °C

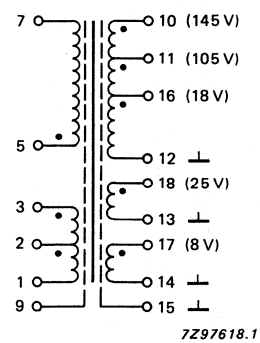


Fig. 3 Circuit diagram.

(The screen must be connected to the secondary ground.)

* At f = 1 kHz, I ⩾ 100 mA.

** At f ⩾ 100 kHz, (10 - 12) short-circuited.

▲ At V_{7-5} = 1 V, f = 1 kHz.

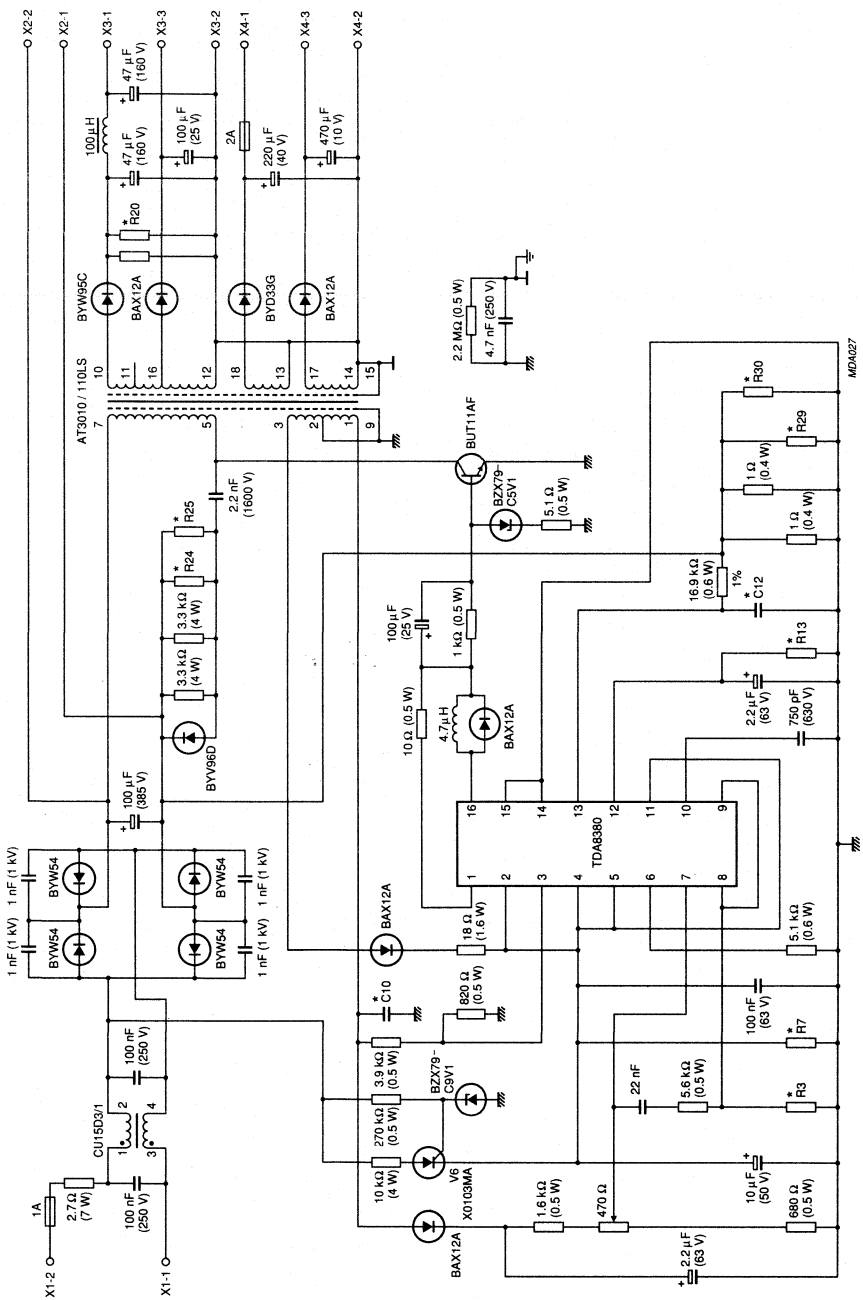


Fig. 4 Application circuit, with IC TDA8380.

LINE DRIVER TRANSFORMER

- For Colour Data Graphic Displays

APPLICATION

For drive of 1500 V transistors in line deflection and power supply circuits.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube U15 cores, grade 3C8. The transformer has four pins for mounting on a printed-wiring board, and a reference pin.

Outlines

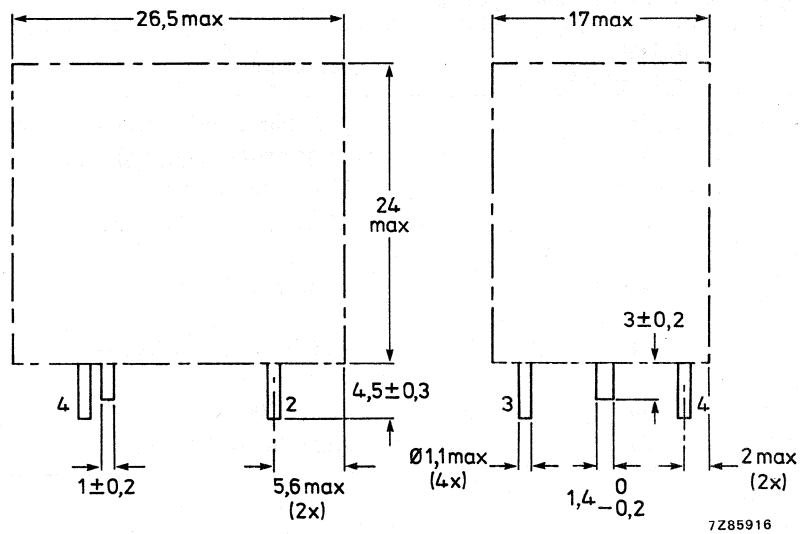


Fig. 1.

Mounting

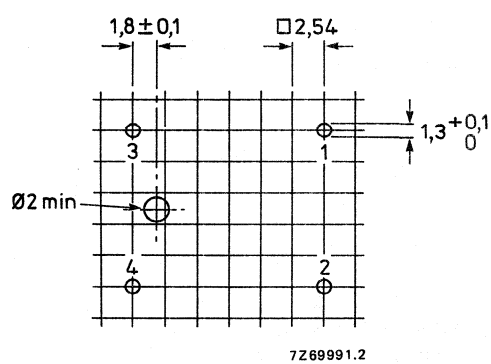


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side).

ELECTRICAL DATA

Inductance, L_{2-1}	140 mH ± 15%*
Resistance, R_{2-1}, at 25 °C	26,5 Ω ± 12%
Leakage inductance, L_{3-4}	7,8 μH**
Maximum permissible current, I_{2-1} (peak value)	40 mA
Resistance, R_{4-3}, at 25 °C	0,29 Ω ± 12%
Voltage ratio, V_{2-1}/V_{4-3}, at V_{2-1} = 1 V, 1 kHz	15 ± 5%
Test voltage (d.c.) between the windings, and between windings and core	2000 V
Ambient temperature range	
operating	−25 to + 100 °C
storage	−40 to + 115 °C
Inflammability	according to UL94 V-1

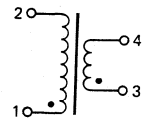


Fig. 3.

The transformer withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s², 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/direction
damp heat, steady state	Ca	21 days, 40 °C, 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C, 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures	
after 300 h	⩽ 0,01%
after 10 000 h	⩽ 0,02%
after 30 000 h	⩽ 1%

* Measured at 9 V, 1 kHz.
** Primary 2-1 short-circuited.

EAST/WEST CHOKE

- For Colour Data Graphic Displays

APPLICATION

The AT4043/08A is for use as an east/west choke in colour monitors.

MECHANICAL DATA

The magnetic circuit of the choke comprises two Ferroxcube U20 cores. The choke has four pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

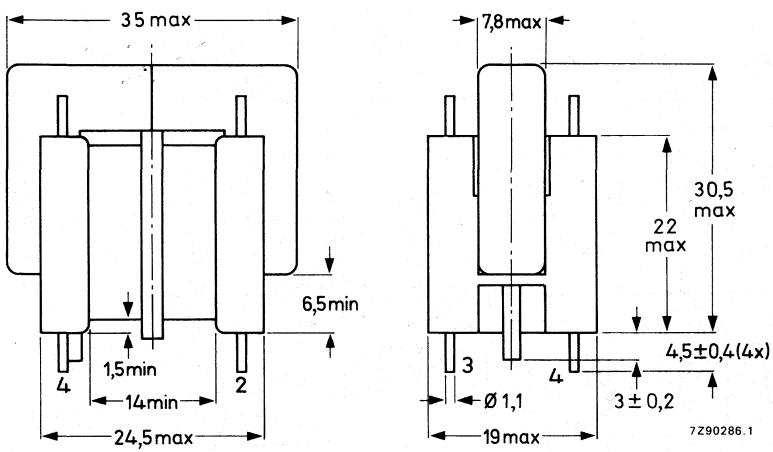


Fig. 1.

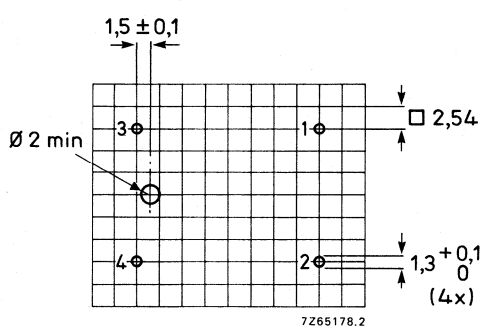


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side).

ELECTRICAL DATA

Inductance, L_{2-3}*	⩾ 2 mH; typ. 2,6 mH
Resistance, R_{2-3}*, at 25 °C	0,5 Ω
Maximum current (peak value)	0,7 A
Maximum working temperature	115 °C

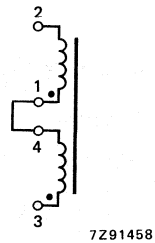


Fig. 3.

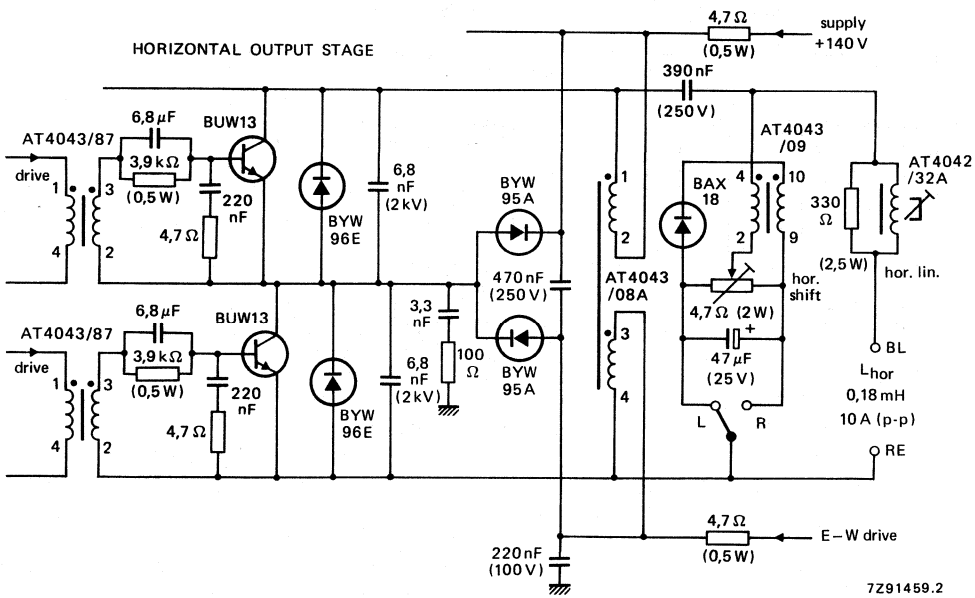


Fig. 4 Application circuit.

* Terminals 1 and 4 interconnected.

The choke withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s^2, 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30/min/direction
damp heat, steady state	Ca	21 days, 40 °C; 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C, 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,01%
after 10 000 h	⩽ 0,02%
after 30 000 h	⩽ 1%

UNIVERSAL HORIZONTAL SHIFT TRANSFORMER

- For Colour Data Graphic Displays

APPLICATION

This shift transformer is for use in colour data graphic display monitors.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube U25 cores, grade 3C8. The transformer has 10 pins for mounting on a printed-wiring board.

Outlines

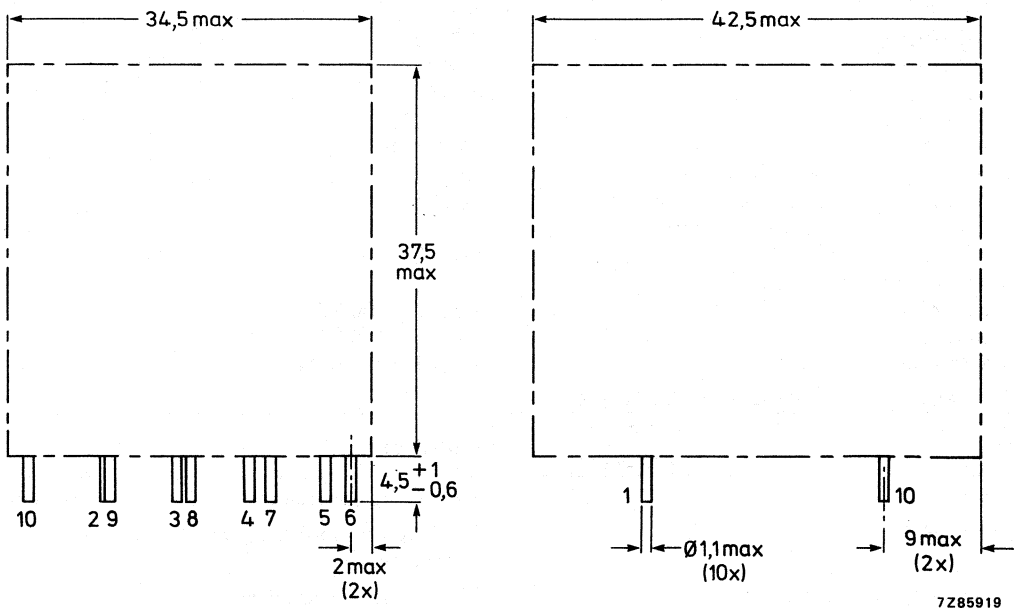
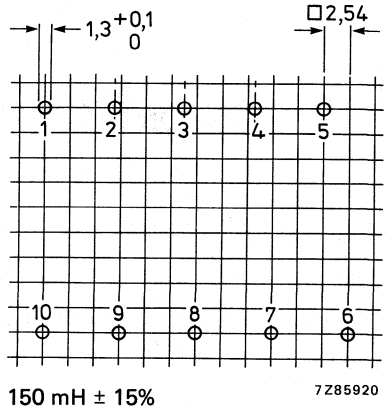


Fig. 1.

Mounting

Fig. 2 Hole pattern for mounting on a printed-wiring board (solder side).



ELECTRICAL DATA

Inductance, L_{5-1}*	150 mH ± 15%
Resistance, R_{5-1}, at 25 °C	7,8 Ω ± 10%
Resistance, R_{10-6}, at 25 °C	0,23 Ω ± 10%
Voltage ratio*	
V_{5-1}/V_{2-1}	3,2 ± 5%
V_{5-1}/V_{3-1}	2,1 ± 5%
V_{5-1}/V_{4-1}	1,5 ± 5%
V_{5-1}/V_{7-6}	515 ± 5%
V_{5-1}/V_{8-6}	128,8 ± 5%
V_{5-1}/V_{9-6}	73,6 ± 5%
V_{5-1}/V_{10-6}	57,2 ± 5%
Test voltage (d.c.) of winding 1-5 to winding 6-10 and core, for 1 min	2000 V
Test voltage (d.c.) between winding 6-10 and core, for 1 min	2000 V
Ambient temperature range	
operating	−25 to + 100 °C
storage	−40 to + 115 °C
Inflammability	according to UL94 V-1

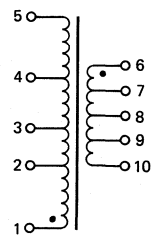


Fig. 3.

The transformer withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s², 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/direction
damp heat, steady state	Ca	21 days, 40 °C, 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C, 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,01%
after 10 000 h	⩽ 0,02%
after 30 000 h	⩽ 1%

* Measured at V_{5-1} = 5 V, 1 kHz.

HORIZONTAL SHIFT TRANSFORMER

- For consumer applications, e.g. colour data graphic displays

DESCRIPTION

The magnetic circuit of the choke comprises two Ferroxcube U25 cores. The choke has 10 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

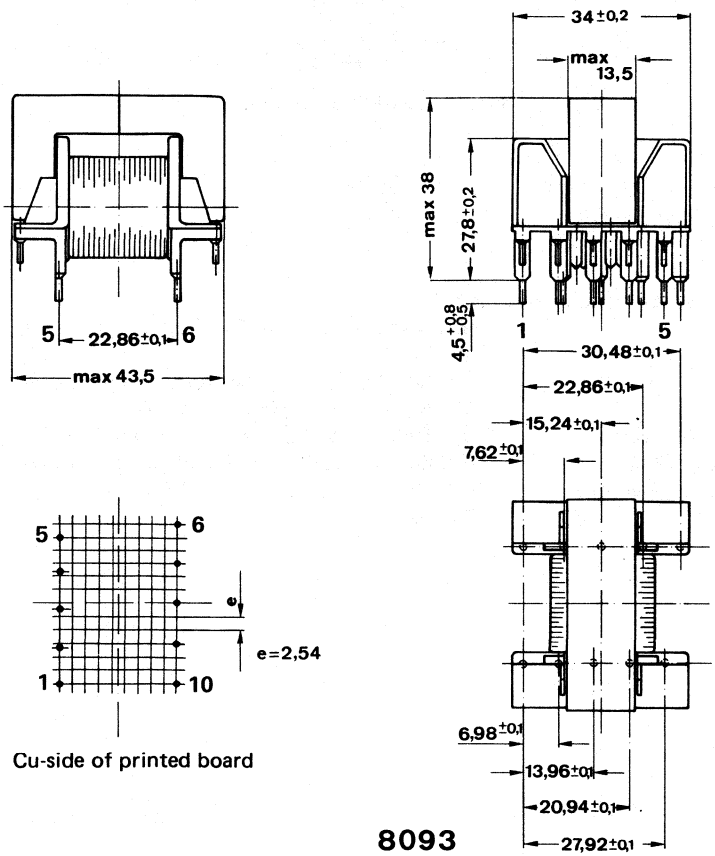


Fig. 1 Horizontal shift transformer assembly.

ELECTRICAL DATA

Inductance primary (2-4)*	20 mH ± 15%
Maximum current primary (peak)	300 mA
Number of turns primary	(2-4) = 190
Number of turns secondary	(6-7) = 1 (7-8) = 3 (8-9) = 3 (9-10) = 2

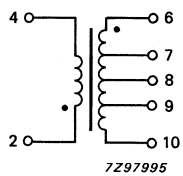


Fig. 2 Transformer circuit.

Test voltage (DC)	
between primary and secondary	5600 V
between windings and core	2000 V

TESTS

The choke withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C

* Measured at 10 kHz, B_{max} = 0,1 T.

BRIDGE COIL

- For consumer applications, e.g. monitors and television sets

DESCRIPTION

The magnetic circuit of the unit comprises two Ferroxcube U20 cores. The unit has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

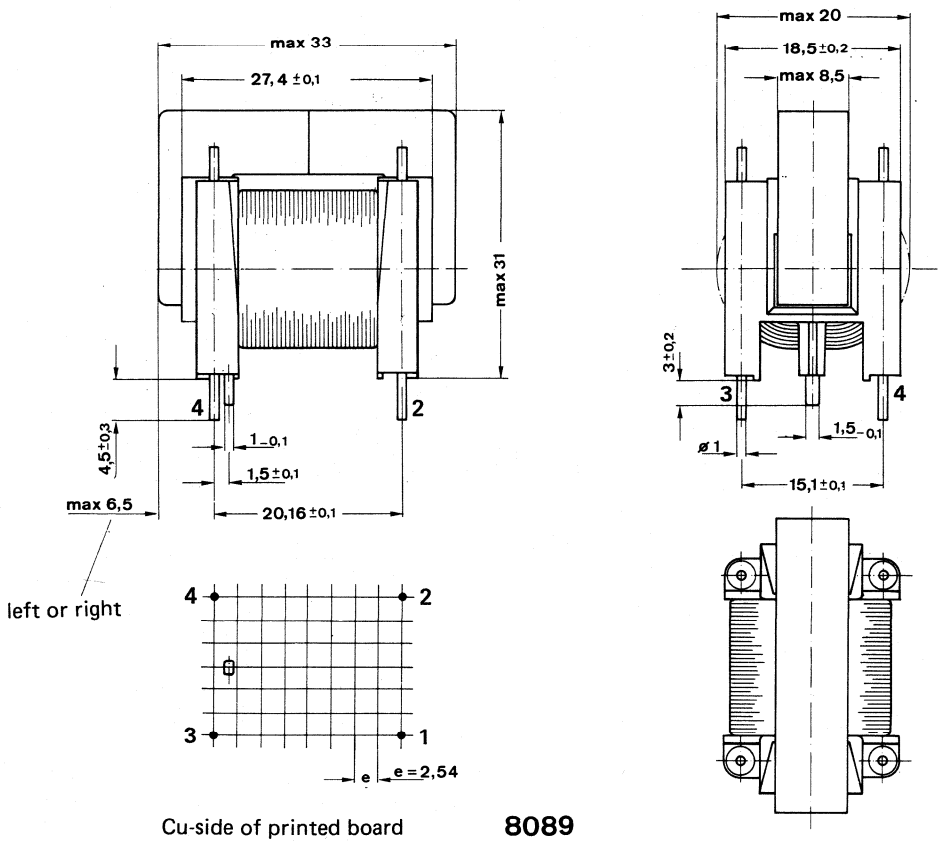


Fig. 1 Coil assembly.

ELECTRICAL DATA

Inductance (1-2)	50 μH ± 12%
Resistance (1-2) at 25 °C	37 mΩ ± 12%
Maximum permissible peak current	5 A
Maximum working temperature	100 °C

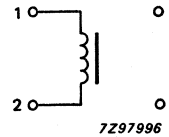


Fig. 2 Coil circuit.

INPUT CHOKE

- For 110 ° deflection colour TV in twin switch power pack system
- For 30 V/2 A audio power
- Mains insulation

APPLICATION

The AT4043/16A is for use as a supply choke in the twin switch power pack system (TSP^2) for 110° colour TV receivers and colour monitors. It is used in conjunction with mains transformer TS561/2 or TS521B, mains filter choke AT4043/55, current sensing transformer AT4043/46, driver transformer AT4043/17 and diode-split line output transformer AT2077/82.

The secondary winding of the choke can be used for generating the stereo audio power in 110° colour TV receivers, up to 2 x 15 W.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube E42 cores, grade 3C8. The choke has 11 pins for mounting on a printed-wiring board.

Outlines

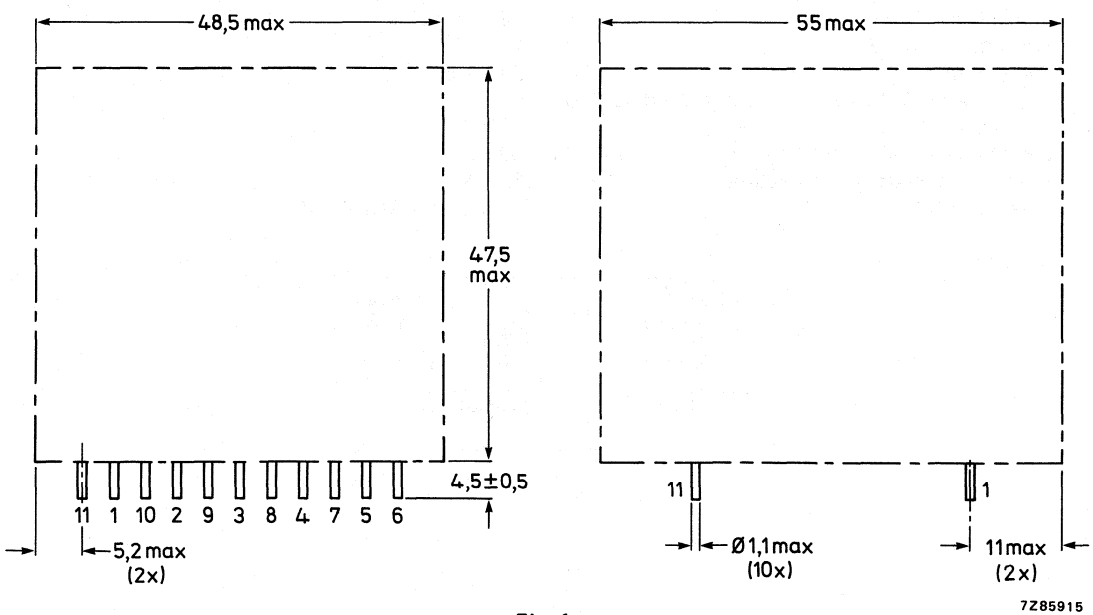


Fig. 1.

Mounting

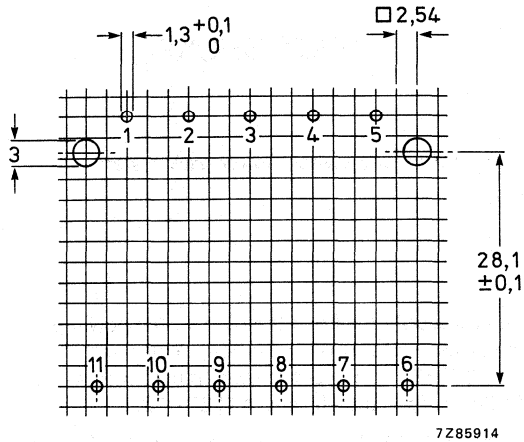


Fig. 2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

Inductance, L_{1-4}*	14 mH ± 10%
Resistance, R_{1-2}	0,44 Ω ± 12%
Resistance, R_{2-4}	0,98 Ω ± 12%
Resistance, R_{7-8}	68 mΩ ± 12%
Resistance, R9-10	68 mΩ ± 12%
Turns ratio 1-4/7-8	27,7 ± 5%
Turns ratio 1-4/9-10	27,7 ± 5%
Test voltage (DC) of winding 1-4 to winding 7-10 and core for 1 min	5600 V
Test voltage (DC) of winding 7-10 to core for 1 min	500 V
Maximum operating temperature	115 °C
Inflammability	according to UL94 V-1

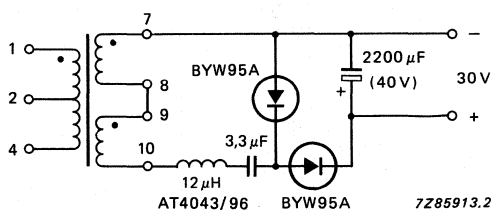


Fig. 3.

* Measured at 17,2 V, 1 kHz.

The choke withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s^2, 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/direction
damp heat, steady state	Ca	21 days, 40 °C, 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C, 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	⩽ 0,01%
after 10 000 h	⩽ 0,02%
after 30 000 h	⩽ 1%

LINE DRIVER/D.C. SHIFT TRANSFORMER

APPLICATION

This line driver, or d.c. shift, transformer, is for all transistor colour television receivers and monochrome data graphic display monitors.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube U20 cores, grade 3C8. The transformer has four connecting pins and a location pin for mounting on a printed-wiring board.

Outlines

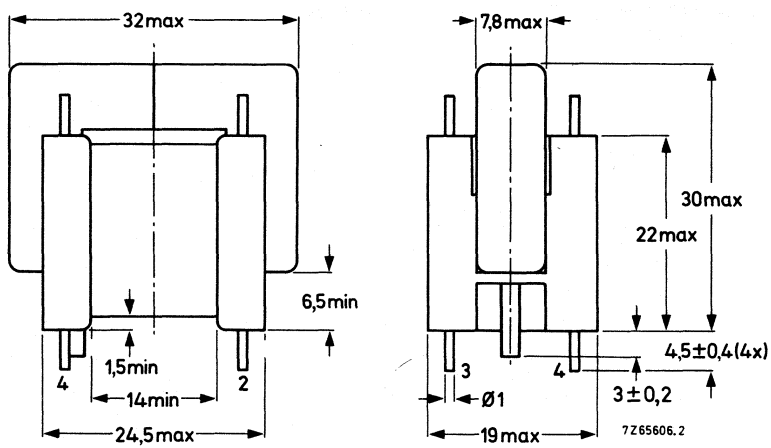


Fig. 1.

Mounting

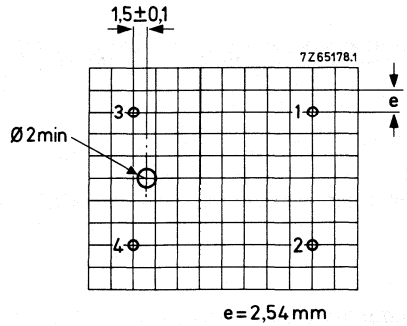
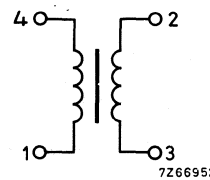


Fig. 2 Hole pattern for mounting on a printed-wiring board, hole diameter 1,3 + 0,1 mm.

ELECTRICAL DATA

Inductance primary (1-4)	370 mH ± 12%
Leakage inductance secondary (2-3)*	14 μH ± 20%
Resistance secondary (2-3) at 25 °C	0,35 Ω
Transformation ratio 4-1/2-3	31 : 1
Maximum working temperature	100 °C



* Primary short circuited.

DRIVER TRANSFORMER

APPLICATION

This line driver transformer is for all transistor colour television receivers and monochrome data graphic display monitors.

DESCRIPTION

The magnetic circuit of the unit comprises two Ferroxcube U20 cores. The unit has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

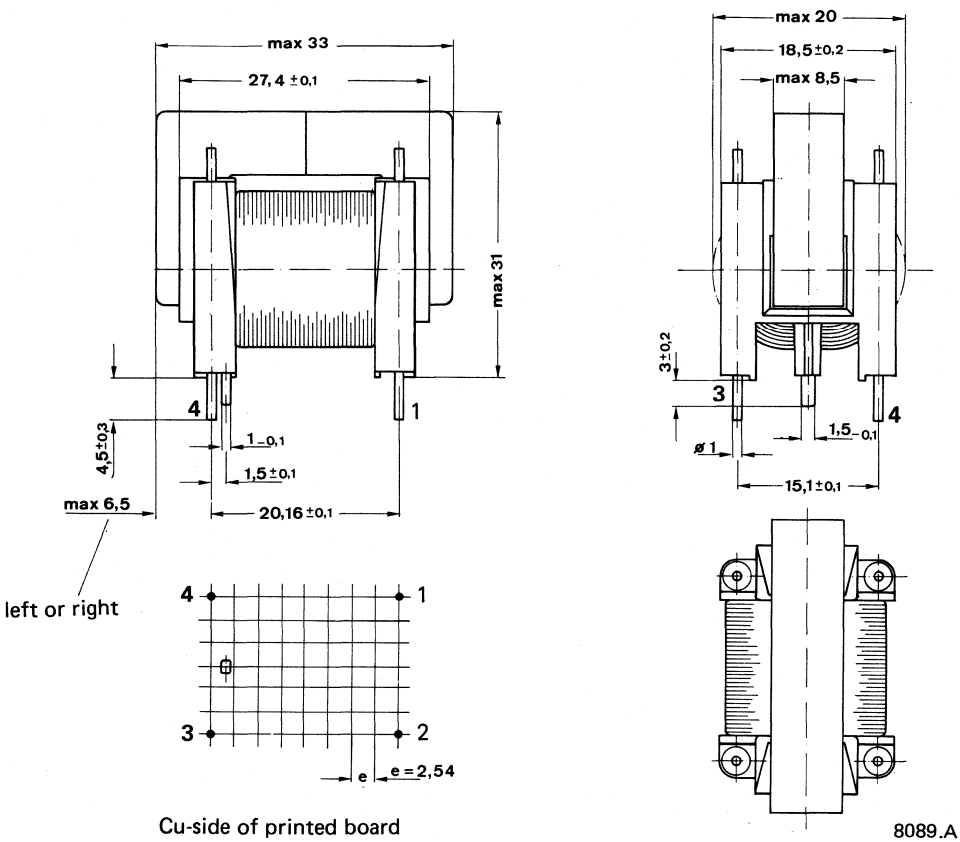


Fig. 1 Assembly.

ELECTRICAL DATA

Inductance primary (1-4)*	1.3 mH ± 10%
Leakage inductance secondary (2-3)**	< 1.2 μH
Resistance primary (1-4)	0.27 Ω ± 12%
Resistance secondary (2-3)	0.10 Ω ± 12%
Number of turns	
primary	67
secondary	26
Maximum working temperature	115 °C

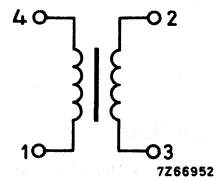


Fig. 2 Circuit diagram.

* Measured at 1 V, 10 kHz.
** Terminals 1 and 4 interconnected.

AUXILIARY TRANSFORMER

- For consumer applications, e.g. monitors and television sets

APPLICATION

This transformer has been designed for parallel connection to the primary winding of the line output transformers, AT2077/32 or AT2077/81.

DESCRIPTION

The magnetic circuit of the choke comprises two Ferroxcube U25 cores. The choke has 10 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

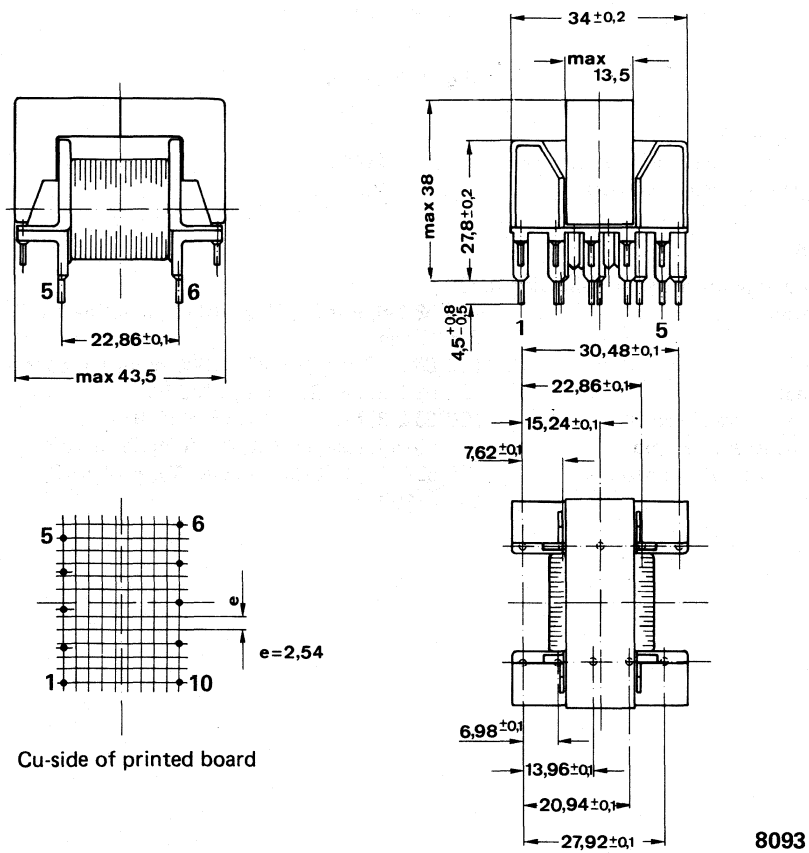


Fig. 1 Transformer assembly.

ELECTRICAL DATA

Inductance, primary (6-8)*	> 10 mH ± 10%
Maximum current, primary (6-8)	350 mA
→ Number of turns, primary	(10-9) = 7
→	(9-8) = 7
→	(8-6) = 138
Number of turns, secondary	(1-4) = 13
	(2-5) = 6
	(4-3) = 13

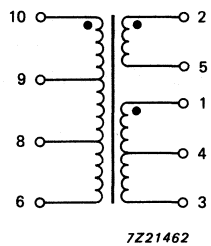


Fig. 2 Circuit diagram.

Test voltage (DC)	
between primary and secondary	2000 V
between primary and core	2000 V

TESTS

The choke withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C

* Measured at 10 kHz, B_{max} = 0,1 T.

SWITCHED-MODE DRIVER TRANSFORMER

with mains isolation

APPLICATION

The transformer AT4043/45 has been designed for use as a driver transformer in the synchronous power pack system for colour tv receivers with mains isolation. It is used in conjunction with current sensing transformer AT4043/46 and mains transformer TS561/2.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U20-cores. Two separate coil formers guarantee the required isolation between primary and secondary. The transformer is provided with 6 pins for mounting on a printed-wiring board.

Outlines

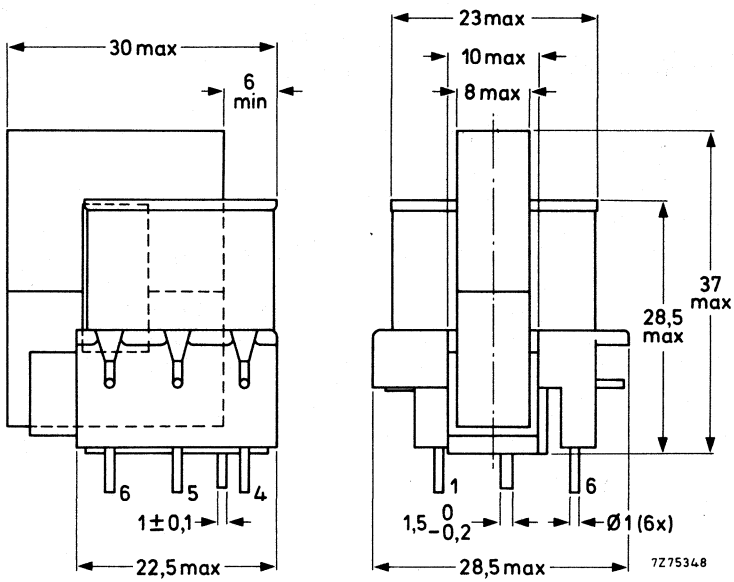


Fig. 1.

Mounting

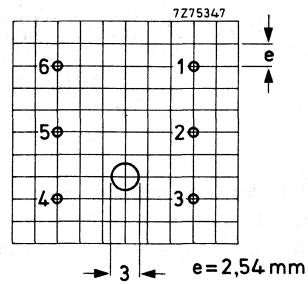


Fig.2 Hole pattern for mounting on a printed-wiring board; hole diameter 1,3 + 0,1 mm. Viewed from the component side.

ELECTRICAL DATA

Inductance, primary	(4 – 6)	⩾ 16 mH *
Resistance at 25 °C	(4 – 6)	2 Ω ± 12%
Leakage inductance, secondary	(1 – 3)	⩽ 6 μH **
Resistance at 25 °C	(1 – 3)	0,05 Ω ± 12%
Turns ratio		5 : 1
Mains isolation		acc. to IEC 65
Maximum working temperature		115 °C

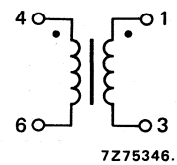


Fig. 3.

* Measuring condition: E = 8 V, f = 1 kHz.

** Measuring condition (primary short-circuited): E ⩽ 250 mV, 0,9 MHz ⩽ f ⩽ 1,1 MHz.

CURRENT SENSING TRANSFORMER
with mains isolation

APPLICATION

The transformer AT4043/46 has been designed for use as a sensing transformer in switched-mode power supply circuits.

MECHANICAL DATA

The magnetic circuit of the transformer comprises two Ferroxcube U15-cores. The primary turn is potted in the coil former to guarantee the required isolation. The transformer is provided with 4 pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

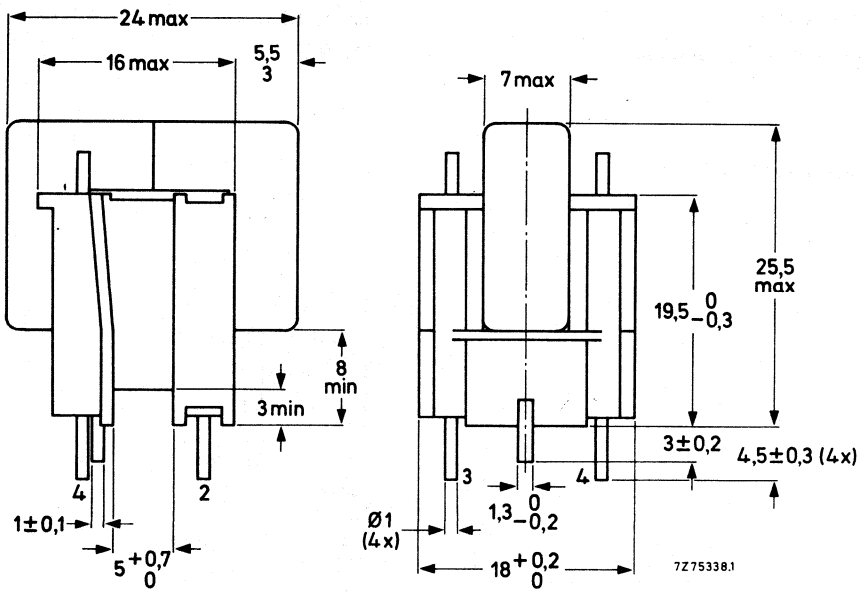
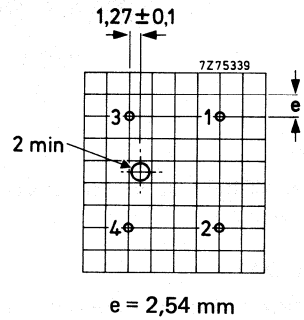


Fig.1

Mounting



e = 2,54 mm

Fig.2 Hole pattern for mounting on a printed-wiring board; hole diameter 1,3 + 0,1 mm. Viewed from the component side.

ELECTRICAL DATA

Inductance, secondary	(3 – 4)	⩾ 700 mH *
Resistance, secondary, at 25 °C	(3 – 4)	65 Ω ± 12%
Turns ratio		1 : 800
Mains isolation		acc. to IEC 65
Maximum working temperature		115 °C

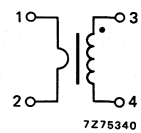


Fig.3

APPLICATION CIRCUIT

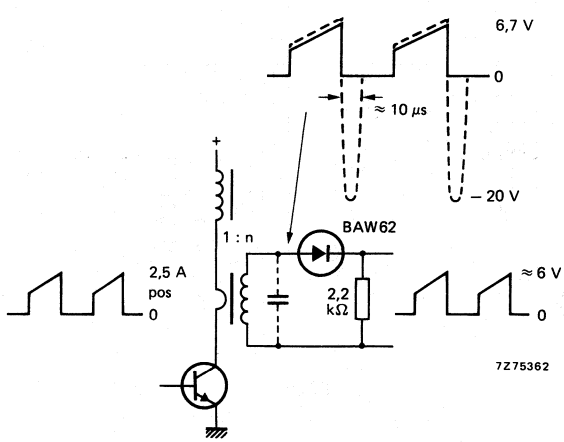


Fig. 4.

* Measuring condition: E = 10 V, f = 1 kHz.

CURRENT SENSING TRANSFORMER

with mains isolation

APPLICATION

The AT4043/47 is a current sensing transformer in professional switched-mode power supply circuits. It can also be used as a measuring device in many applications.

MECHANICAL DATA

Dimensions in mm

The ungapped magnetic circuit of the transformer comprises two Ferroxcube U15-cores in grade 3C8. The primary turn is potted in the coil former to guarantee the required isolation. The transformer is provided with 4 pins for mounting on a printed-wiring board.

Outlines

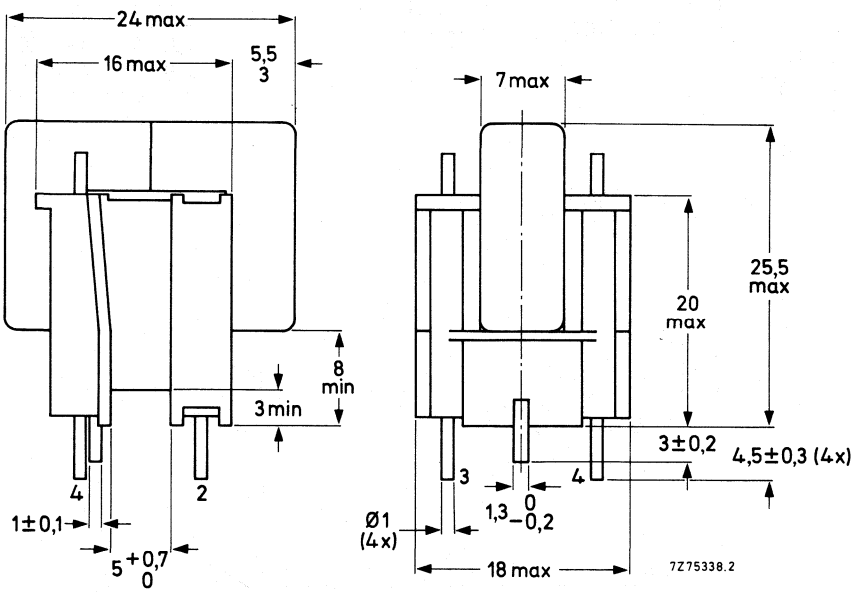
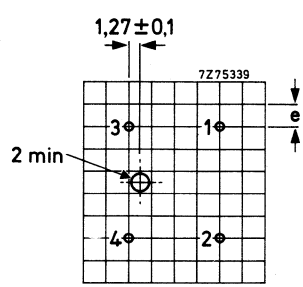


Fig. 1.

Mounting



e = 2,54 mm

Fig. 2 Hole pattern for mounting on a printed-wiring board; hole diameter 1,3 + 0,1 mm. Viewed from the component side.

ELECTRICAL DATA

Inductance, secondary	(4 – 3)	⩾ 12,5 mH*
Resistance, secondary, at 25 °C	(4 – 3)	1 Ω ± 12%
Number of turns		1 prim., 100 sec.
Mains isolation at 5600 V d.c.		acc. to IEC 435
Maximum working temperature		115 °C
Inflammability		acc. to UL94V–1

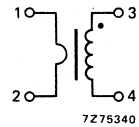


Fig. 3.

APPLICATION CIRCUIT

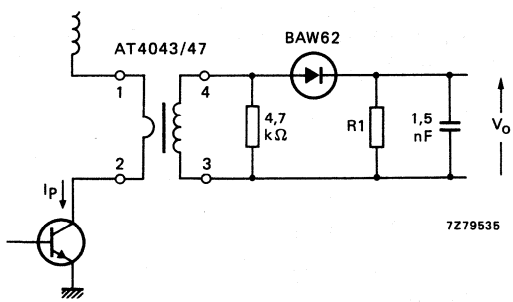


Fig. 4.

typical values

I_P A	V_o V	R1 Ω	t_p µs	droop %
10	1	10	20	3
5	1	22	20	5
2,5	1	39	20	10
2,5	1	39	10	5

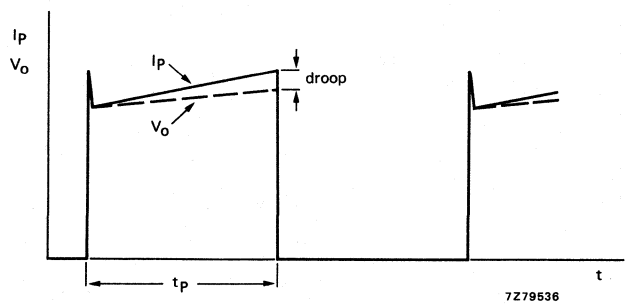


Fig. 5.

* Measuring condition: E = 1,3 V; f = 1 kHz.

The transformer withstands the following tests:

test	IEC68 test method	procedure
bump	Eb	1000 bumps, acceleration 40g, 6 directions
vibration	Fc	freq. 10-55-10 Hz, ampl. 0,75 mm, 6 directions, 30 min/direction
damp heat, steady state	Ca	21 days 40 °C; 93% R.H.
damp heat, cyclic	Db	21 days 40 °C
change of temperature	Na	−25 °C, +125 °C; 5 cycles
dry heat	Bb	16 h + 125 °C
solderability	T	230 ± 10 °C, 2 ± 0,5 s

THYRISTOR TRIGGER AND TRANSISTOR DRIVER TRANSFORMERS

- Mains isolation

APPLICATION

These transformers have been designed for use as thyristor and triac trigger transformers in professional applications where highly reliable primary to secondary voltage isolation is required, and as transistor driver transformers typically for use in switched-mode power supplies.

MECHANICAL DATA

Dimensions in mm

The magnetic circuits of the transformers comprise two Ferroxcube U20 cores in grade 3C8. Type AT4043/48 is ungapped, type AT4043/63 has two 60 μm gap spacers. The primary and secondary windings are wound on a two-part coil former with large creepage and clearance distances which ensure very safe isolation between mains and control circuits. The transformers are provided with pins for mounting on a printed-wiring board.

Outlines

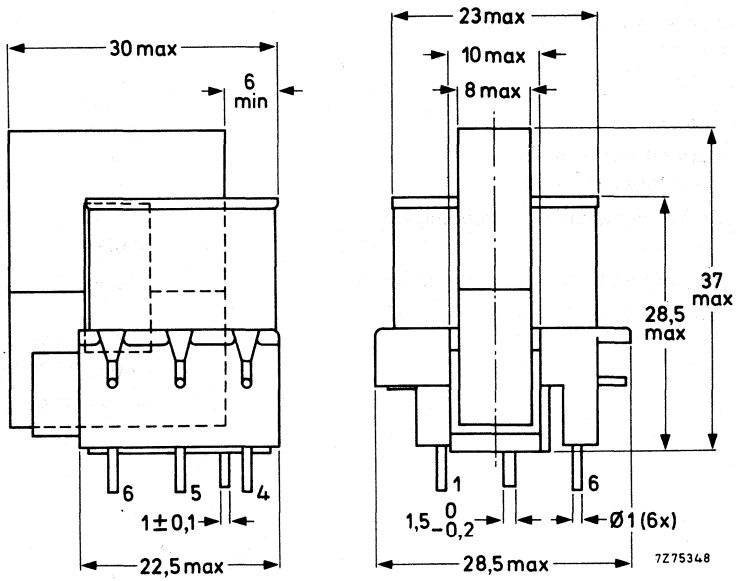


Fig. 1.

Mounting

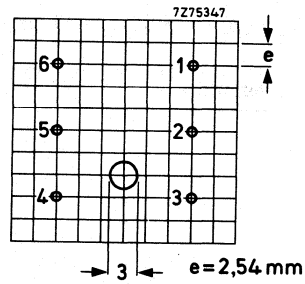


Fig. 2 Hole pattern for mounting on a printed-wiring board; hole diameter 1,3 + 0,1 mm. Viewed from the component side.

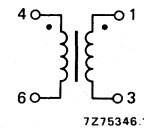


Fig. 3.

ELECTRICAL DATA (see Fig. 3)

		AT4043/48	AT4043/63
Inductance primary *	(4 – 6)	⩾ 6 mH	⩾ 1,9 mH
Resistance at 25 °C	(4 – 6)	0,9 Ω ± 12%	0,9 Ω ± 12%
Inductance, secondary	(1 – 3)	0,66 mH	0,22 mH
Resistance at 25 °C	(1 – 3)	0,05 Ω ± 12%	0,05 Ω ± 12%
Leakage inductance primary, secondary short-circuited **		⩽ 60 μH	
Leakage inductance secondary, primary short-circuited **		⩽ 6 μH	
Turns ratio 4-6/3-1		3/1	
Maximum Et product		1 mWb	
Maximum primary current (r.m.s.) for non-simultaneous switching		1 A	
Test voltage (d.c.) of winding 1-3 to winding 4-6 and core for 1 min		5600 V	
Test voltage (d.c.) of winding 4-6 to core for 1 mm		500 V	
Ambient temperature range operating		-25 to +80 °C	
storage		–40 to +100 °C	
Inflammability		acc. to UL94 V-1	

* Measuring condition: E = 1,5 V, f = 1 kHz.
** Measuring condition: E ⩽ 250 mV; 0,8 MHz ⩽ f ⩽ 1 MHz.

Environmental tests

The transformers withstand the following tests:

test	IEC68 test method	procedure
bump	Eb	1000 bumps, acceleration 40g, 6 directions
vibration	Fc	freq. 10-55-10 Hz, ampl. 0,75 mm 3 directions, 30 min/direction
damp heat, steady state	Ca	21 days, 40 °C, 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, +125 °C, 5 cycles
dry heat	Bb	16 h, +125 °C
solderability	T	230 ± 10 °C, 2 ± 0,5 s

APPLICATION CIRCUITS

Type AT4043/48 used as a thyristor trigger transformer. This transformer is suitable for triggering all our thyristors and triacs.

Typical operating conditions:

Rise time	$\leqslant 0{,}5\ \mu s$
Pulse duration	$15\ \mu s$
Duty factor	0,25
Trigger peak current	750 mA

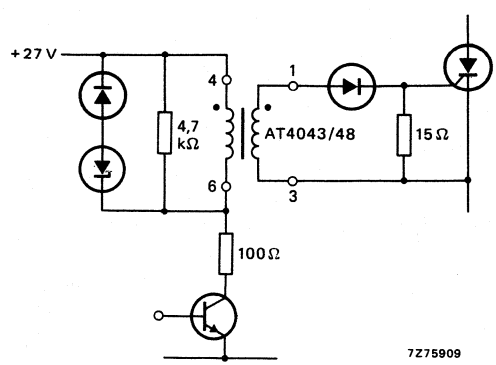


Fig. 4 Typical circuit.

Type AT4043/48 or type AT4043/63 as a transistor driver transformer.

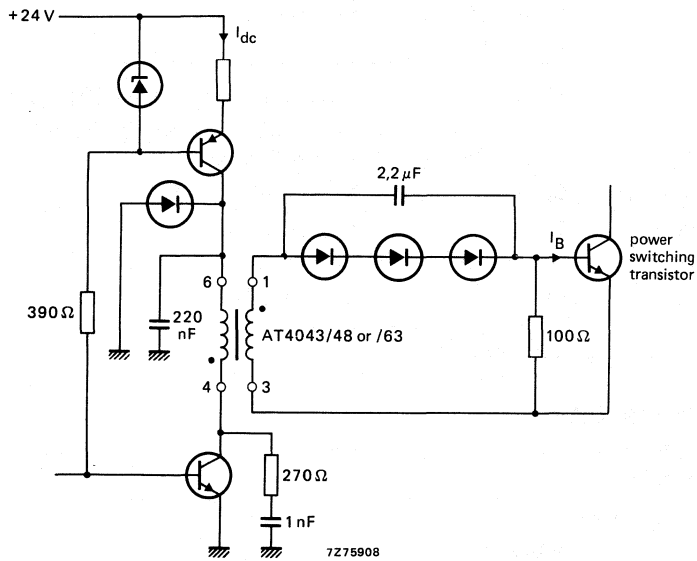


Fig. 5 Typical circuit.

Typical operating conditions:

AT4043/48			
frequency kHz	I_{dc} mA	I_{B1} A	I_{B2} A
20	160	0,9	0,4
50	230	1,0	0,7

AT4043/63			
frequency kHz	I_{dc} mA	I_{B1} A	I_{B2} A
20	310	1,5	1,0
50	290	1,2	1,0

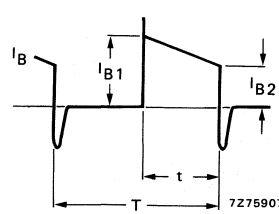


Fig. 6 $\frac{t}{T} = 0,4$.

3112 338 30660

POWER PACK SYSTEM SUPPLY CHOKE

- For Colour Television

APPLICATION

The DT4043/52A is for use as a supply choke in a power pack system for colour TV receivers. It is used in conjunction with mains transformer TS61/2, mains filter choke AT4043/55, current sensing transformer AT4043/46, line choke AT4043/53 and synchronous power pack transformer AT2076/70A.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube U25 cores, grade 3C8. The choke has 10 pins (ϕ1 + 0,1 mm, length 4,5 ± 0,5 mm) for mounting on a printed-wiring board. The maximum height of the choke is 36 mm.

Mounting

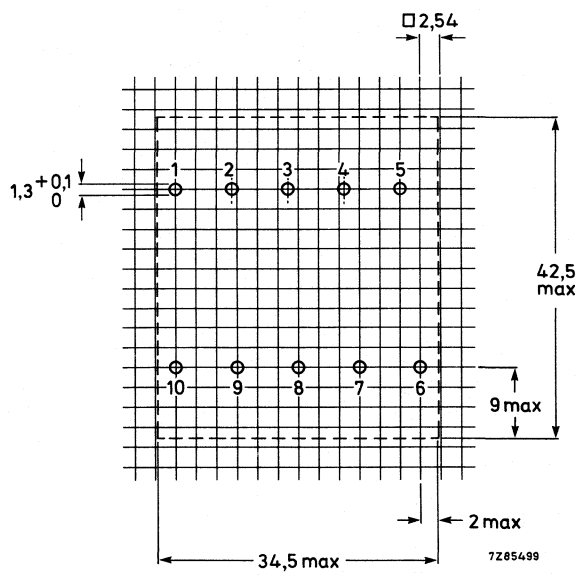


Fig. 1 Hole pattern for mounting on a printed-wiring board, viewed from the solder side.

ELECTRICAL DATA

Inductance, $L_{8\text{-}2}$	9 mH ± 10%
Resistance, $R_{8\text{-}2}$	2,3 Ω ± 12%
Maximum peak current	1,4 A
Maximum working temperature	115 °C
Flammability	according to UL94, category V-1

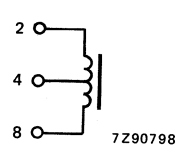


Fig. 2.

MAINS FILTER CHOKE FOR 1,5 A rms

APPLICATION

The AT4043/55 has been designed for use in consumer and professional equipment as part of the filter network in the power supply.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two Ferroxcube U25 cores. The unit is provided with four pins for mounting on a printed-wiring board.

Outlines

Dimensions in mm

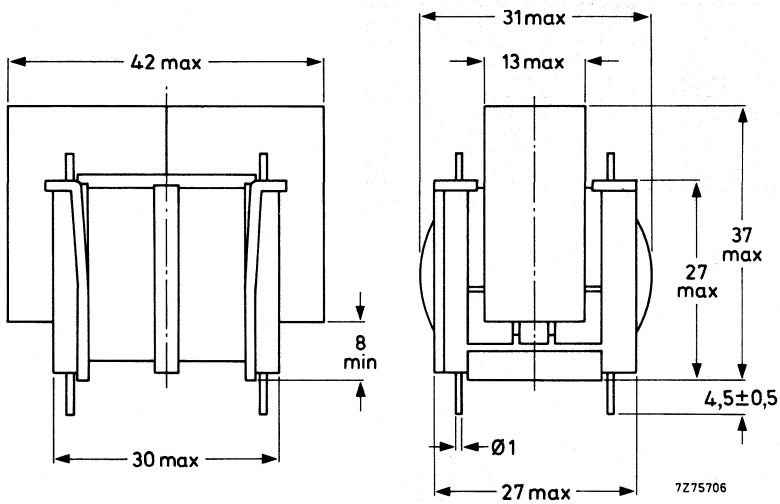
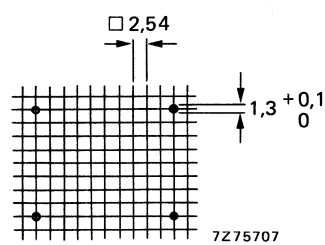


Fig. 1.

Fig. 2 Hole pattern for mounting on a printed-wiring board. Viewed from the solder side. The windings may be interchanged because the coil is symmetrical.



Marking

The catalogue number is printed on the Ferroxcube core.

ELECTRICAL DATA

Inductance, $L_{1-2} = L_{3-4}$	$\geqslant$ 25 mH
Resistance, $R_{1-2} = R_{3-4}$, at 25 °C	0,5 Ω
Leakage inductance	
$L_{s(1-2)}$, L_{3-4} short-circuited	0,65 mH
$L_{s(3-4)}$, L_{1-2} short-circuited	0,65 mH
Capacitance	37 pF
Maximum current (r.m.s.)	2 A
Maximum working temperature	115 °C

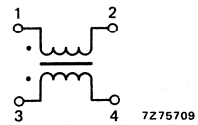


Fig. 3.

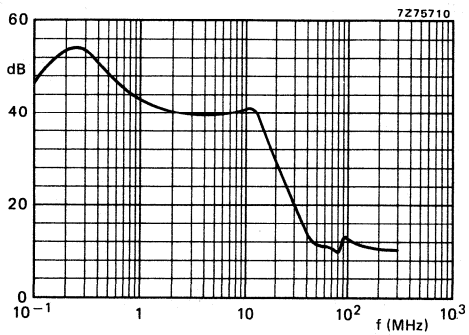


Fig. 4 Insertion loss measured in the 60 Ω circuit of Fig. 5.

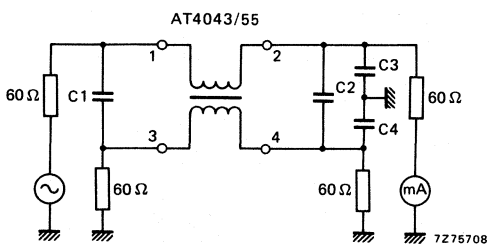


Fig. 5
C1 = C3 = C4 = 2200 pF, 250 V.
C2 = 0,47 μF, 250 V.

E/W INJECTION COIL

- For colour television

APPLICATION

This injection coil is for the line deflection output stage of the 45AX system.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the injection coil comprises two Ferroxcube U15-cores. The coil has four pins for mounting on a printed-wiring board.

Outlines

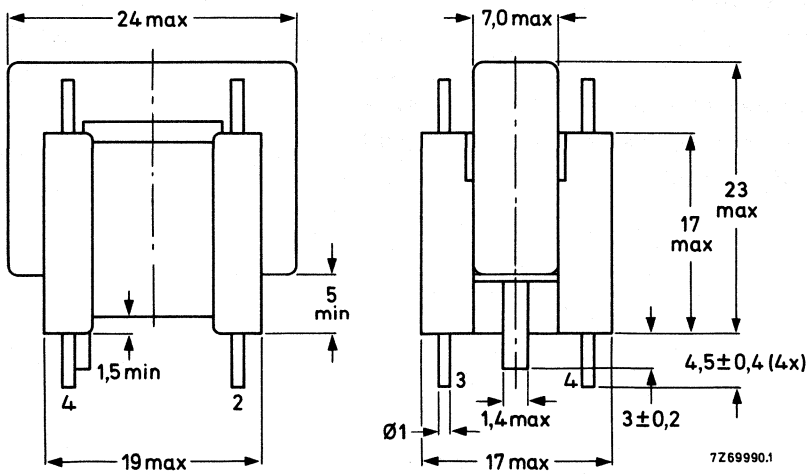


Fig. 1.

Mounting

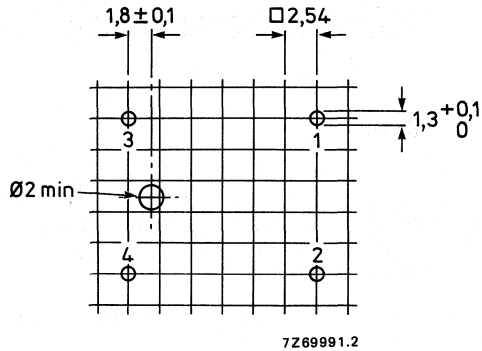


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side).

ELECTRICAL DATA

Inductance *	15 mH ± 12%
Resistance	max. 3 Ω
Maximum current (RMS value)	120 mA
Maximum working temperature	100 °C
→ Maximum peak current	110 mA

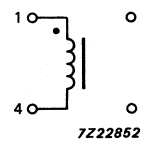


Fig. 3.

* Measuring conditions: E = 3,3 V; f = 1000 Hz.

Replaces AT4043/59

LINE DRIVER TRANSFORMER

- For Monochrome Data Graphic Displays

APPLICATION

This transformer has been designed for use in monochrome monitors. The required supply voltage is 12 V. The transformer is used in conjunction with deflection unit AT1071/03, line-output transformer AT2102/02, and linearity control unit AT4036/00A.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U-cores. The unit is provided with pins for mounting on a printed-wiring board.

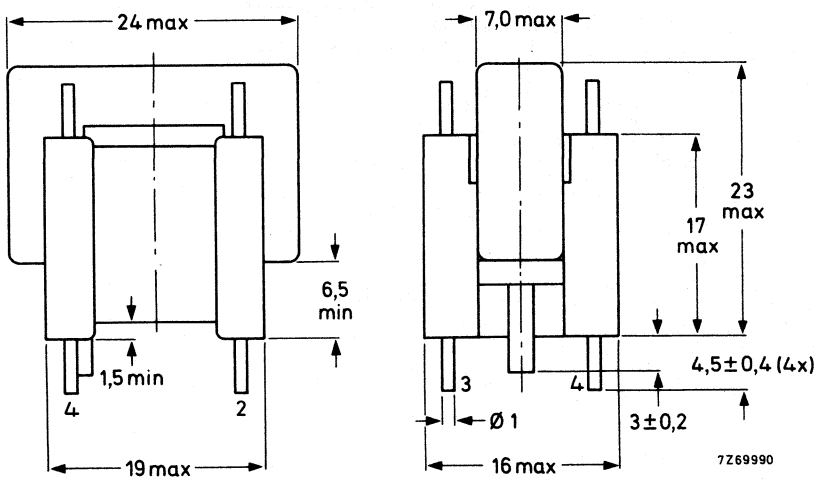


Fig. 1 Line driver transformer AT4043/64.

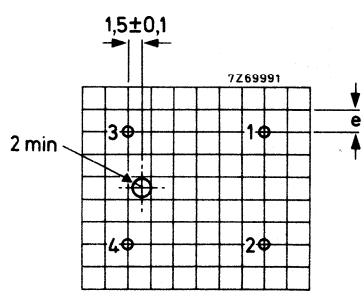


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side). Hole diameter 1,3 + 0,1 mm. e = 2,54 mm (0,1 in).

ELECTRICAL DATA

Inductance (primary, 1-2)	1,2 mH
Leakage inductance (secondary)	5 μH ± 10%
Transformation ratio	2 : 1
Maximum operating temperature	95 °C

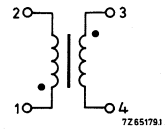


Fig. 3 Circuit diagram.

Application circuit

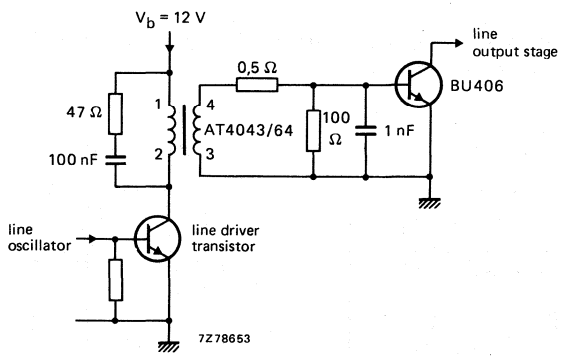


Fig. 4.

LINE CHOKE

- For consumer applications, e.g. horizontal supply choke for monitors with a seperate EHT generator

DESCRIPTION

The magnetic circuit of the unit comprises two Ferroxcube U20 cores. The unit has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

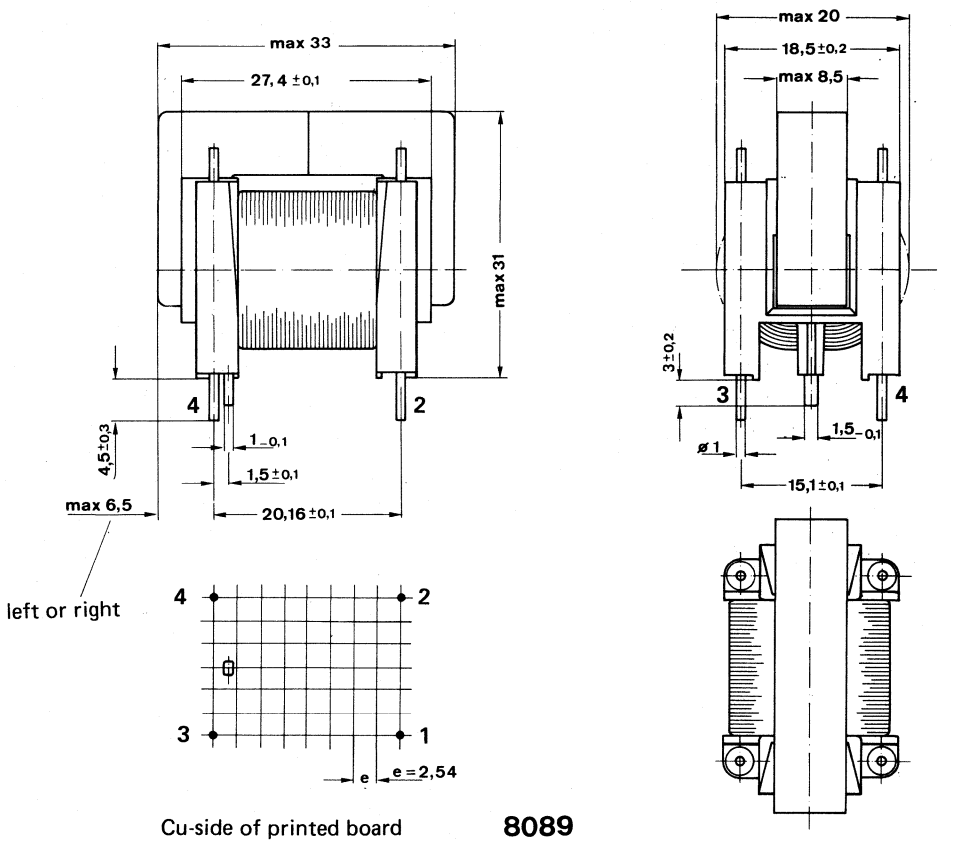


Fig. 1 Coil assembly.

ELECTRICAL DATA

Inductance (1-4)*	2,5 mH ± 10%
Resistance (1-4) at 25 °C	0,51 Ω ± 12%
Maximum permissible peak current	1 A
Maximum working temperature	100 °C

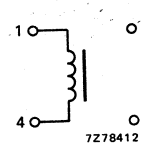


Fig. 2 Coil circuit.

TESTS

The unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C.

* Measured at 10 kHz, V=1 volt.

DYNAMIC FOCUSING TRANSFORMER

- For Monochrome Data Graphic Displays

APPLICATION

This transformer has been designed to improve the overall picture sharpness of the CRT. It is applied in series with the line coils of the deflection unit to generate a voltage which is fed to the focus electrode.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U20-cores, grade 3C8. The primary and secondary windings are wound on a two-part coil former.

The transformer is provided with 6 pins for mounting on a printed-wiring board.

Outlines

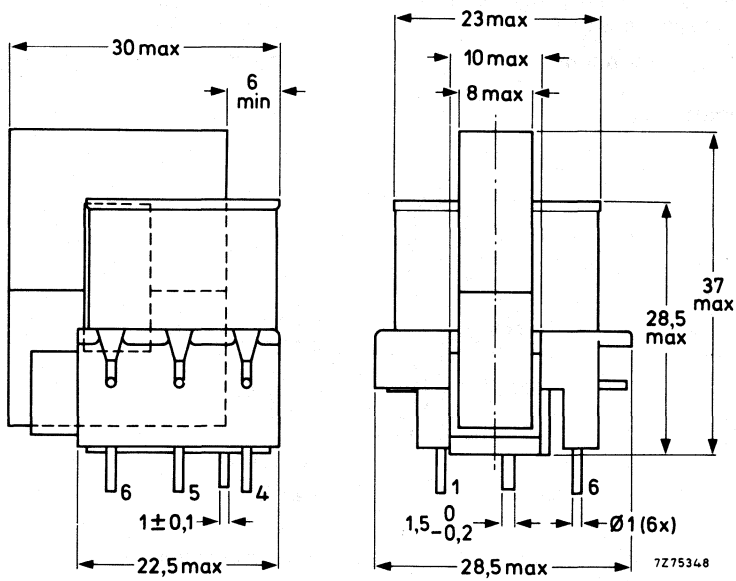


Fig. 1.

Mounting

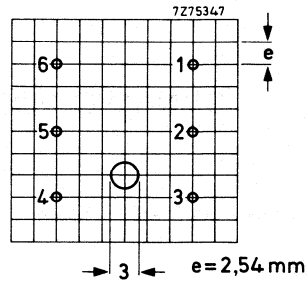


Fig. 2 Hole pattern for mounting on a printed-wiring board; hole diameter 1,3 + 0,1 mm. Viewed from the component side.

ELECTRICAL DATA

Inductance, secondary (1-3)*	⩾ 1 H
Resistance, primary (4-6), at 23 °C	⩽ 0,05 Ω
Resistance, secondary (1-3), at 23 °C	⩽ 44 Ω
Voltage ratio E_{1-3}/E_{4-6}**	60,75 ± 5%
Maximum permissible current (r.m.s. value)	
primary (4-6)	3 A
secondary (1-3)	0,125 A
Mains isolation	according to IEC 65
Breakdown voltage	
between winding 1-3 and winding 4-6 or core	⩾ 5600 V (d.c.)
between winding 4-6 and core	⩾ 500 V (d.c.)
Maximum working temperature	115 °C

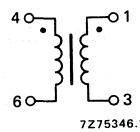


Fig. 3.

Application circuit

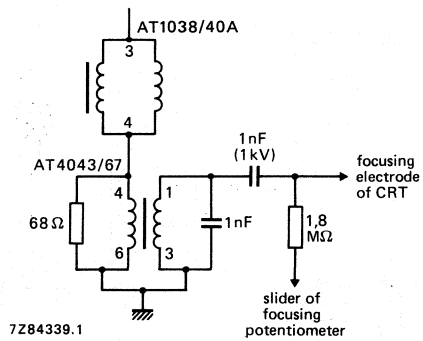


Fig. 4 Application circuit for use with deflection unit AT1038/40A.

* Measuring condition: E = 20 V, f = 1 kHz.
** Measuring condition: E_{1-3} = 5 V, f = 1 kHz.

TESTS AND REQUIREMENTS

The dynamic focusing transformer withstands the following tests.

IEC 68–2 test method	name of test	procedure (quick reference)
Ua1	Tensile strength of terminations	
Ub (method 1)	Bending of terminations	
Fc	Vibration	Frequency range 10-55-10 Hz, amplitude 0,35 mm, 3 directions, 30 min per direction.
Eb	Bump	1000 bumps in 6 directions, acceleration 25 g.
Ea	Shock	Half-sine pulse shape, 11 ms, 50g, 6 directions, 3 shocks per direction.
Ta (method 1)	Soldering	Solder temp. 230 °C, dwell time 2 s.
Tb (method 1A)	Resistance to soldering heat	
Bb	Dry heat	96 h at + 100 °C.
Db	Damp heat, cyclic	21 cycles of 24 h at + 40 °C, R.H. 95%.
Ab	Cold	96 h at –40 °C.
Ca	Damp heat, steady state	21 days.
Na	Rapid change of temperature	5 cycles of –25 °C/+ 100 °C.
	Flammability	UAN–L1082, class b.

BRIDGE COIL

APPLICATION

The AT4043/68 is designed for the horizontal deflection output stage of 110° and 90° colour deflection systems. It is used in conjunction with the three-layer diode-split line output transformer AT2076/51, AT2076/81 or AT2077/81.

MECHANICAL DATA (Dimensions in mm)

The coil is wound on a combination of two Ferroxcube U15-cores. It has four termination pins for mounting through a printed-wiring board.

Outlines

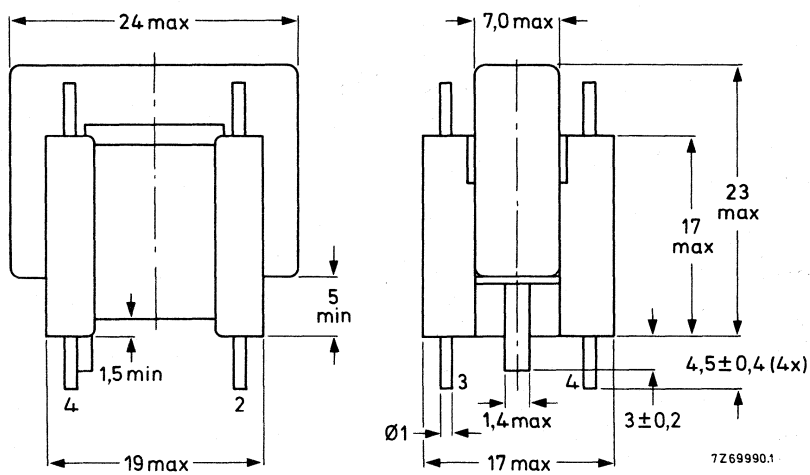


Fig. 1.

Mounting

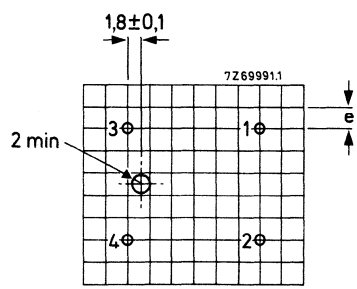


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side). Hole diameter 1,3 + 0,1 mm. e = 2,54 mm (0,1 in).

ELECTRICAL DATA

Inductance*	0.52 mH ± 10%
Resistance	max. 0.6 Ω
Maximum peak-to-peak voltage	800 V
→ Maximum peak current	2.1 A
Maximum working temperature	100 °C

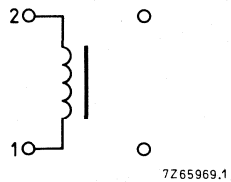


Fig. 3.

* Measuring conditions: E = 0.3 V; f = 1000 Hz.

BRIDGE COIL

- For Colour Data Graphic Displays

APPLICATION

The AT4043/69 is for the horizontal deflection output stage of 90° colour deflection systems. It is used in conjunction with the three-layer diode-split line output transformer AT2076/81 or AT2076/51, driver transformer AT4043/01, shift transformer AT4043/09 and dynamic focusing transformer AT4043/67.

MECHANICAL DATA

The coil is wound on a Ferroxcube I-15 core. It has four termination pins for mounting on a printed-wiring board.

Outlines

Dimensions in mm

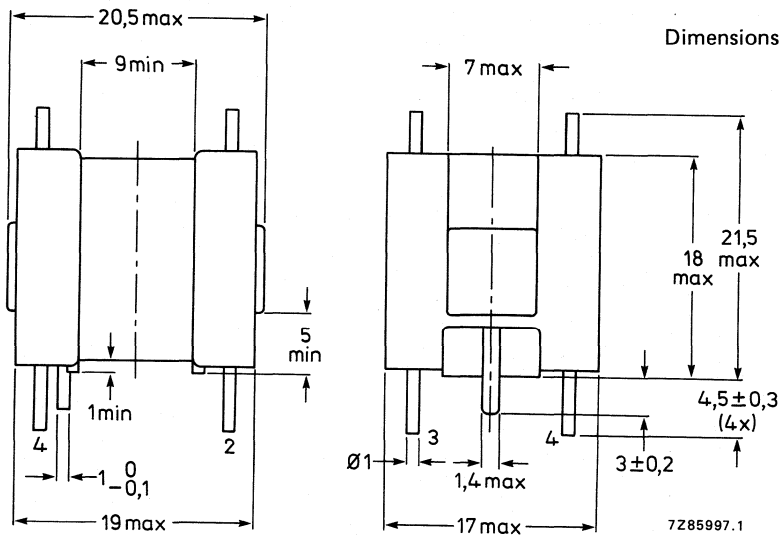


Fig. 1.

Mounting

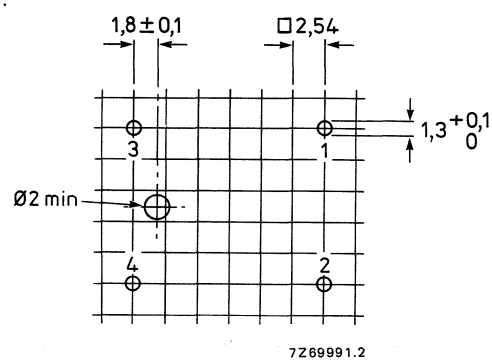


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side).

ELECTRICAL DATA

Inductance *	1.0 mH ± 10%
Resistance	max. 1.07 Ω
Maximum working temperature	100 °C
Maximum peak current	1.7 A

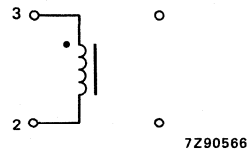


Fig. 3.

* Measuring conditions: E = 2.7 V; f = 1000 Hz.

E/W BALANCE COIL

APPLICATION

This coil has been designed for the horizontal deflection output stage used in 110°, 32 kHz television sets.

DESCRIPTION

The magnetic circuit of the unit comprises two Ferroxcube U20 cores. The unit has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

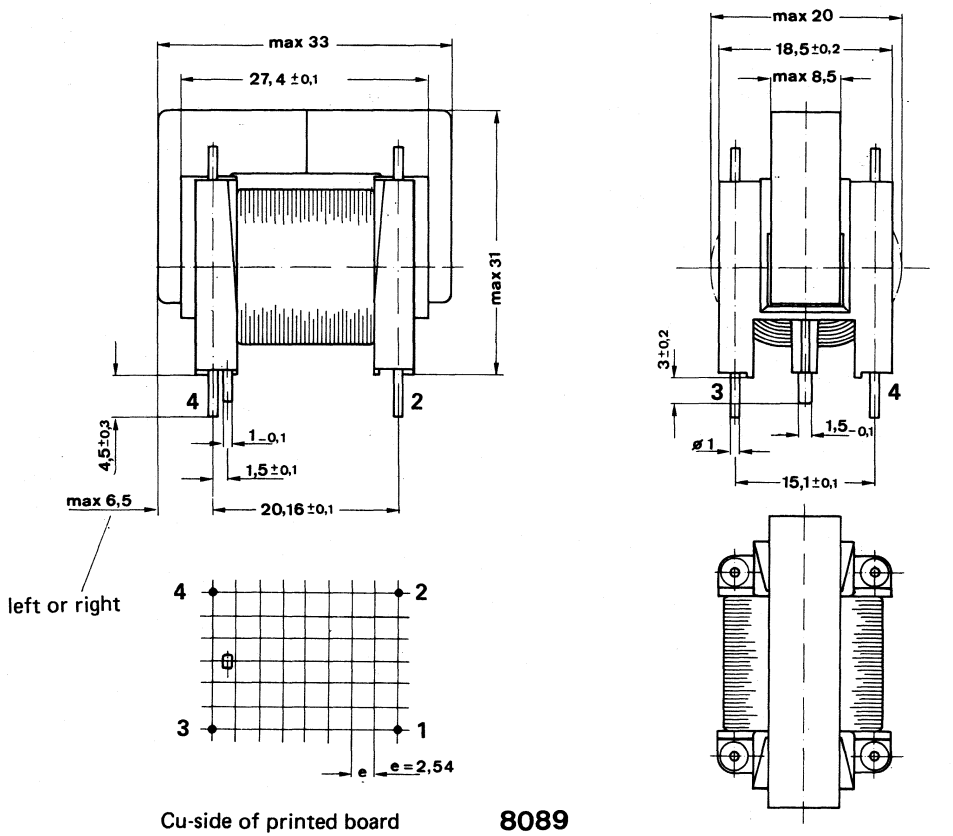


Fig. 1 Coil assembly.

ELECTRICAL DATA

Inductance (2-3)*	250 μH ± 12%
Resistance (2-3) at 25 °C	0,1 Ω ± 12%
Maximum permissible peak current	5 A
Maximum working temperature	100 °C
Working frequency	32 kHz

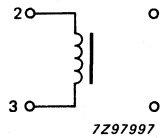


Fig. 2 Coil circuit.

TESTS

The unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C.

* Measured at 1 kHz, B_{max} = 0,1 T.

3122 138 50001

INPUT CHOKE

- For single switch power pack system

APPLICATION

The AT4043/81 is for use as a supply choke in the single switch power pack system (S^2P^2) for colour TV receivers. It is used in conjunction with mains transformer TS561/2 or TS521B, mains filter choke AT4043/55, current sensing transformer AT4043/46, driver transformer AT4043/82 and diode-split line output transformer AT2076/80.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube U25 cores, grade 3C8. The choke has 10 pins (ϕ1 + 0,1 mm, length 4,5 ± 0,5 mm) for mounting on a printed-wiring board. The maximum height of the choke is 36 mm.

Mounting

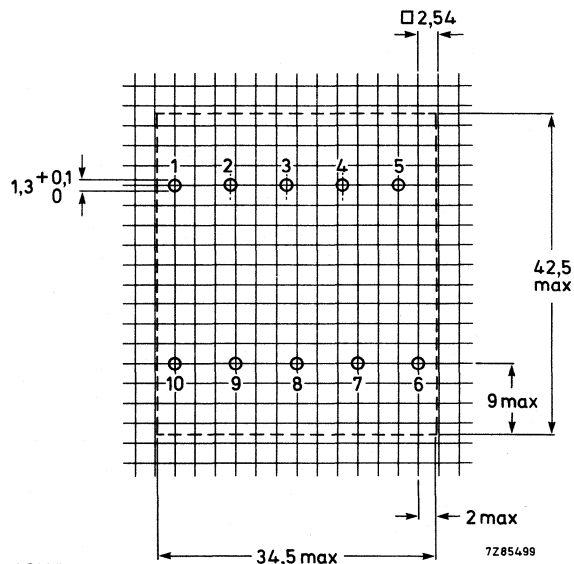


Fig. 1 Hole pattern for mounting on a printed-wiring board, viewed from the solder side.

ELECTRICAL DATA

Inductance (1-7)	25 mH ± 10%*
Resistance (1-4)	1,45 Ω ± 10%
Resistance (4-7)	1,85 Ω ± 10%
Resistance (10-3)	28 Ω ± 10%
Maximum peak current (1-7)	0,55 A
Maximum peak current (1-4)	1,1 A
Maximum working temperature	115 °C
Flammability	according to UL94, category V1.

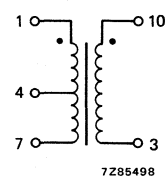


Fig. 2.

* Measuring conditions: E = 20 V, f = 1 kHz.

DRIVER TRANSFORMER

- For single switch power pack system
- Mains insulation

APPLICATION

The AT4043/82 is for use as a transistor driver transformer in the single switch power pack system (S^2P^2) for colour TV receivers. It is used in conjunction with mains transformer TS561/2 or TS521B, mains filter choke AT4043/90, current sensing transformer AT4043/46, input choke AT4043/81 and diode-split line output transformer AT2076/80 or AT2077/80.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube U20 cores, grade 3C8. The primary and secondary windings are wound on a two-part coil former with large creepage distances and clearances, which ensure safe insulation between the mains and control circuits. The transformer has six pins for mounting on a printed-wiring board.

Outlines

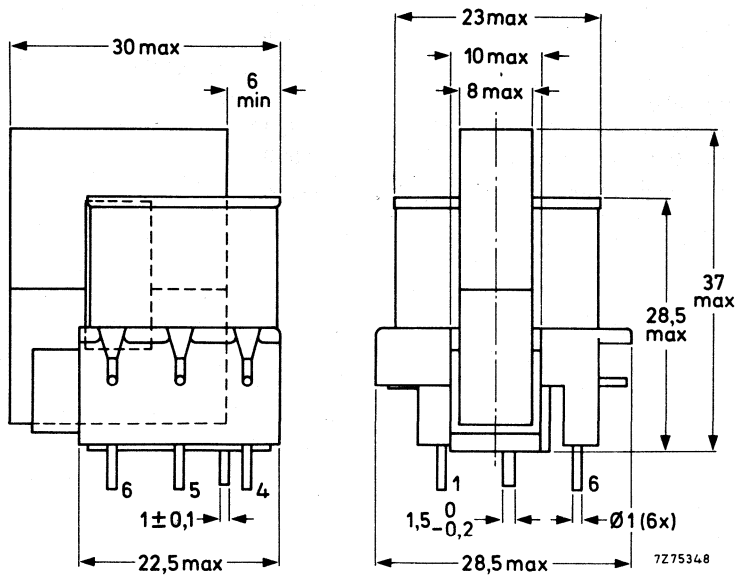


Fig. 1.

Mounting

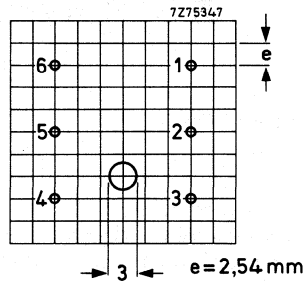


Fig. 2 Hole pattern for mounting on a printed-wiring board; hole diameter 1,3 + 0,1 mm. Viewed from the component side.

ELECTRICAL DATA

Inductance, primary (4-6)	⩾ 6,8 mH*
Resistance, primary (4-6), at 25 °C	2,6 Ω ± 10%
Leakage inductance, secondary (1-3)	17 μH ± 10%**
Resistance, secondary (1-3)	0,11 Ω ± 10%
Transformation ratio	3,24
Permissible current (r.m.s. value)	
primary (4-6)	200 mA
secondary (1-3)	500 mA
Mains isolation	according to IEC65
Breakdown voltage (d.c.)	
between secondary (1-3) and primary (4-6) or core	⩾ 5600 V
between primary (4-6) and core	⩾ 500 V
Maximum working temperature	115 °C

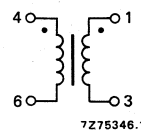


Fig. 3.

* Measuring condition: E = 3 V, f = 1 kHz.
** Measuring condition (primary short-circuited): E ⩽ 250 mV, 500 kHz ⩽ f ⩽ 600 kHz.

LINE DRIVER TRANSFORMER

APPLICATION

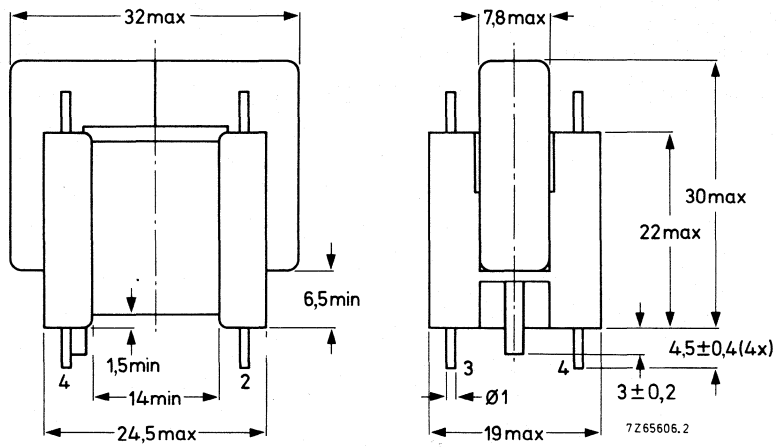
The transformer AT4043/87 has been designed for all-transistor black/white and colour television sets. In black and white television sets it can be used in the single-transistor (BU205) line-output circuit in conjunction with the line-output transformer AT2048/12; in colour television sets it can be used in the single-transistor (BU208A) line-output circuit in conjunction with the line-output transformer AT2076/30.

MECHANICAL DATA

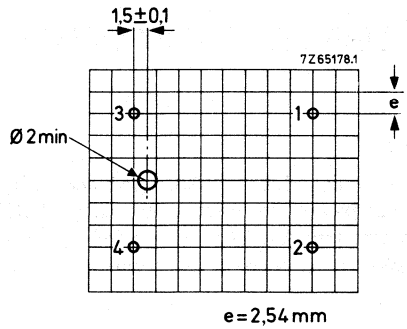
Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U-cores.
The unit is provided with pins for mounting on a printed-wiring board.

Outlines



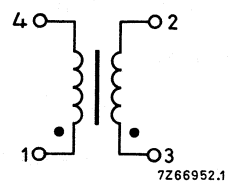
Mounting



Hole pattern for mounting on a printed-wiring board; hole diameter 1,3 + 0,1 mm.

ELECTRICAL DATA

Inductance (primary, 1-4)	76 mH ± 12%
Leakage inductance (secondary)*	⩽ 2,0 μH
Transformation ratio 4-1/2-3	29 : 1
Maximum working temperature	100 °C
→ Maximum peak current	120 mA



* Primary short circuited.

LINE DRIVER TRANSFORMER

- For colour TV ("Two Chip Design")

APPLICATION

This transformer is for use in economic colour TV receivers with 14 or 16 in 90° picture tubes, in conjunction with line-output transformer AT2079/10 and linearity corrector AT4042/90 or AT4042/91. ←

MECHANICAL DATA

Dimensions in mm

The magnetic circuit of the transformer comprises two Ferroxcube U10-cores. The unit has pins for mounting on a printed-wiring board.

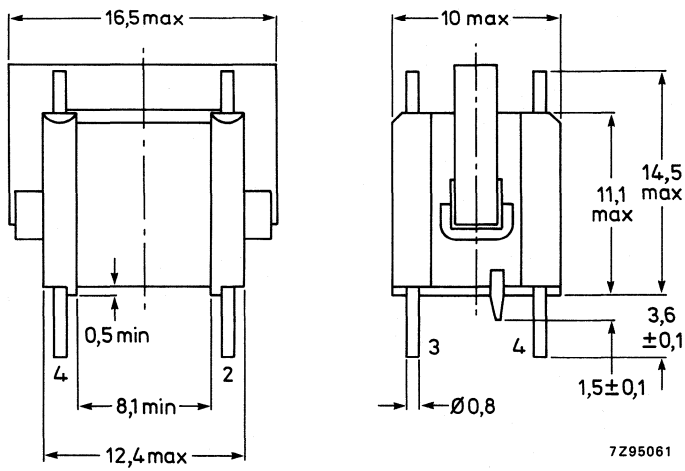


Fig. 1 Line driver transformer AT4043/89.

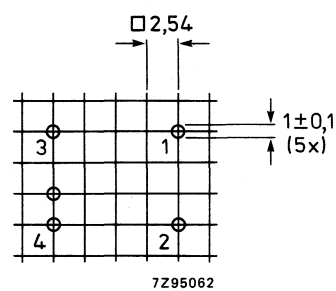


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side).

→ ELECTRICAL DATA

Inductance (primary, 1 – 2)	3,85 mH ± 15%
Transformation ratio	5 : 1
Maximum operating temperature	95 °C
→ I_{peak} (1-2)	150 mA

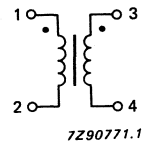


Fig. 3 Circuit diagram.

MAINS FILTER CHOKE FOR 1,0 A rms

APPLICATION

The AT4043/90 is for use in consumer and professional equipment as a part of the filter network in the power supply.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two Ferroxcube U20 cores. The choke has four pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

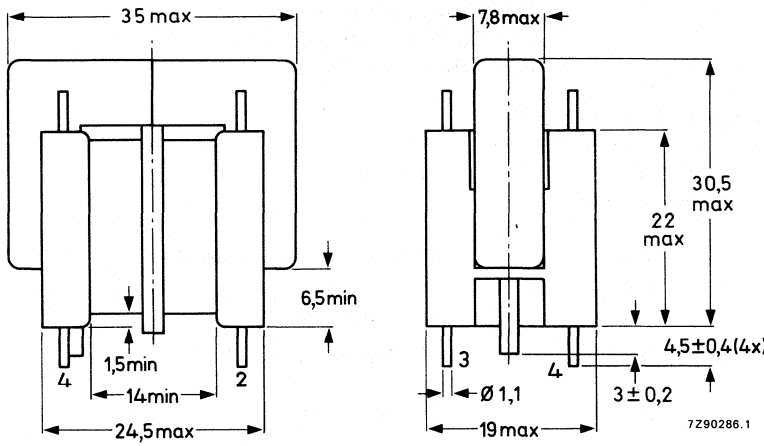


Fig. 1.

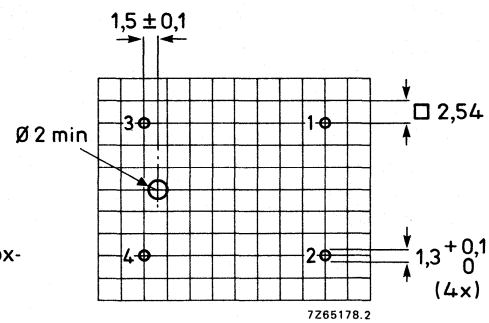


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side). The windings may be interchanged because the coil is symmetrical.

Marking

The 12-digit catalogue number is printed on the Ferroxcube cores.

ELECTRICAL DATA

Inductance, $L_{1-2} = L_{3-4}$	$\geqslant$ 28 mH*
Resistance, $R_{1-2} = R_{3-4}$, at 25 °C	1,0 Ω
Leakage inductance	
$L_{s(1-2)}$, L_{3-4} short-circuited	0,75 mH
$L_{s(3-4)}$, L_{1-2} short-circuited	0,75 mH
Maximum current (r.m.s.)	1,0 A
Maximum working temperature	115 °C

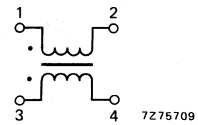


Fig. 3.

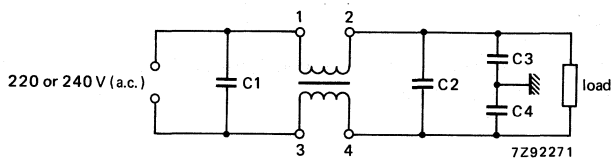


Fig. 4 Application circuit.
C1 = C3 = C4 = 3300 pF, 250 V;
C2 = 0,47 μF, 250 V.

The choke withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s², 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/direction
damp heat, steady state	Ca	21 days, 40 °C; 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C, 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures	
after 300 h	$\leqslant$ 0,01%
after 10 000 h	$\leqslant$ 0,02%
after 30 000 h	$\leqslant$ 1%

* Measured at 1 V, 1 kHz.

MAINS FILTER CHOKE FOR 0,25 A rms

APPLICATION

The AT4043/91A is for use in consumer and professional equipment as a part of the filter network in the power supply.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two Ferroxcube U15 cores. The choke has four pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

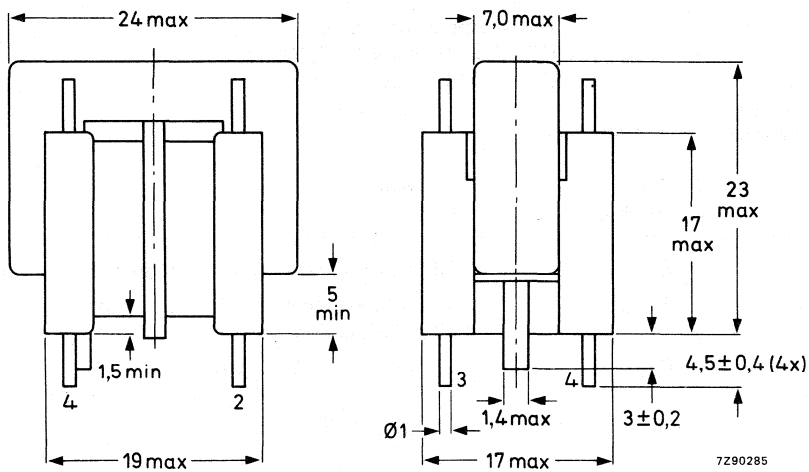
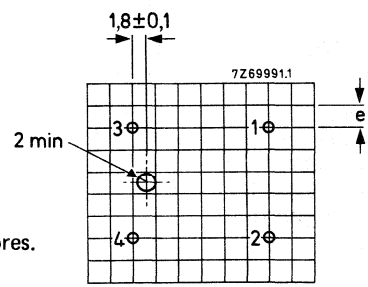


Fig. 1.

Fig. 2 Hole pattern for mounting on a printed-wiring board (component side); e = 2,54 mm; hole diameter is 1,3 + 0,1 mm. The windings may be interchanged because the coil is symmetrical.



Marking

The 12-digit catalogue number is printed on the Ferroxcube cores.

ELECTRICAL DATA

Inductance, $L_{1-2} = L_{3-4}$	$\geqslant$ 40 mH*
Resistance, $R_{1-2} = R_{3-4}$, at 25 °C	5,0 Ω ± 12%
Leakage inductance	
$L_{s(1-2)}$, L_{3-4} short-circuited	1,5 mH
$L_{s(3-4)}$, L_{1-2} short-circuited	1,5 mH
Maximum current (r.m.s.)	0,25 A
Maximum working temperature	115 °C

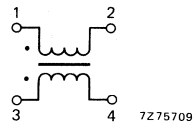


Fig. 3.

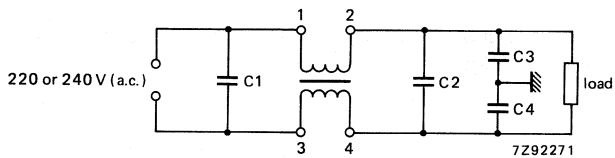


Fig. 4 Application circuit.
C1 = C3 = C4 = 3300 pF; 250 V;
C2 = 0,47 μF, 250 V.

The choke withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s², 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/direction
damp, heat, steady state	Ca	21 days, 40 °C; 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C; 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	$\leqslant$ 0,01%
after 10 000 h	$\leqslant$ 0,02%
after 30 000 h	$\leqslant$ 1%

* Measured at 1 V, 1 kHz.

MAINS FILTER CHOKE FOR 0,5 A rms

APPLICATION

The AT4043/92 is for use in consumer and professional equipment as a part of the filter network in the power supply.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two Ferroxcube U15 cores. The choke has four pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

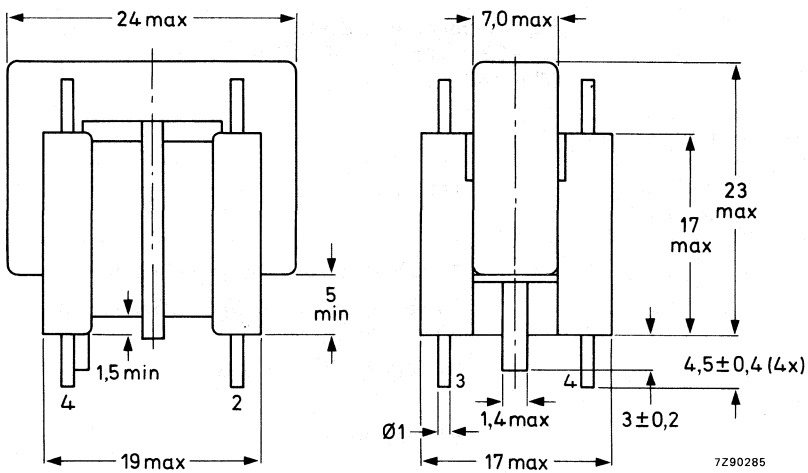
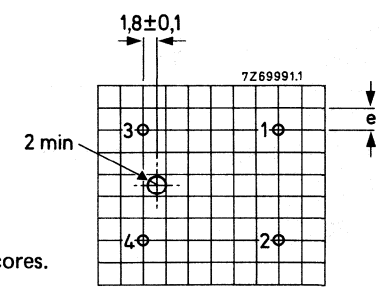


Fig. 1.

Fig. 2 Hole pattern for mounting on a printed-wiring board (component side); e = 2,54 mm; hole diameter is 1,3 + 0,1 mm. The windings may be interchanged because the coil is symmetrical.



Marking

The 12-digit catalogue number is printed on the Ferroxcube cores.

ELECTRICAL DATA

Inductance, $L_{1-2} = L_{3-4}$	$\geqslant$ 15 mH*
Resistance, $R_{1-2} = R_{3-4}$, at 25 °C	2,0 Ω
Leakage inductance	
$L_{s(1-2)}$, L_{3-4} short-circuited	0,7 mH
$L_{s(3-4)}$, L_{1-2} short-circuited	0,7 mH
Maximum current (r.m.s.)	0,5 A
Maximum working temperature	115 °C

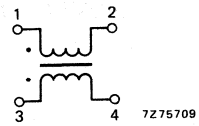


Fig. 3.

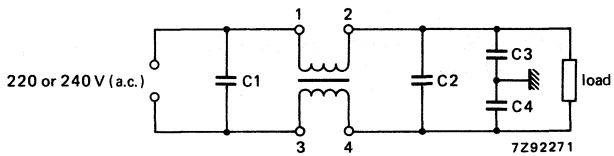


Fig. 4 Application circuit.
C1 = C3 = C4 = 3300 pF, 250 V;
C2 = 0,47 μF, 250 V.

The choke withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s², 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/direction
damp heat, steady state	Ca	21 days, 40 °C; 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C, 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	$\leqslant$ 0,01%
after 10 000 h	$\leqslant$ 0,02%
after 30 000 h	$\leqslant$ 1%

* Measured at 1,6 V, 1 kHz.

MAINS FILTER CHOKE FOR 1,5 A rms

APPLICATION

The AT4043/93 is for use in consumer and professional equipment as a part of the filter network in the power supply.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two Ferroxcube U20 cores. The choke has four pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

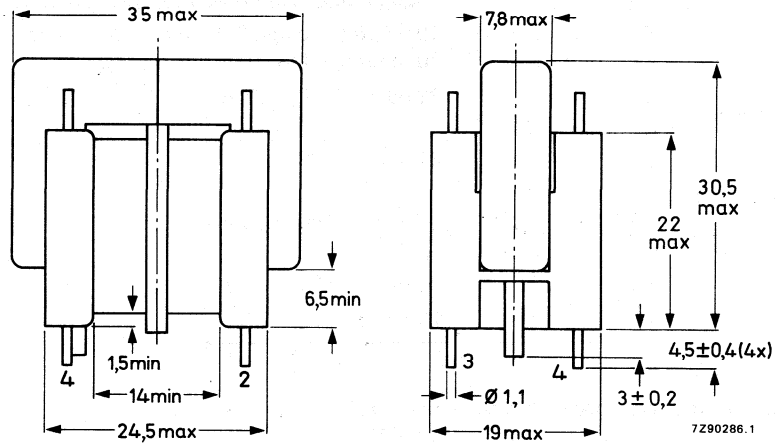


Fig. 1.

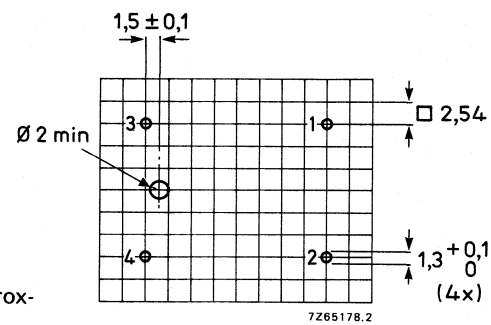


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side). The windings may be interchanged because the coil is symmetrical.

Marking

The 12-digit catalogue number is printed on the Ferroxcube cores.

ELECTRICAL DATA

Inductance, $L_{1-2} = L_{3-4}$	$\geqslant$ 12 mH*
Resistance, $R_{1-2} = R_{3-4}$, at 25 °C	0,4 Ω ± 10%
Leakage inductance	
$L_{s(1-2)}$, L_{3-4} short-circuited	0,5 mH
$L_{s(3-4)}$, L_{1-2} short-circuited	0,5 mH
Maximum current (r.m.s.)	1,5 A
Test voltage (d.c.) between the windings, and between windings and core	2000 V
Maximum working tepmerature	115 °C

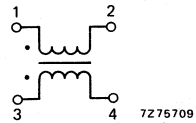


Fig. 3.

The choke withstands the following tests:

test	IEC 68 test method	procedure
bump	Eb	1000 bumps, acceleration 245 m/s², 6 directions
vibration	Fc	10-55-10 Hz, ampl. 0,35 mm, 3 directions, 30 min/direction
damp heat, steady state	Ca	21 days, 40 °C, 93% R.H.
damp heat, cyclic	Db	21 days, 40 °C
change of temperature	Na	−25 °C, + 100 °C; 5 cycles
dry heat	Bb	96 h, + 100 °C
solderability	Ta	230 ± 10 °C, 2 ± 0,5 s

Reliability

Maximum cumulative percentage catastrophic failures

after 300 h	$\leqslant$ 0,01%
after 10 000 h	$\leqslant$ 0,02%
after 30 000 h	$\leqslant$ 1%

* Measured at 2,2 V, 1 kHz.

FILTER

- For consumer applications, e.g. television sets and monitors

APPLICATION

Universal coil for high current filtering purposes, e.g. 32 kHz 45AX concept.

DESCRIPTION

The coil is wound on a Ferroxcube I-15 core. It has four termination pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

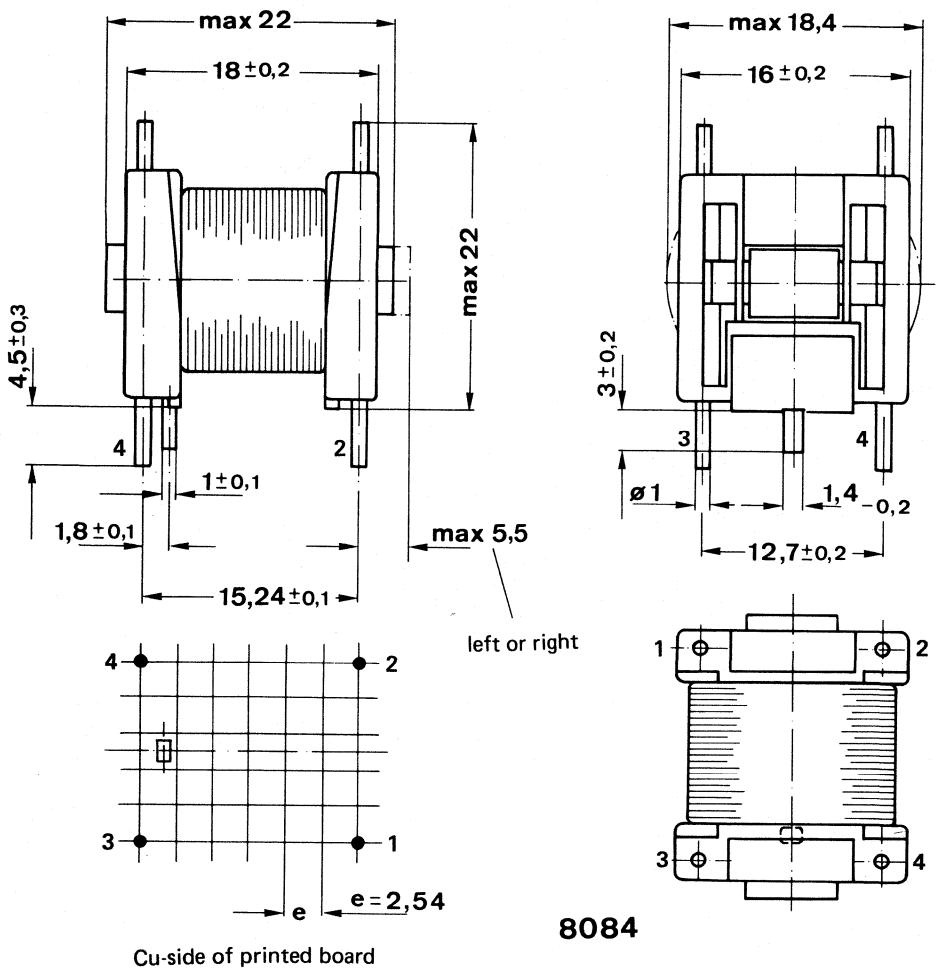


Fig. 1 Filter Assembly.

ELECTRICAL DATA

	Inductance*	12,2 μH ± 12%
→	Resistance	27 mΩ ± 12%
	Maximum working temperature	100 °C
→	Maximum peak current	15 A

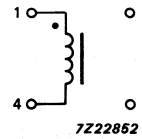


Fig. 2 Coil circuit.

* Measuring conditions: E = 0,3 V; f = 1000 Hz.

BRIDGE COIL

APPLICATION

This bridge coil is for the line deflection output stage of the 45AX system.

MECHANICAL DATA

Dimensions in mm

The magnetic circuit comprises two Ferroxcube U20 cores, grade 3C8. The transformer has four connecting pins and a location pin for mounting on a printed-wiring board.

Outlines

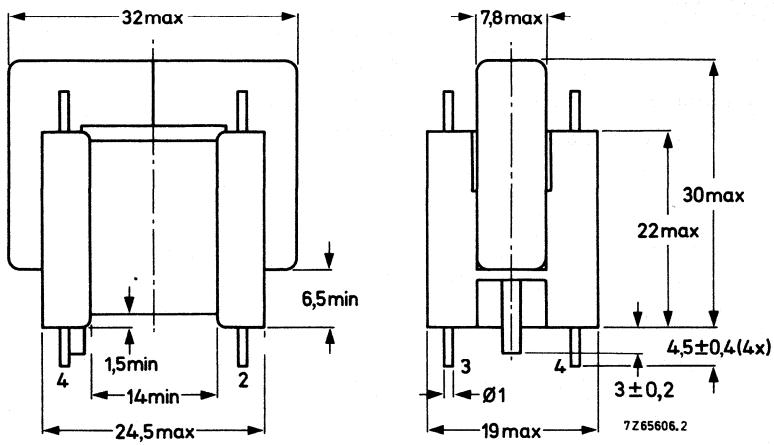


Fig. 1.

Mounting

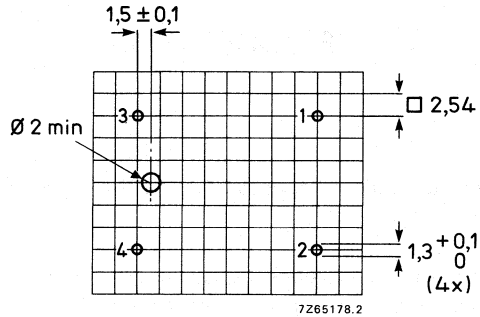


Fig. 2 Hole pattern for mounting on a printed-wiring board (component side).

ELECTRICAL DATA

Inductance (1-4)	1 mH ± 12%
Resistance (1-4) at 25 °C	0,125 Ω ± 12%
Maximum permissible peak current	1,3 A
Maximum working temperature	100 °C

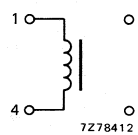


Fig. 3.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. record players, cassette recorders, television sets.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E12,6-cores. The transformer has 4 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

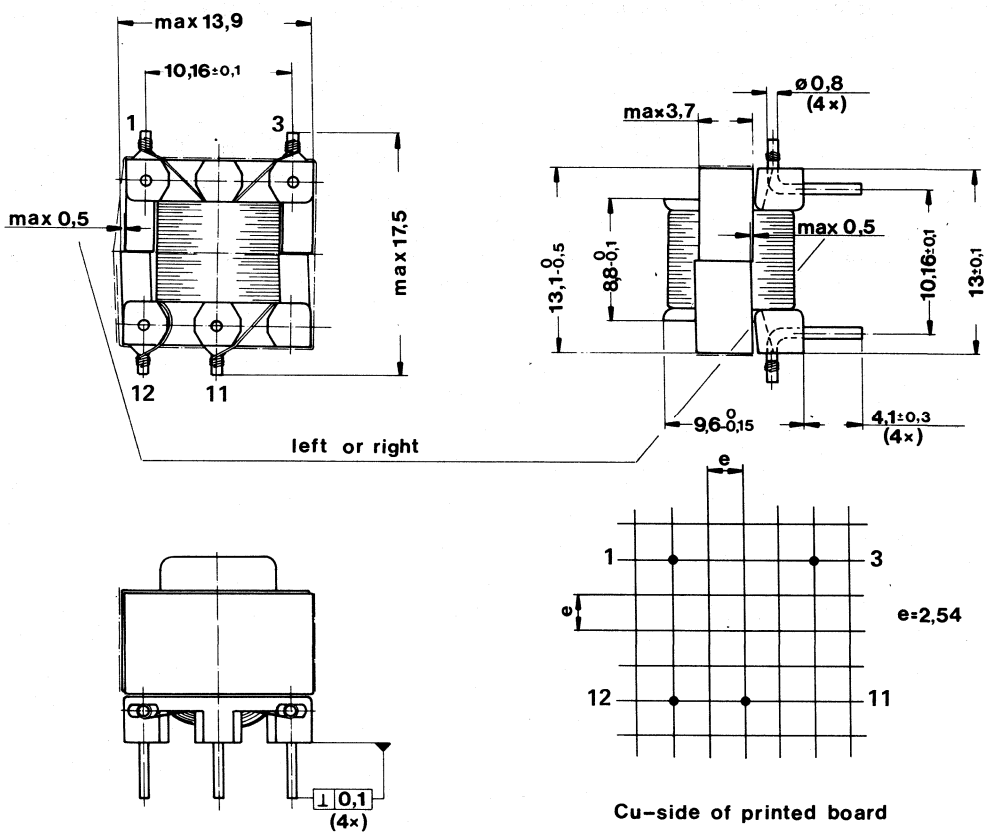


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 3112 338 30910
Inductance, primary*	(1-12) 3,3 mH ± 10%
Leakage inductance, primary	(1-6) 10%
Maximum current, primary	(1-6) 320 mA
Number of turns	
primary	(1-12) = 228
secondary	(11-3) = 16
Test voltage (DC) between primary and secondary	500 V

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E12,6 cores. The transformer has 5 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

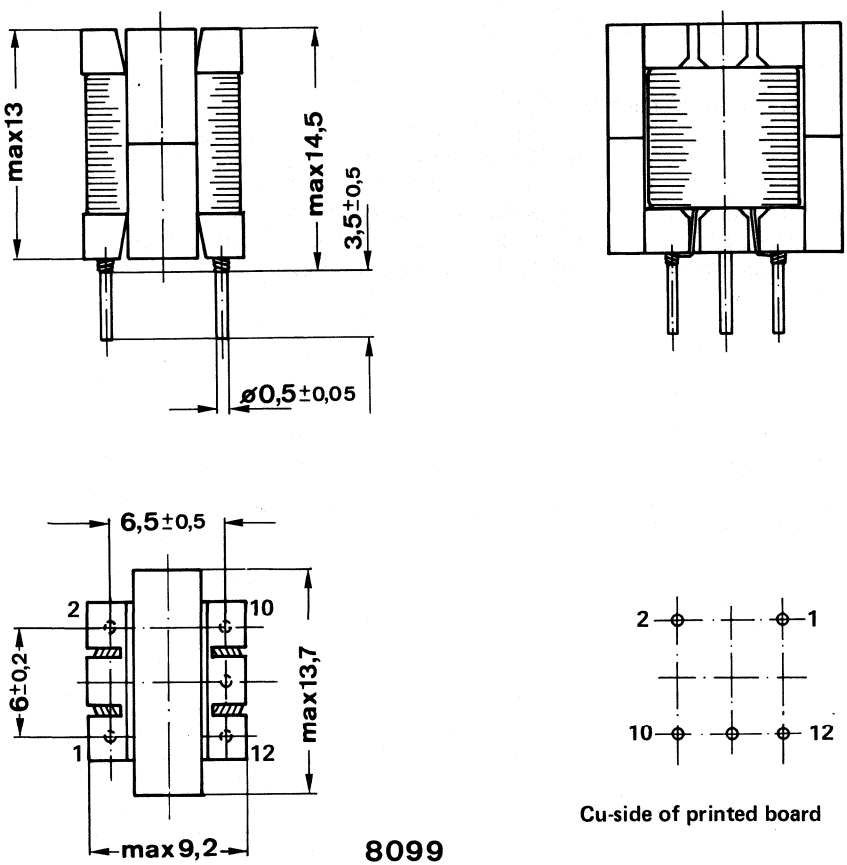


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 3112 338 30440
Inductance, primary (1-2)*	3 mH ± 10%
Leakage inductance, primary (1-2)	0,2%
Maximum current, primary (1-2)	300 mA
Number of turns	
primary (1-2)	220
secondary (10-12)	22
Test voltage (d.c.)	
between primary and secondary	1500 V
between primary and core	1500 V

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, tests Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 100 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, VCRs.

APPLICATION

This transformer is intended for stand-by operation in television sets. Output voltages from 5 V to 8 V and from 10 V to 16 V can be obtained. A 0.5 W (AT3006/100) and a 1.5 W (AT3006/300) version are available.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E12.6-cores.
The transformer has 9 pins for mounting on a printed-wiring board.

MECHANICAL DATA

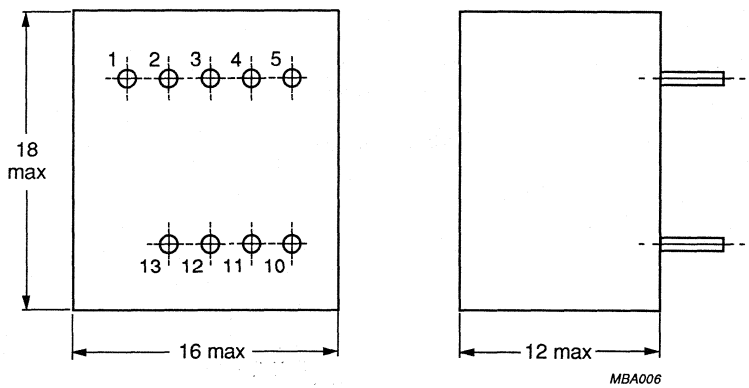


Fig.1 Transformer assembly.

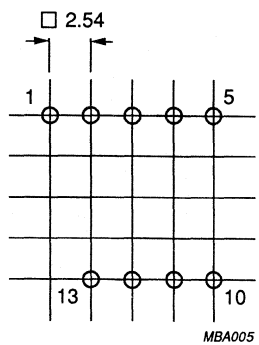


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

	3006/100	3006/300
Inductance, primary*	(1-3) 29 mH ± 25%	(1-3) 11 mH ± 15%
Resistance, at 25 °C	(1-3) 6 Ω ± 12%	(1-3) 6 Ω ± 12%
	(4-5) 30 mΩ ± 12%	(4-5) 30 mΩ ± 12%
	(13-11) 63 Ω ± 12%	(13-11) 63 Ω ± 12%
	(12-10) 55 Ω ± 12%	(12-10) 55 Ω ± 12%
Test voltage (DC) between primary and secondary	5600 V	

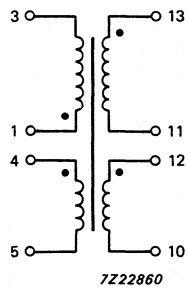


Fig.3 Coil diagram.

* Measured at 10 kHz, B_{max} = 0.3 T.

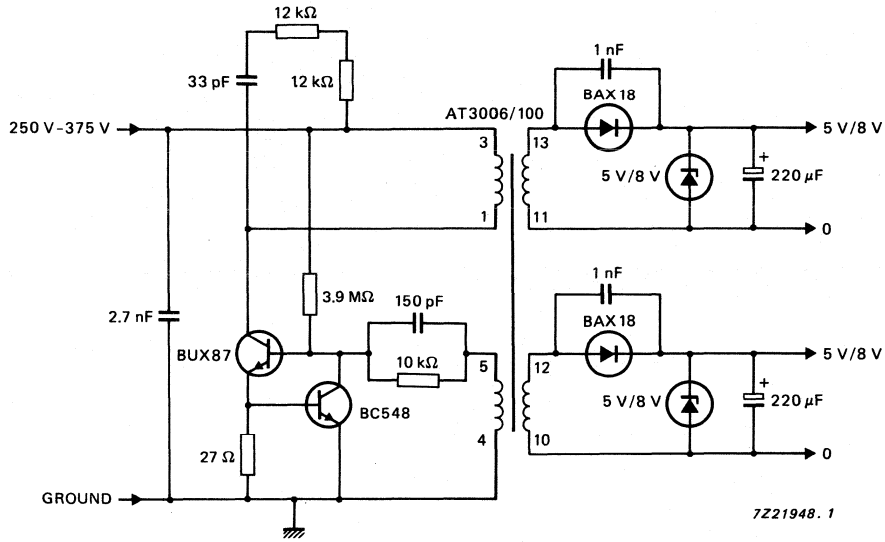


Fig.4 Application circuit AT3006/100.

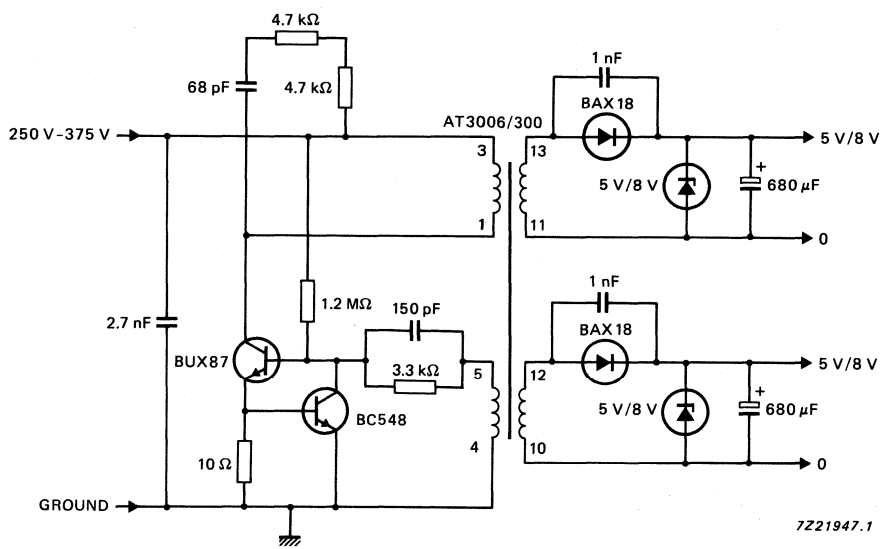


Fig.5 Application circuit AT3006/300.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. record players, cassette recorders, television sets.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E12,6-cores. The transformer has 10 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

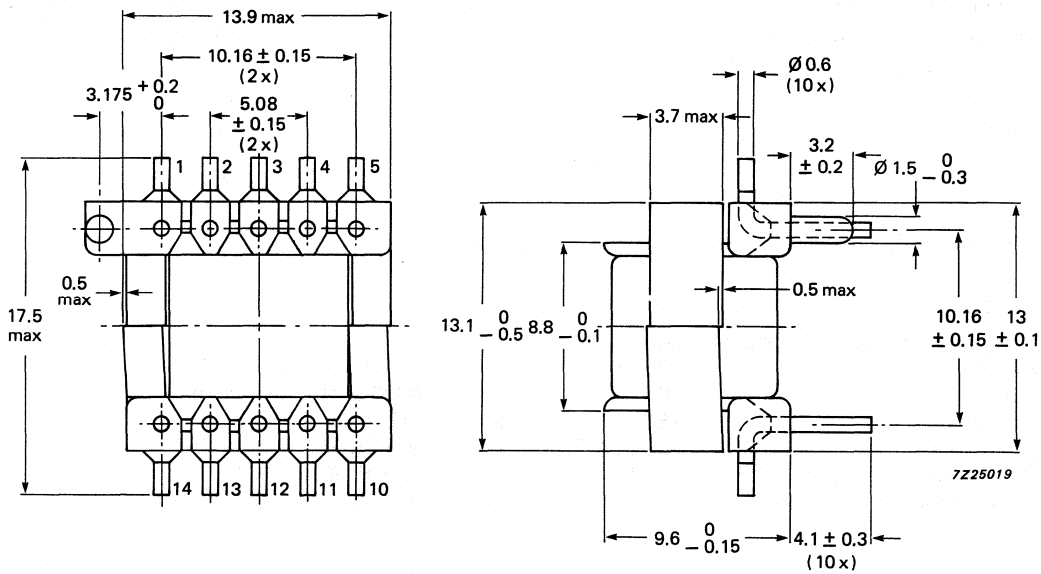
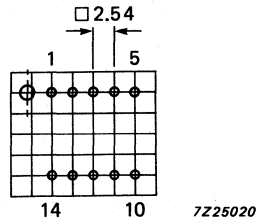


Fig. 1 Transformer assembly.



Cu-side of printed board.

Fig. 2 Hole pattern for mounting on a printed wiring board.

ELECTRICAL DATA

Inductance, primary*	(1-2) 2.8 mH ± 25%
Maximum current, primary	(1-2) 85 mA
Number of turns	
primary	(1-2) = 58
secondary	(3-13) = 7
	(5-10) = 70
	(12-4) = 5
	(4-11) = 5
Test voltage (DC) between primary and secondary	500 V

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. record players, cassette recorders, television sets.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E12,6-cores. The transformer has 4 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

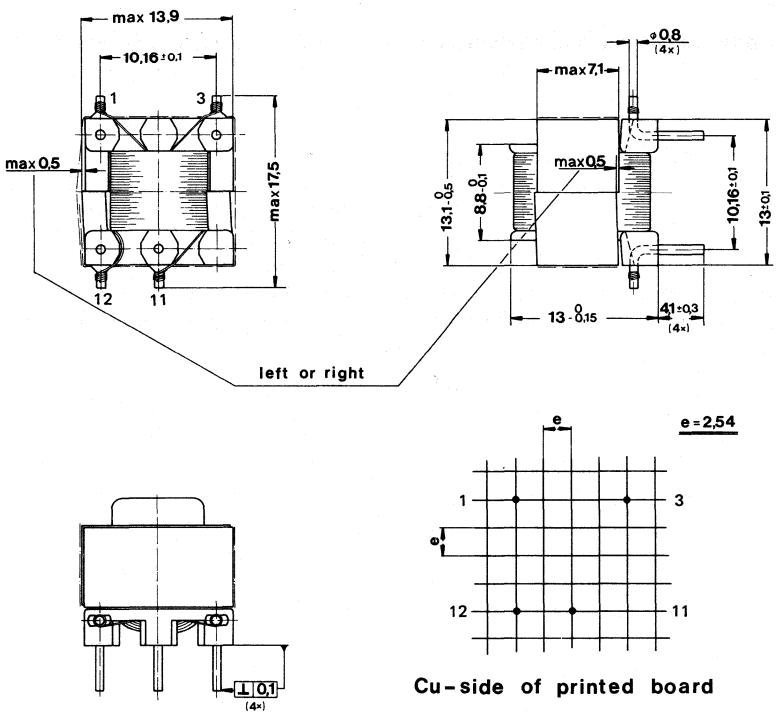


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 3112 338 30800
Inductance, primary*	(1-12) 5,6 mH ± 10%
Leakage inductance, primary	(1-12) 5,4%
Maximum current, primary	(1-12) 325 mA
Number of turns	
primary	(1-12) = 252
secondary	(11-3) = 14

Test voltage (DC)	
between primary and secondary	1500 V
between primary and core	1500 V

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets and video recorders.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E36/21/15 cores. The primary and secondary windings are wound on one coil former. They are separated from each other by reinforced insulation. The transformer has 18 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

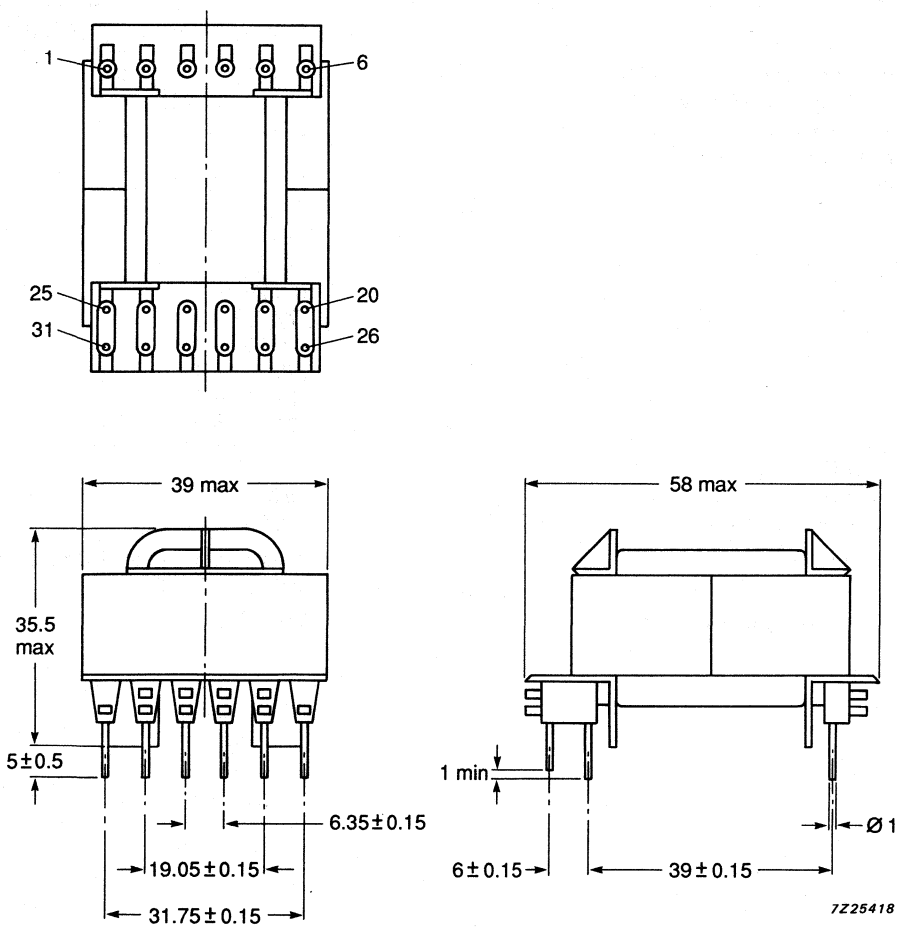


Fig.1 Transformer assembly.

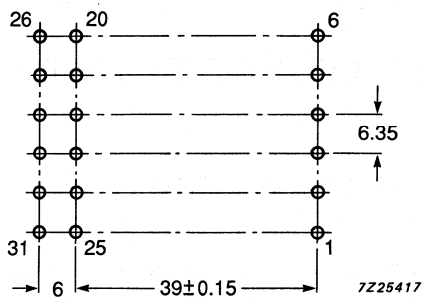


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

	Catalogue number 3112 338 32220
Inductance, primary*	(6-4) 3.62 mH ± 10%
Leakage inductance, primary	(6-4) ⩽ 80 mH
Maximum current, primary	(6-4) 1.4 A
Number of Turns	
Primary	(2-1) = 24
	(3-2) = 4
	(6-4) = 100
Secondary	(31-30) = 3
	(29-28) = 8
	(28-26) = 9
	(20-25) = 8
	(25-24) = 4
	(24-31) = 4
	(27-21) = 3
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	in accordance with IEC 65 class II and VDE 0860
Maximum operating temperature	115 °C

* Measured at U = 1 V, 10 kHz, B_{max} = 0.3 T.

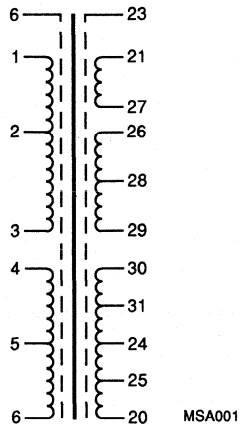


Fig.3 Circuit diagram.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0.35 mm; 3 x 30 minutes.
Bump	IEC 68-2-29, test Eb; 25 g 1000 bumps, 6 directions.
Dry heat	IEC 68-2-2, test Bd; 96 hours, + 125 °C
Damp heat steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat accelerated	IEC 68-2-4, test Db; + 40 °C, RH 95 - 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 55 °C

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. video recorders, television sets, monitors.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/15 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils. A screen between primary and secondary guarantees the required insulation between the windings.
The transformer has 22 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

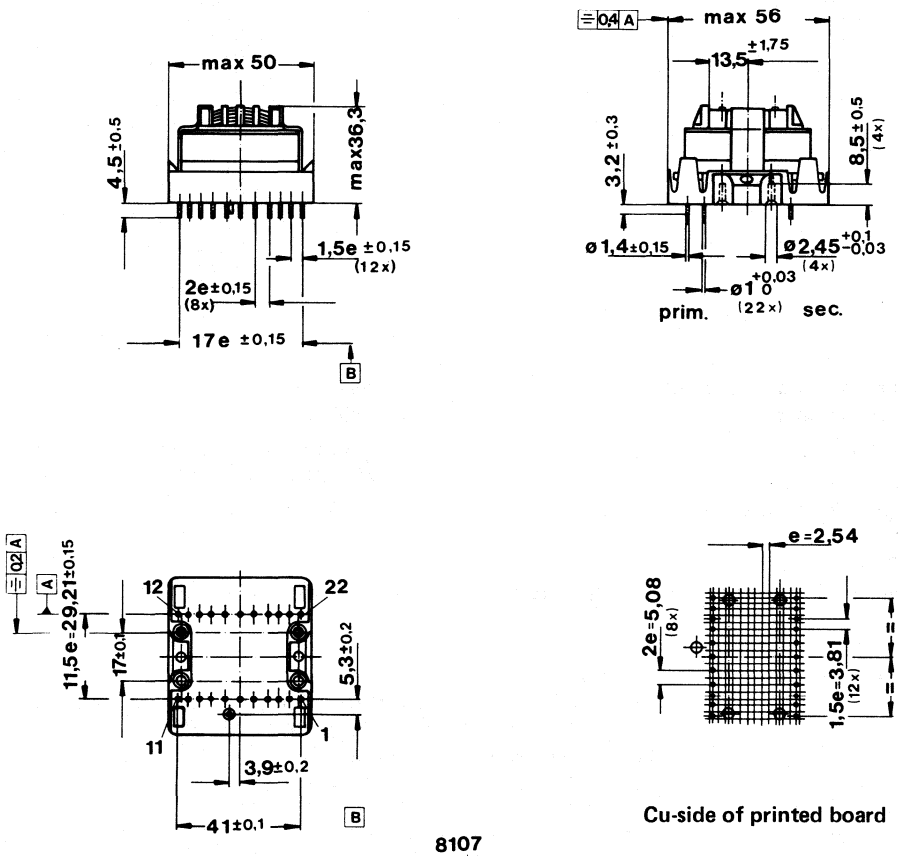
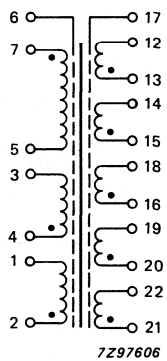


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number	
	3112 338 31070	3112 338 31150 **
Inductance, primary*	(7-5) 0,94 mH ± 10%	(5-7) 0,67 mH ± 10%
Leakage inductance, primary	(7-5) 2,1%	(5-7) 2,1%
Maximum current, primary	(7-5) 2,03 A	(5-7) 2,5 A
Number of turns		
primary	(2-1) = 4	(2-1) = 5
	(4-3) = 1	(4-3) = 1
	(7-5) = 34	(7-5) = 32
secondary	(20-19) = 6	(20-19) = 6
	(21-22) = 3	(21-22) = 4
	(16-18) = 5	(16-18) = 7
	(15-14) = 7	(15-14) = 16
	(13-12) = 14	(13-12) = 4

Diagram



Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE0860 and UL1411
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +55 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

** UL approved.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, monitors

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/15 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils.
The transformer has 14 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

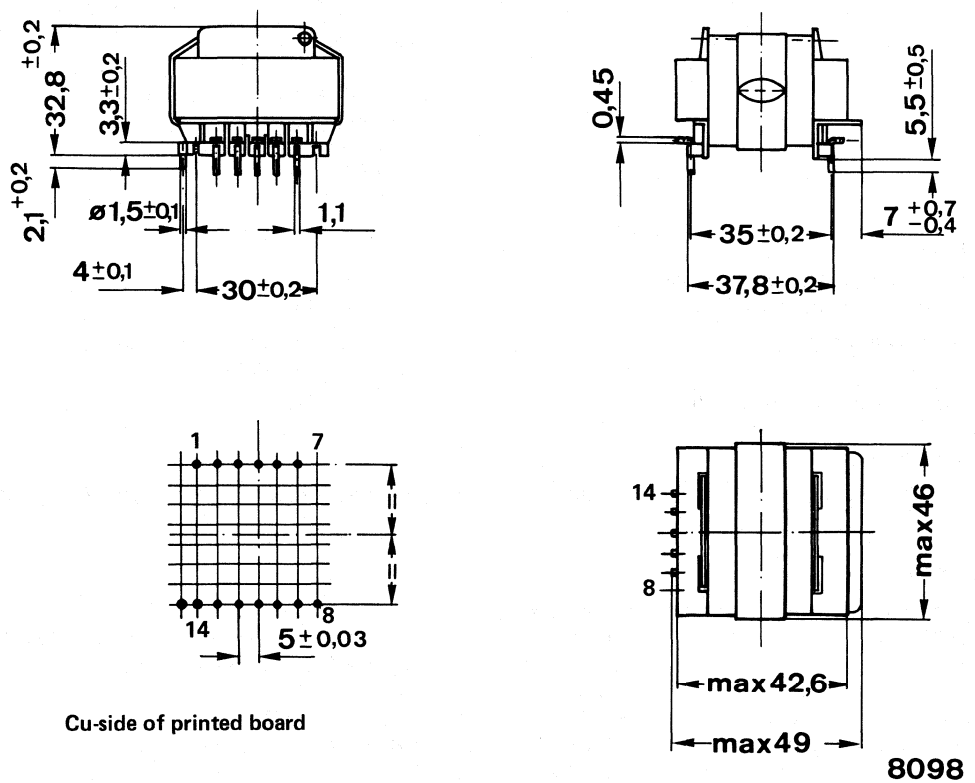
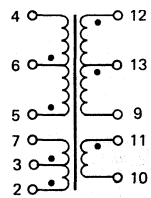
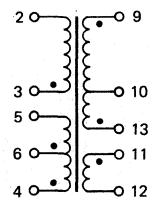


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number	
	3112 338 30551	3112 338 30971
Inductance, primary*	(5-4) 2,5 mH ± 10%	(3-2) 1,9 mH ± 10%
Leakage inductance, primary	(5-4) 1,2%	(3-2) 2%
→ Maximum peak current, primary	(5-4) 1.5 A	(3-2) 1.8 A
Number of turns		
primary	(5-4) = 78 (2-3) = 2 (3-7) = 2	(3-2) = 64 (4-6) = 2 (6-5) = 1
secondary	(5-6) = 39 (13-9) = 34 (12-13) = 33 (11-10) = 8	(9-10) = 52 (11-12) = 11 (13-10) = 7
Diagram		
→		7Z97605.1

Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, and VDE0860
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 85 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, monitors.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/15 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils.
The transformer has 18 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

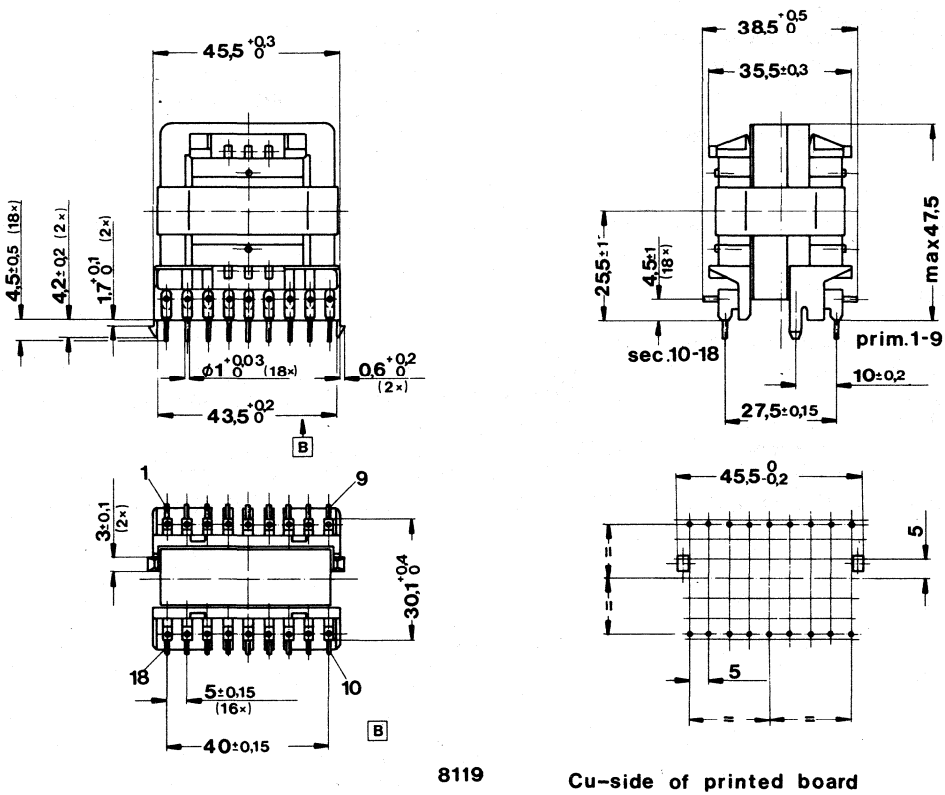


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 3112 338 30940
Inductance, primary*	(4-6) 1,8 mH ± 10%
Leakage inductance, primary	(4-6) 1,4%
Maximum current, primary	(4-6) 1,7 A
Number of turns	
primary	(1-2) = 1
	(8-9) = 1
	(3-7) = 3
	(4-6) = 50
secondary	(13-15) = 19
	(11-10) = 13
	(16-12) = 4
	(18-17) = 3

Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, and VDE0860
Maximum operating temperature	115°C

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +55 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, monitors

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/15 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils. The transformer has 10 pins for mounting on a printed-wiring board. Any one pin can be removed in accordance with customer specification for reference purposes.

MECHANICAL DATA

Dimensions in mm

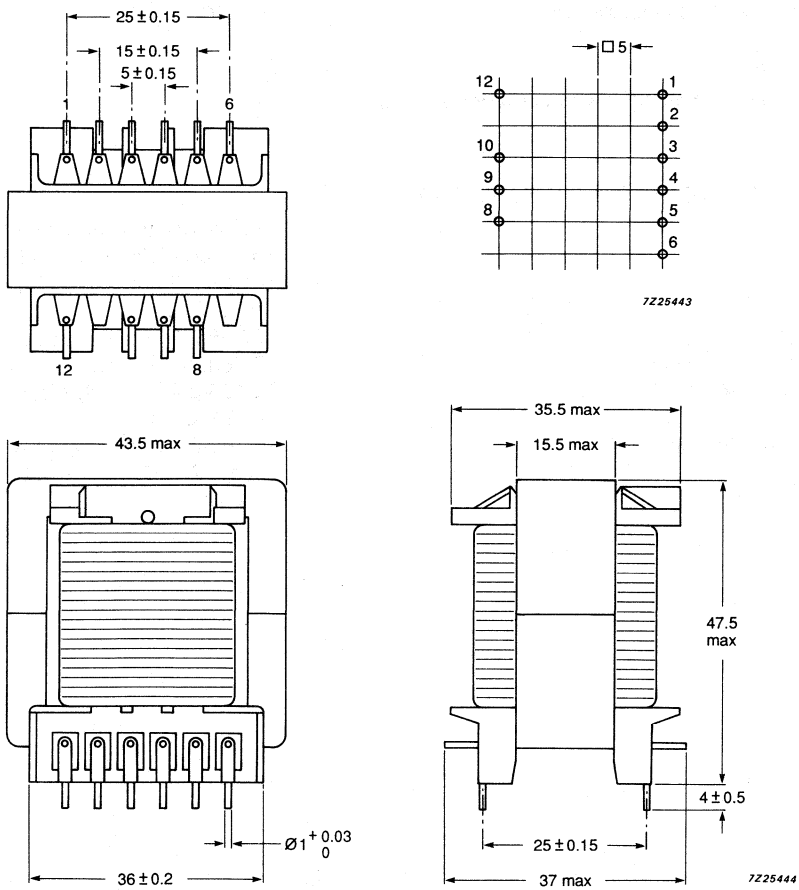


Fig.1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 3112 338 32170
Inductance, primary*	(6–1) 200 μH
Leakage inductance, primary	(6–1) $\leqslant$ 3.8%
Maximum current, primary	(6–1) 7.0 A
Number of turns	
primary	(6–1) = 29 (3–4) = 4
secondary	(8–9) = 29 (9–10) = 3 (10–12) = 5
Test voltage (DC)	
between primary and secondary	2500 V
between primary and core	2500 V
Mains insulation	in accordance with UL1411
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are released by UL.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb, 96 hours, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, RH 95%
Damp heat, accelerated	IEC 68-2-4, test Dd, + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = –25 °C, T_B = + 100 °C

* Measured at 10 kHz, B_{max} = 0.3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, monitors

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/15 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils. The transformer has 10 pins for mounting on a printed-wiring board. Any one pin can be removed in accordance with customer specification for reference purposes.

MECHANICAL DATA

Dimensions in mm

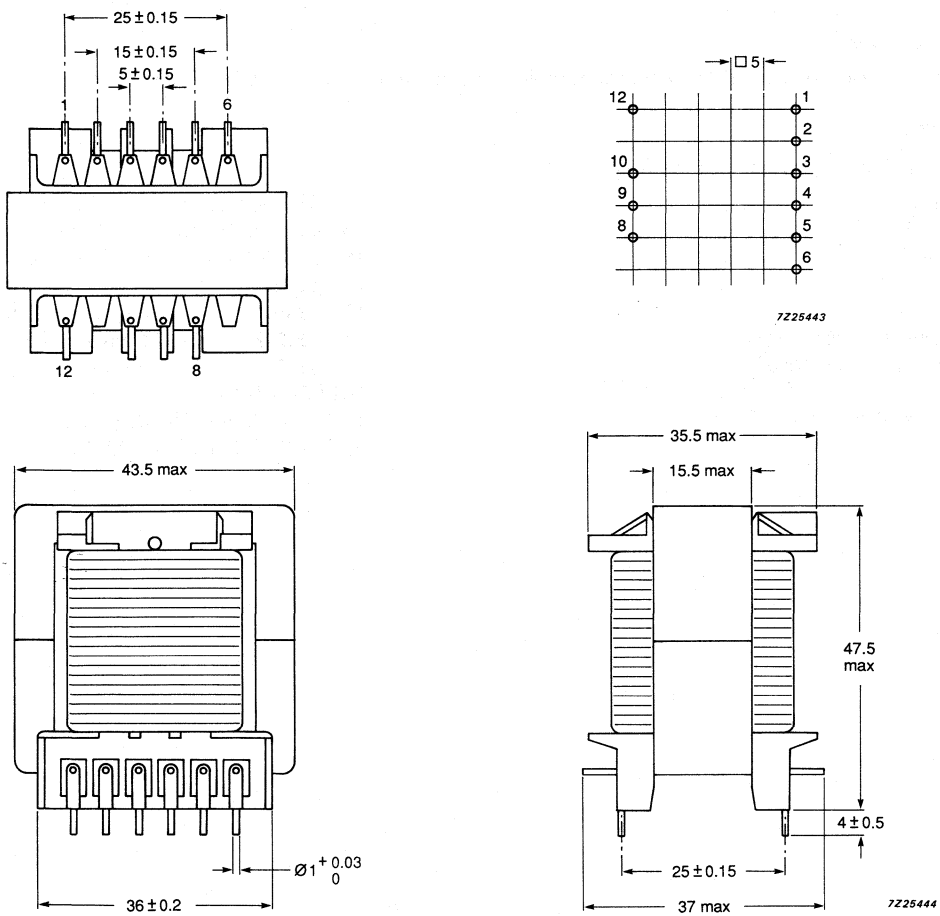


Fig.1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 8212 840 60680
Inductance, primary*	(4–6) 1.7 mH
Leakage inductance, primary	(4–6) $\leqslant$ 50 μH
Maximum current, primary	(2–3) 2.7 A
Number of turns	
primary	(4–6) = 80
	(1–2) = 3
secondary	(7–8) = 3
	(11–12) = 3
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	in accordance with IEC 65
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are expected to be released by VDE and TUV.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb, 96 hours, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, RH 95%
Damp heat, accelerated	IEC 68-2-4, test Dd, + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = –25 °C, T_B = + 100 °C

* Measured at 10 kHz, B_{max} = 0.3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, monitors

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/15 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils. The transformer has 10 pins for mounting on a printed-wiring board. Any one pin can be removed in accordance with customer specification for reference purposes.

MECHANICAL DATA

Dimensions in mm

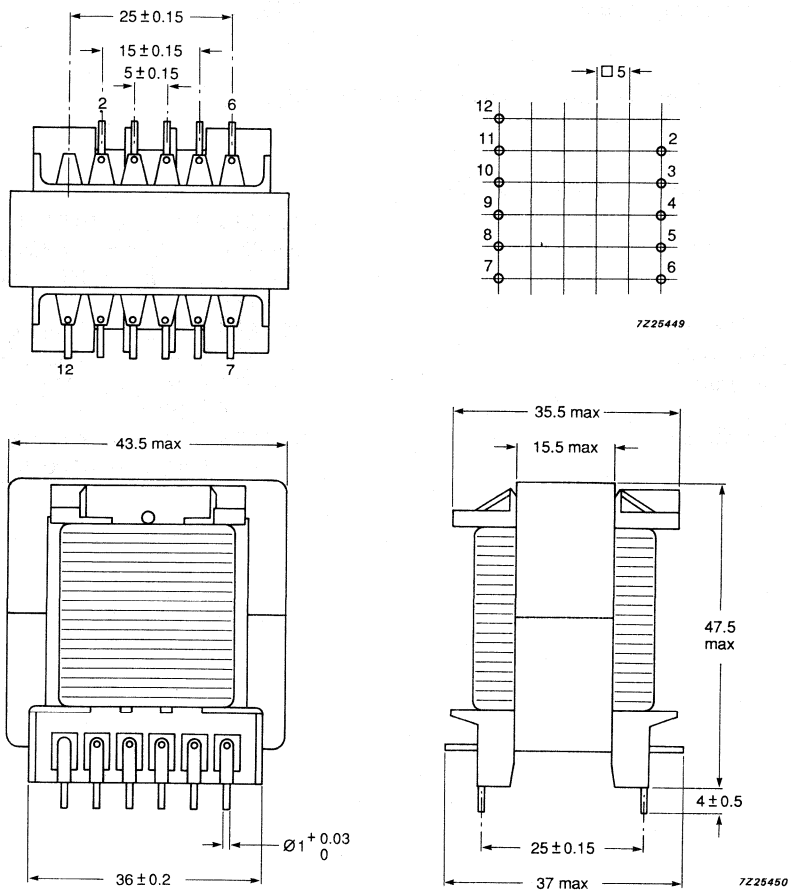


Fig.1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 3112 338 32260
Inductance, primary*	(2–3) 1.0 mH
Leakage inductance, primary	(2–3) $\leqslant$ 3.8%
Maximum current, primary	(2–3) 2.4 A
Number of turns	
primary	(2–3) = 43
secondary	(4–5) = 10 (7–8) = 11 (9–10) = 9 (11–12) = 4
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	in accordance with IEC 380
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are released by VDE.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb, 96 hours, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, RH 95%
Damp heat, accelerated	IEC 68-2-4, test Dd, + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = –25 °C, T_B = + 100 °C

* Measured at 10 kHz, B_{max} = 0.3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, monitors.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/20 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils. A screen between primary and secondary guarantees the required insulation between the windings.
The transformer has 22 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

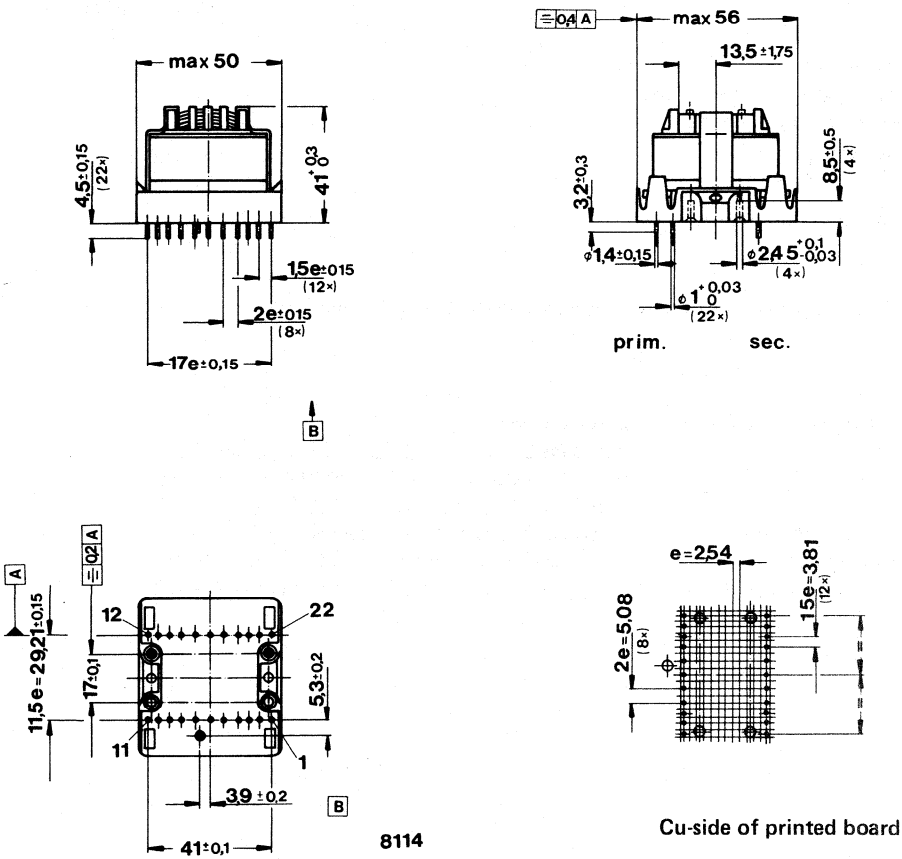


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number	
	3112 338 30620	3112 338 31040
Inductance, primary*	(5-7) 1,5 mH ± 10%	(7-5) 0,4 mH ± 10%
Leakage inductance, primary	(5-7) 2%	(7-5) 3,75%
Maximum current, primary	(5-7) 2,9 A	
Number of turns		
primary	(1-2) = 1 (8-9) = 1 (10-11) = 4 (5-7) = 51	(2-1) = 2 (9-8) = 2 (11-10) = 2 (7-5) = 31
secondary	(18-16) = 25 (12-13) = 10 (15-14) = 3	(18-16) = 45 (20-19) = 11 (22-21) = 9 (14-15) = 9 (12-13) = 5

Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, and VDE0860
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +55 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/21/20 cores. The primary and secondary windings are wound on one coil former. They are separated from each other by reinforced insulation. The transformer has 18 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

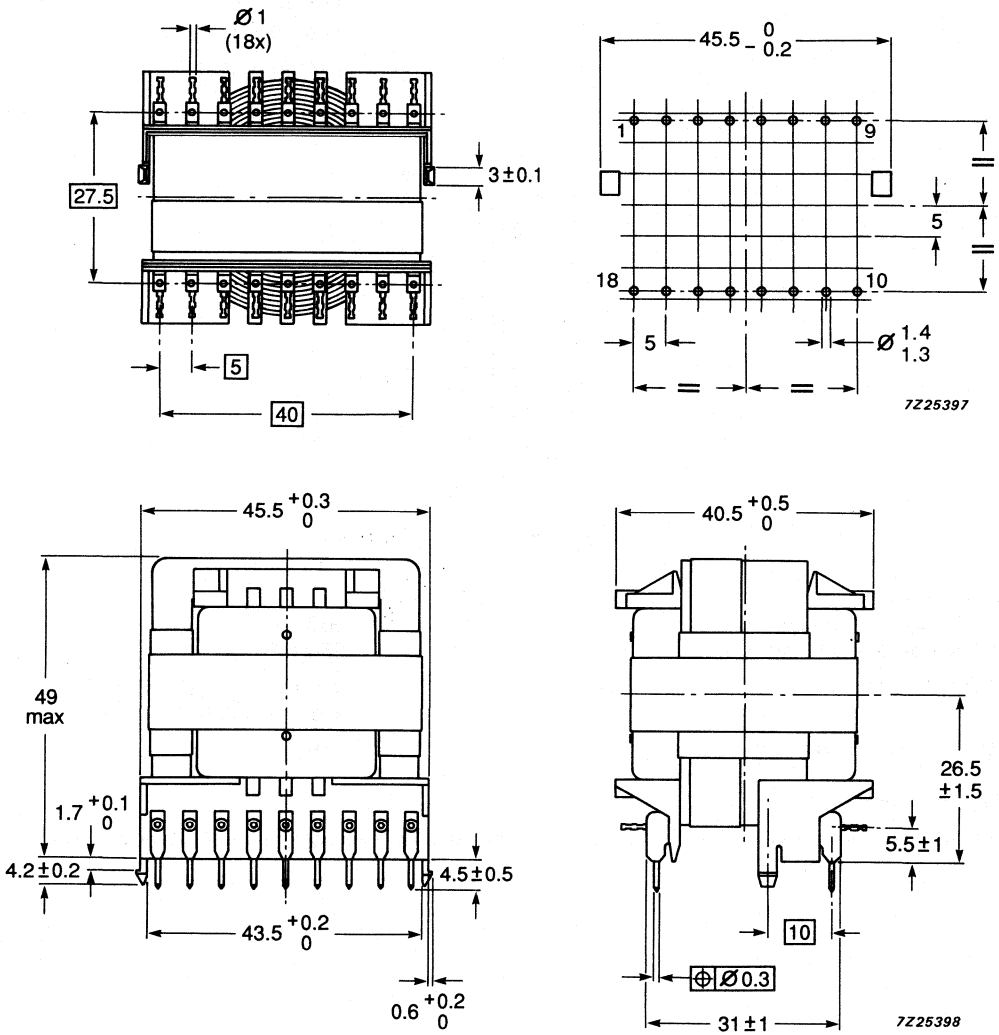


Fig.1 Transformer assembly.

ELECTRICAL DATA	catalogue number 3112 338 31970
Inductance, primary*	(6-4) 1.75 mH ± 10%
Leakage inductance, primary	(6-4) ⩽ 40 μH
Maximum current, primary	(6-4) 2.5 A
Number of turns	
primary	(2-1) = 27
	(9-8) = 3
	(7-3) = 2
secondary	(6-4) = 58
	(15-10) = 19
	(10-13) = 2
	(16-17) = 1
	(17-18) = 4
	(12-11) = 2
	(11-14) = 3

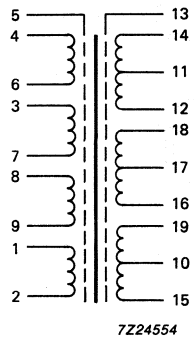


Fig.2 Circuit diagram.

Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	in accordance with IEC 65 class 2 and VDE 0860
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are expected to be released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

* Measured at U = 1 V, 10 kHz, B_{max} = 0.3 T.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm 3 x 30 minutes
Bump	IEC 68-2-29, test Eb; 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bd; 96 hours, + 125 °C
Damp heat steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat accelerated	IEC 68-2-4, test Db; + 40 °C, RH 95 - 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 55 °C

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets, monitors.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E42/20 cores. The coil is built-up in layers of copper wire, separated from each other by insulation foils. A screen between primary and secondary guarantee the required insulation between the windings.
The transformer has 22 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

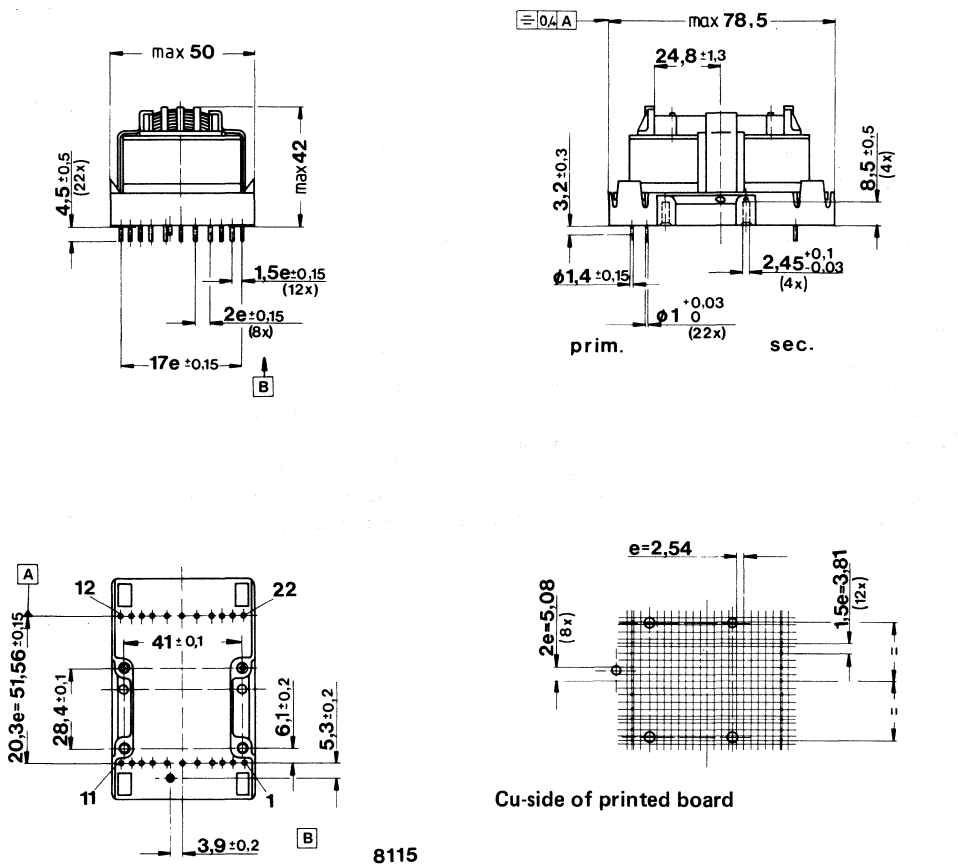


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number 3112 338 30740
Inductance, primary*	(5-7) 1,35 mH ± 10%
Leakage inductance, primary	(5-7) 1,5%
Maximum current, primary	(5-7) 3,55 A
Number of turns	
primary	(1-2) = 2 (8-9) = 1 (10-11) = 5 (5-7) = 68
secondary	(18-16) = 37 (12-13) = 15 (15-14) = 4 (19-20) = 6 (21-22) = 6

Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, and VDE0860
Maximum operating temperature	115 °C

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +35 °C

* Measured at 10 kHz, B_{max} = 0,3 T.

SWITCHED MODE TRANSFORMER 220 VA

- For consumer applications, e.g. high end television sets.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube E46/23/30 cores. The primary and secondary windings are wound on one coil former. They are separated from each other by reinforced insulation.

The transformer has 11 primary pins and 11 secondary pins for mounting on a printed wiring board.

MECHANICAL DATA

Dimensions in mm

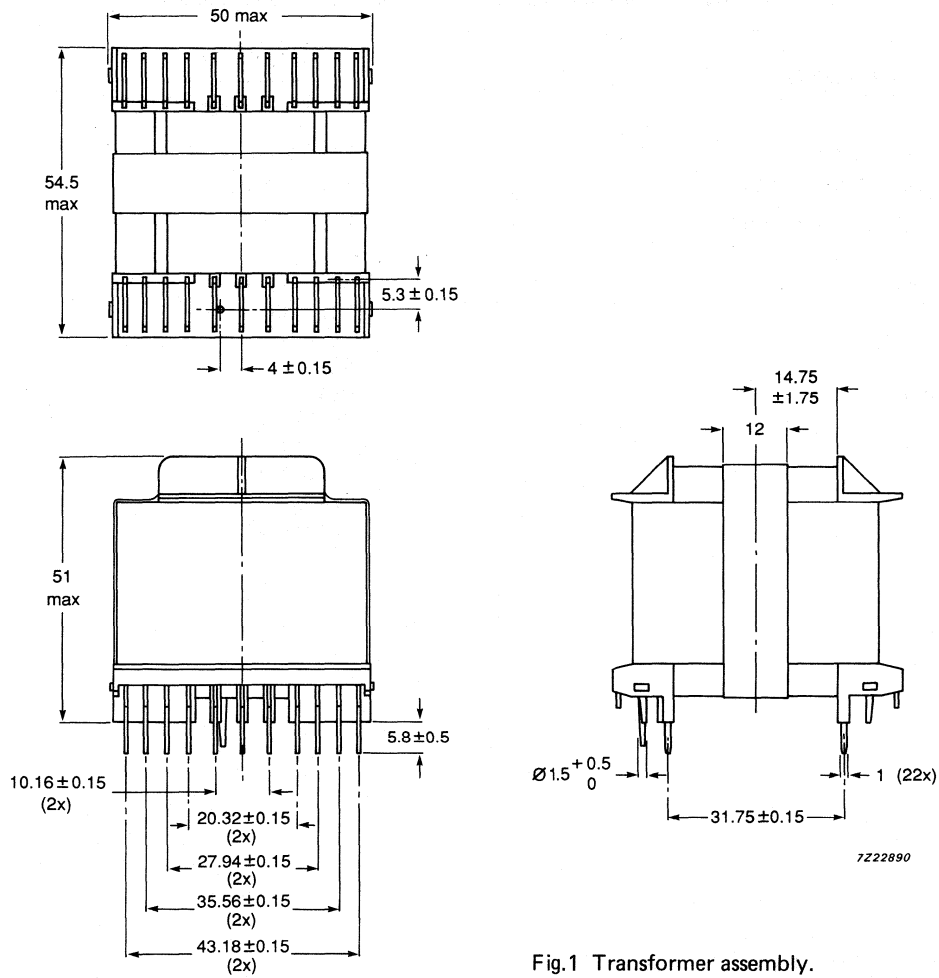


Fig.1 Transformer assembly.

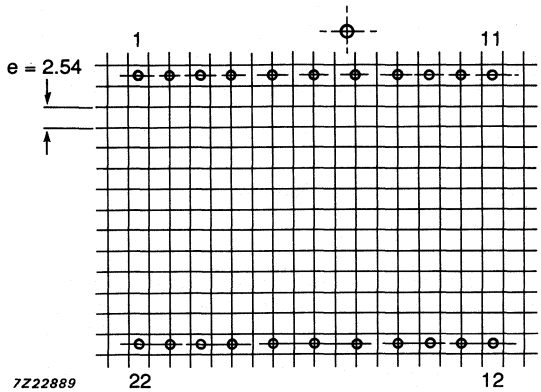


Fig.2 Hole pattern for mounting on a printed-wiring board (solder side).

ELECTRICAL DATA

	catalogue number 3112 338 32210
Inductance, primary*	(6-4) 1.2 mH ± 7%
Leakage inductance, primary	(6-4) $\leqslant$ 30 μH
Maximum current, primary	(6-4) 4.4 A
Number of turns	
primary	(5-7) = 45
	(2-1) = 33
	(8-9) = 6
	(4-3) = 2
secondary	(16-15) = 14
	(15-18) = 12
	(18-19) = 1
	(19-20) = 4
	(12-13) = 3
	(13-14) = 3

* Measured at U = 1 V, 10 kHz, B_{max} = 0.3 T.

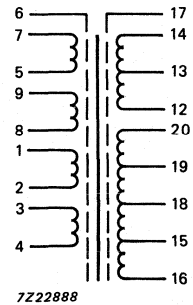


Fig.3 Circuit diagram.

Test voltage (AC)	
between primary and secondary	3500 V
between primary and core	3500 V
Mains insulation	in accordance with IEC 65 class II and VDE 0860
Maximum operating temperature	115 °C

Approbation

VDE certificate ref.no. 1016.5-4952-1006/A1K. Sets with transformers of this construction are expected to be released by Demko, Nemko, Semko EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 hours, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, RH 95 - 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T(A) = −25 °C, T(B) = + 35 °C

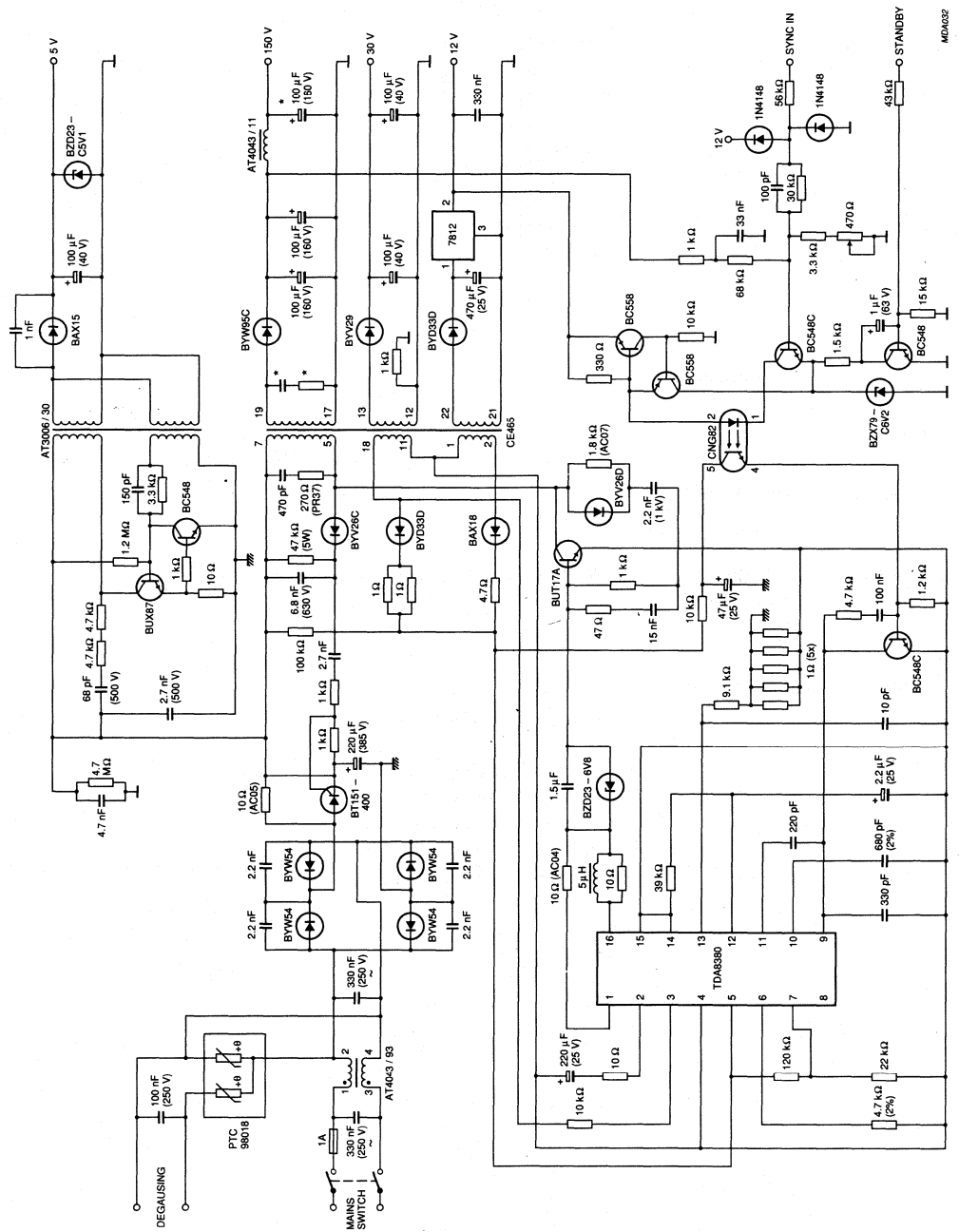


Fig.4 Application circuit.

BRIDGE COIL

- For consumer applications, e.g. record players, cassette recorders, television sets, monitors

DESCRIPTION

The coil is wound on a Ferroxcube I-10 core. It has four termination pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

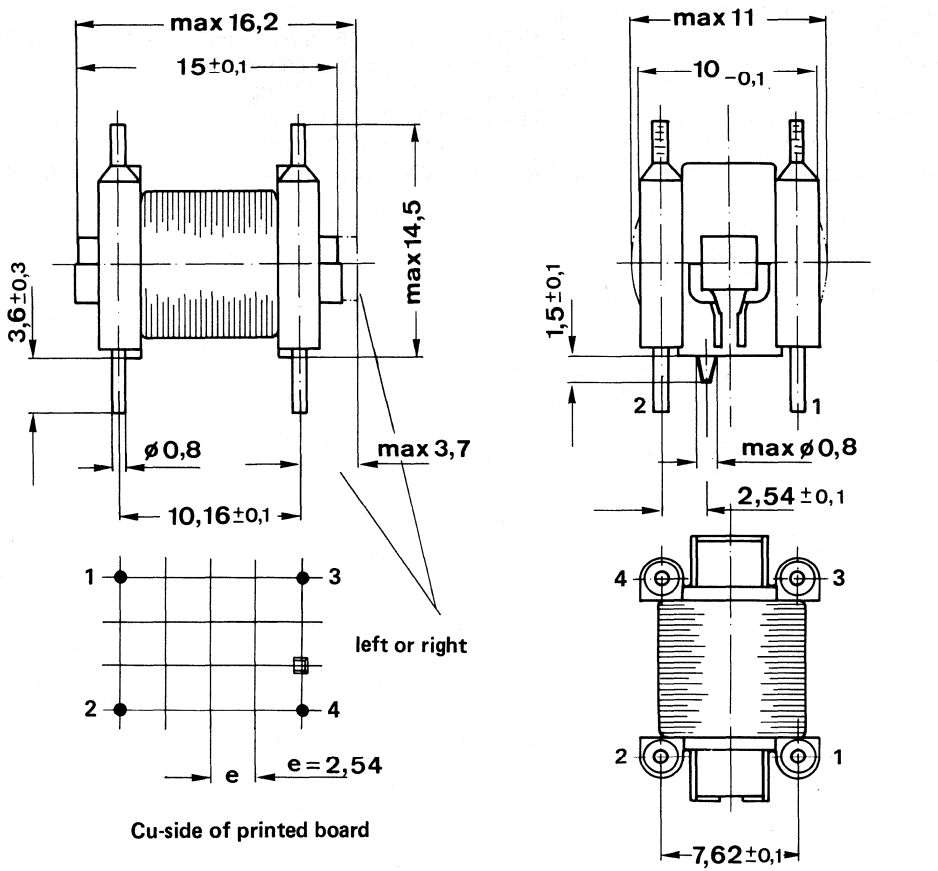


Fig. 1 Coil assembly.

ELECTRICAL DATA

	catalogue number				
	3122 138 71332	3122 138 74310	3122 138 74290	3112 338 30790	3112 338 30460
Inductance*	(1-4) 0.14 mH	(1-4) 0.2 mH	(1-2) 0.05 mH	(1-2) 0.03 mH	(3-1) 0.38 mH
Resistance**	(1-4) 0.29 Ω	(1-4) 0.37 Ω	(1-2) 0.17 Ω	(1-2) 0.056 Ω	(3-1) 0.68 Ω
→ Max. peak current	(1-4) 1.7 A	(1-4) 1.4 A	(1-2) 2.9 A	(1-2) 3.8 A	(3-1) 1 A

Approbation

Sets with coils of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The bridge coil withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 100 °C

* Tol. ± 10%; measured at 1 kHz, B_{max} = 0.3 T.

** Tol. ± 12%; measured at T_{amb} = 23 °C.

PULSE TRANSFORMER

- For use in switched mode power supplies
- For consumer applications, e.g. record players, cassette recorders, television sets.

DESCRIPTION

The coil is wound on a Ferroxcube I-10 core. It has four termination pins for mounting on a printed-wiring board.
The coil former has three sections, of which the middle section is a safety distance between the other two.

MECHANICAL DATA

Dimensions in mm

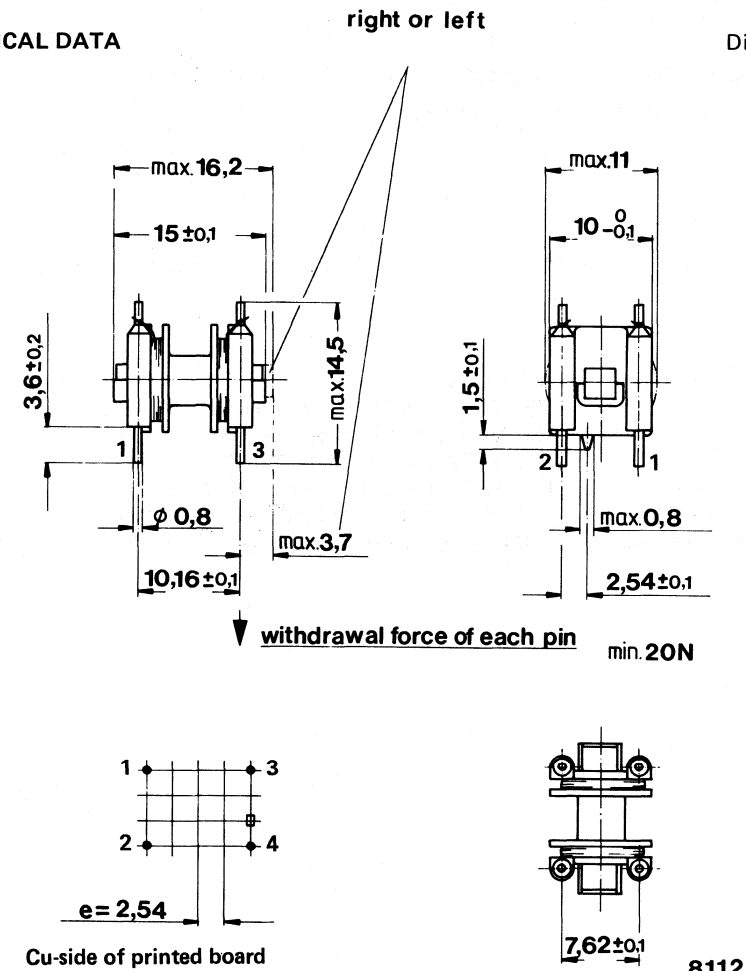
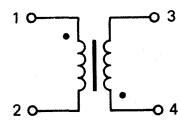


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number	
	3112 338 31011	3112 338 31190
Resistance, primary	(1-2) 18 Ω	(1-2) 20,5 Ω
secondary	(3-4) 18 Ω	(3-4) 3,5 Ω
→ Maximum peak current, primary	(1-2) 610 mA	(1-2) 690 mA
Turns ratio	200 : 200	225 : 45
Diagram		
→	7Z22853	

Insulation resistance between primary and secondary	> 60 MΩ
Test voltage (DC) between primary and secondary	5600 V
Mains insulation	according to IEC 65 class 2, and VDE0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C

BRIDGE COIL

- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

The coil is wound on a Ferroxcube I-15 core. It has four termination pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

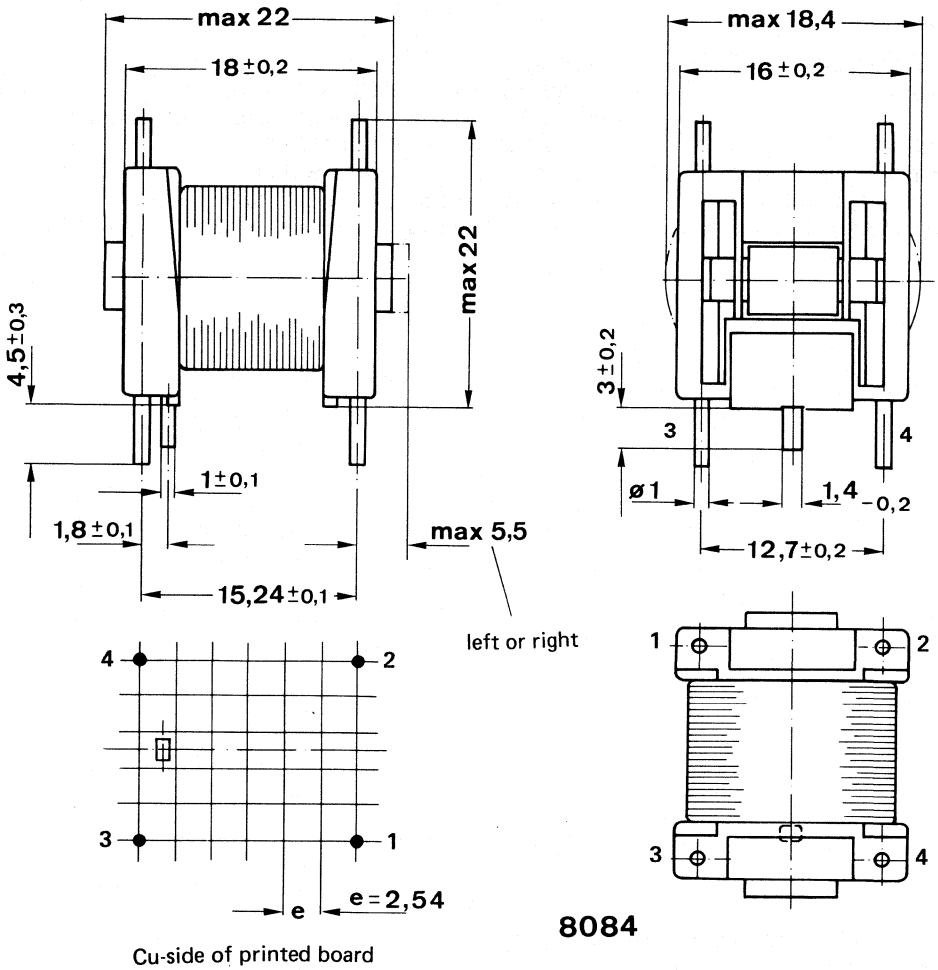


Fig. 1 Coil assembly

ELECTRICAL DATA

	catalogue number				
	3122 138 71801 AT4043/69	3122 138 29390	3122 138 29361	3112 338 30650	3112 338 30200▲
Inductance*	(2-3) 1.0 mH	(1-3) 0.18 mH	(1-4) 0.14 mH	(3-4) 0.43 mH	(3-4) 0.2 mH
Resistance**	(2-3) 1.07 Ω	(1-3) 0.3 Ω	(1-4) 0.23 Ω	(3-4) 0.48 Ω	(3-4) 0.3 Ω
Max. peak current	(2-3) 1.7 A	(1-3) 3.9 A	(1-4) 4.5 A	(3-4) 2.6 A	(3-4) 3.8 A

Approbation

Sets with coils of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The bridge coil withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 100 °C

* Tol. ± 10%; measured at 1 kHz, B_{max} = 0.3 T.

** Tol. ± 12%; measured at T_{amb} = 23 °C.

▲ UL approved.

BRIDGE COIL

- For consumer applications, e.g. record players, cassette recorders, television sets.

DESCRIPTION

The coil is wound on a Ferroxcube I-20 core. It has four termination pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

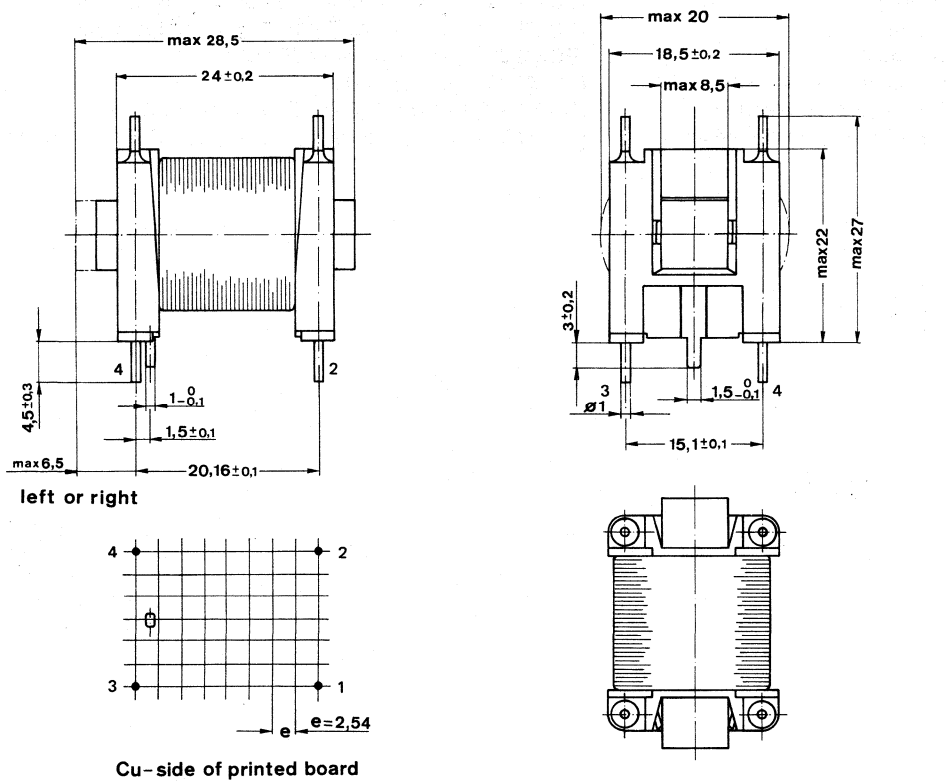


Fig. 1 Coil assembly.

ELECTRICAL DATA

	catalogue number		
	3112 338 30920	3122 138 94810	3122 138 28870
Inductance*	(1-2) 1.05 mH	(1-2) 0.43 mH	(1-2) 0.35 mH
Resistance**	(1-2) 1.17 Ω	(1-2) 0.55 Ω	(1-2) 0.21 Ω
Maximum peak current	(1-2) 3 A	(1-2) 4.5 A	(1-2) 4.8 A

Approbation

Sets with coils of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The bridge coil withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C

* Tol. ± 10%; measured at 1 kHz, B_{max} = 0.3 T.
** Tol. ± 12%; measured at T_{amb} = 23 °C.

LINE DRIVER TRANSFORMERS, BRIDGE COILS AND CHOKES

- For consumer applications, e.g. television sets, monitors, video recorders

DESCRIPTION

The magnetic circuit of the unit comprises two Ferroxcube U10 cores. The unit has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

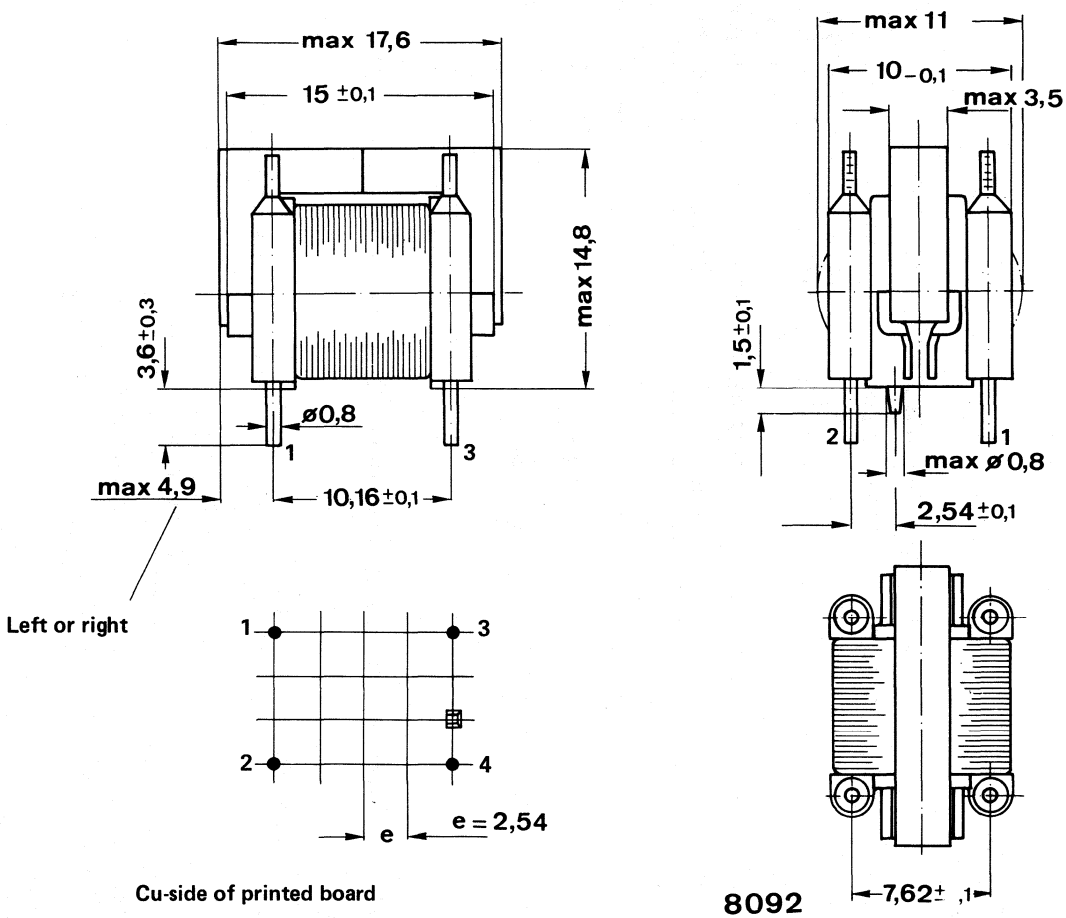
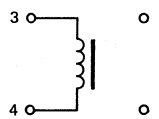
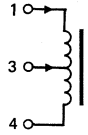
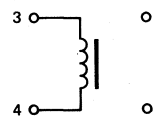
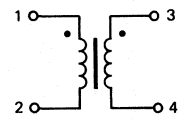


Fig. 1 Assembly.

ELECTRICAL DATA

	catalogue number					
	3112 338 30070	3112 338 30390	3112 338 30880	3112 338 31030	3112 338 31090	3122 138 90072
Inductance* (± 10%)	(3-4) 0,9 mH	(1-2) 0,1 mH	(1-2) 85 mH	(3-4) 2,5 mH	(1-2) 20 mH	(1-2) 3,85 mH
Resistance** (± 12%)	(3-4) 0,85 Ω	(1-2) 0,2 Ω (3-4) 0,03 Ω	(1-2) 39 Ω (3-4) 0,8 Ω	(1-2) 0,53 Ω (3-4) 1,05 Ω	(1-2) 1,02 Ω (3-4) 0,49 Ω	(1-2) 2,0 Ω (3-4) 0,6 Ω
Leakage inductance				(3-4) 2,4%		
Max. peak current	(3-4) 385 mA	(1-2) 1200 mA	(1-2) 29 mA	(3-4) 1500 mA	(1-2) 36 mA	150 mA
Transformation ratio		45 : 7	1000 : 50	135 : 99	194 : 66	200 : 40
Diagram		 7Z20139			 7Z22855	

Approbation

Sets with units of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C T_B = +100 °C

* Measured at 1 kHz, B_{max} = 0,1 T.

** Measured at T_{amb} = 23 °C.

FILTER COIL

- For applications where a low winding capacitance and a small stray field are required, e.g. car radios, video recorders.

DESCRIPTION

The magnetic circuit consists of a Ferroxcube U11 core. The winding is split up over two coil formers, each of which is mounted on a leg of the core.

MECHANICAL DATA

Dimensions in mm

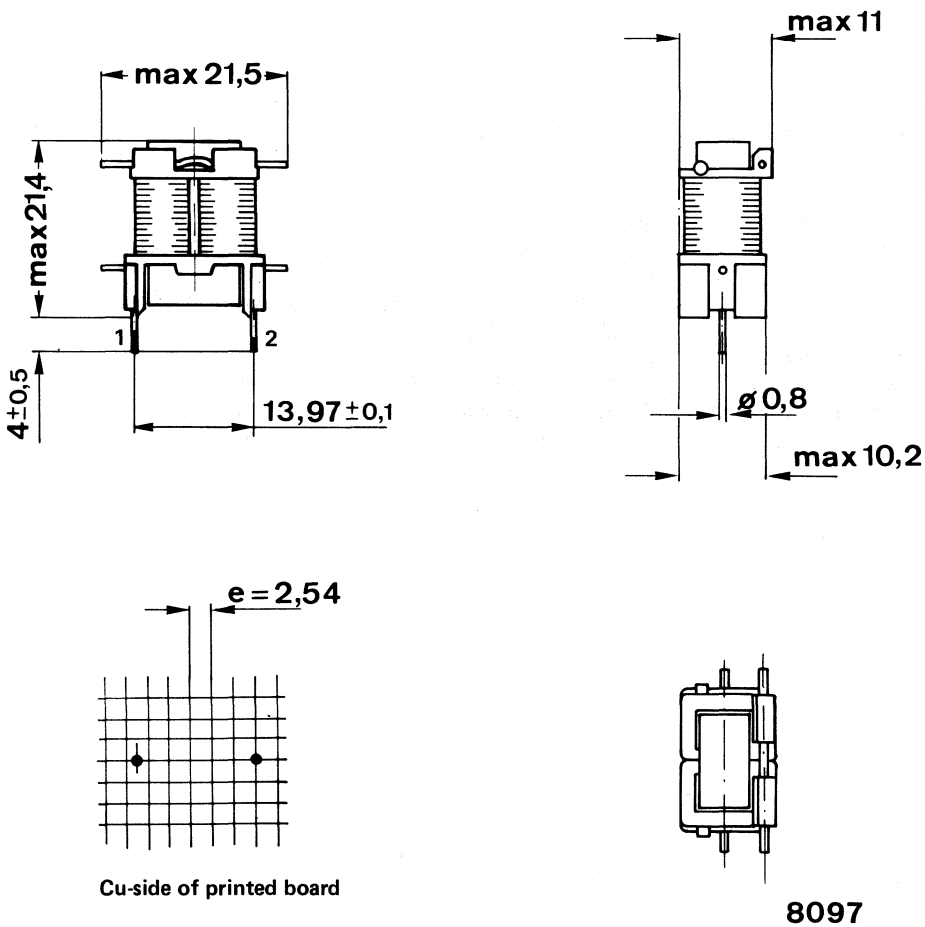
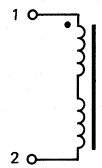


Fig. 1 Coil assembly.

ELECTRICAL DATA

	catalogue number	
	3122 138 51020	3122 138 99461
Inductance*	(1-2) 0.75 mH ± 10%	(1-2) 0.185 mH ± 10%
Resistance **	(1-2) 0.45 Ω ± 12%	(1-2) 0.11 Ω ± 12%
→ Maximum peak current	530 mA	2500 mA
Diagram		

7Z97568

Approbation

Sets with coils of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The coil withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C

* Measured at 1 kHz, B_{max} = 0.1 T.

** Measured at T_{amb} = 23 °C.

LINE DRIVER TRANSFORMERS, BRIDGE COILS AND CHOKES

- For consumer applications, e.g. television sets, monitors

DESCRIPTION

The magnetic circuit of the unit comprises two Ferroxcube U15 cores. The unit has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

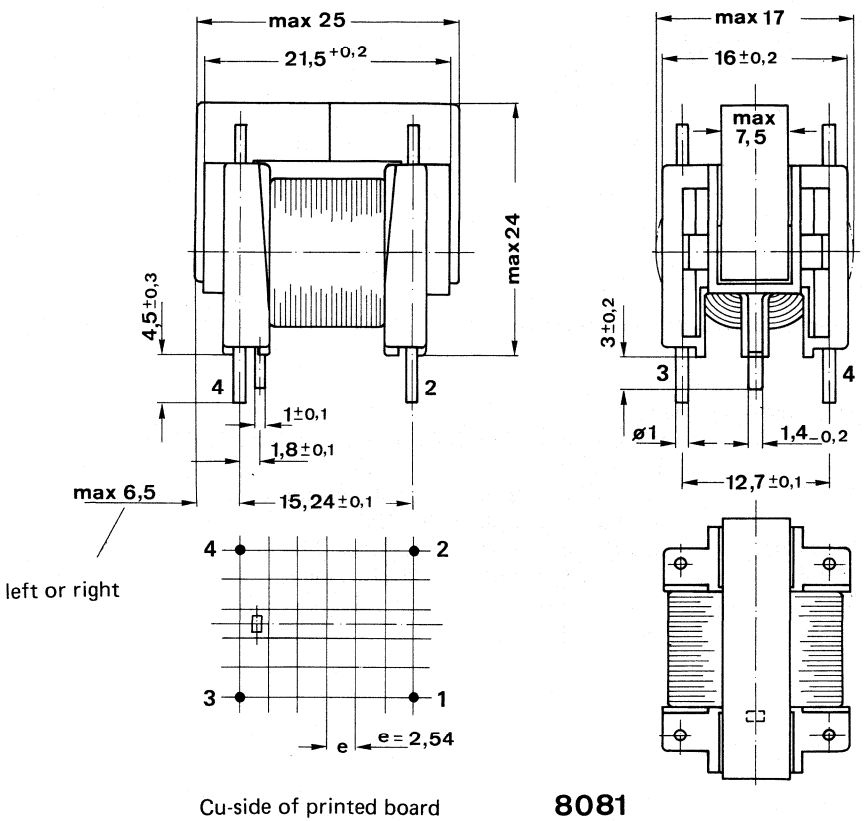
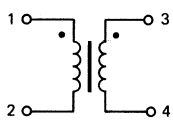
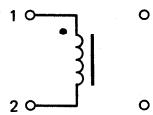
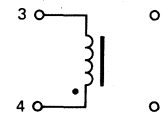


Fig. 1 Assembly.

ELECTRICAL DATA

	catalogue number			
	3122 138 93521	3122 138 93871 AT4043/60	3122 138 96551 AT4043/68	3112 338 31120
	driver transformer	E/W injection coil	bridge coil	choke
Inductance* (± 10%)	(1-2) 6,1 mH	(1-2) 15 mH	(1-2) 0,52 mH	(3-4) 8 mH
Resistance**(± 12%)	(1-2) 2,3 Ω (3-4) 0,22 Ω	(1-2) 2,6 Ω	(1-2) 0,6 Ω	(3-4) 1,7 Ω
Leakage inductance	(1-2) < 13,8 μH			
Max. peak current	280 mA	(1-2) 170 mA	(1-2) 2700 mA	(3-4) 300 mA
Transformation ratio	180 : 43			
Diagram	 7Z22851	 7Z22874		

Approbation

Sets with units of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

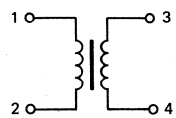
TESTS

The unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C.

* Measured at 1 kHz, B_{max} = 0,1 T.
** Measured at T_{amb} = 23 °C.

catalogue number				
3112 338 30980	3122 138 95451	3112 338 30841	3112 338 30820	3112 338 30420
driver transformer	driver transformer	driver transformer	driver transformer	driver transformer
(1-2) 8,5 mH	(1-2) 1,2 mH	(1-2) 12,8 mH	(1-2) 470 mH	(1-2) 1000 mH
(1-2) 2,8 Ω (3-4) 0,16 Ω	(1-2) 0,55 Ω (3-4) 0,3 Ω	(1-2) 9 Ω (3-4) 0,14 Ω	(1-2) 320 Ω (3-4) 0,28 Ω	(1-2) 105 Ω (3-4) 1,65 Ω
	(3-4) $<$ 6 μH	(3-4) $<$ 9 μH	(3-4) $<$ 8,4 μH	(3-4) $<$ 25 μH
(1-2) 200 mA		(1-2) 220 mA	(1-2) 35 mA	(1-2) 15 mA
186 : 27	100 : 50	300 : 43	1750 : 51	1600 : 63



7Z97574

FILTER COIL

• For applications where a low winding capacitance and a small stray field are required, e.g. record players, cassette recorders, car radios.

DESCRIPTION

The magnetic circuit consists of a Ferroxcube U15 core. The winding is split up over two coil formers, each of which is mounted on a leg of the core.
The transformer has 4 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

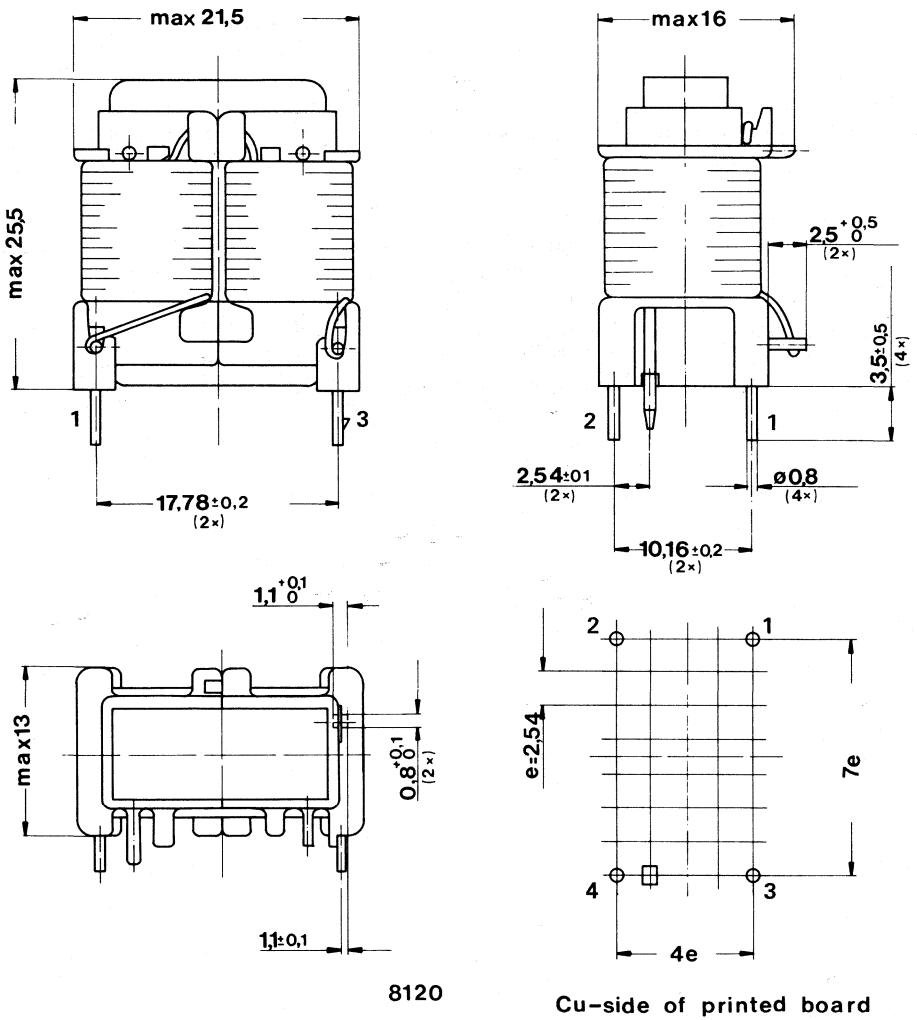
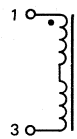


Fig. 1 Coil assembly.

ELECTRICAL DATA

	catalogue number 3112 338 30721
Inductance (1-3)*	0.16 mH ± 10%
Resistance (1-3)**	0.055 Ω ± 12%
→ Maximum peak current (1-3)	5000 mA

Diagram



Approbation

Sets with coils of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The coil withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C

* Measured at 1 kHz, B_{max} = 0.1 T.

** Measured at T_{amb} = 23 °C.

MAINS FILTER CHOKE

- For filter networks in the power supply
- For consumer applications, e.g. television sets, monitors, compact disc players.

DESCRIPTION

The magnetic circuit of the filter choke comprises two Ferroxcube U15 cores. The choke has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

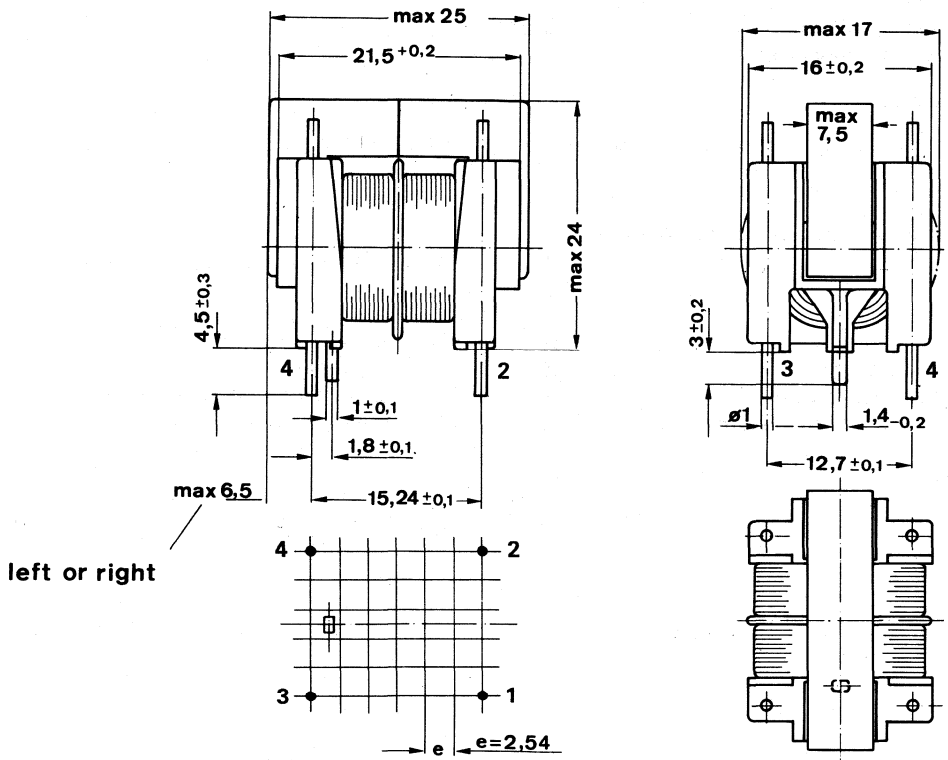


Fig. 1 Choke assembly.

ELECTRICAL DATA

	catalogue number			
	3122 138 52560	3112 338 30641	3112 338 30170	3112 338 31020
Inductance* (± 10%)				
$L_{1-2} = L_{3-4}$	0,7 mH	70 mH	25 mH	0,7 mH
Resistance** (± 12%)				
$R_{1-2} = R_{3-4}$	2,0 Ω	5,0 Ω	1,9 Ω	0,08 Ω
Maximum current, I_{1-2}	500 mA	250 mA	480 mA	290 mA

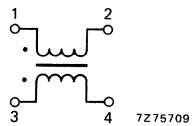


Diagram.

Test voltage (DC)	
between windings	2000 V
between windings and core	2000 V

Approbation

Sets with chokes of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The choke withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C

* Measured at 1 kHz, B_{max} = 0,1 T.
** Measured at T_{amb} = 23 °C.

HIGH PERFORMANCE MAINS FILTER CHOKE

- Released according to DIN VDE 0565 Part 2/9.78.

APPLICATION

The CU15d has been designed for use in consumer equipment, such as CTV sets, video recorders and monitors, as part of the filter network in the power supply. In addition, it can be used as a general-purpose mains filter choke in professional applications.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two high permeability Ferroxcube U15 cores. The unit has four connecting pins and one locating pin for mounting on a printed-wiring board.

Outlines Dimensions in mm

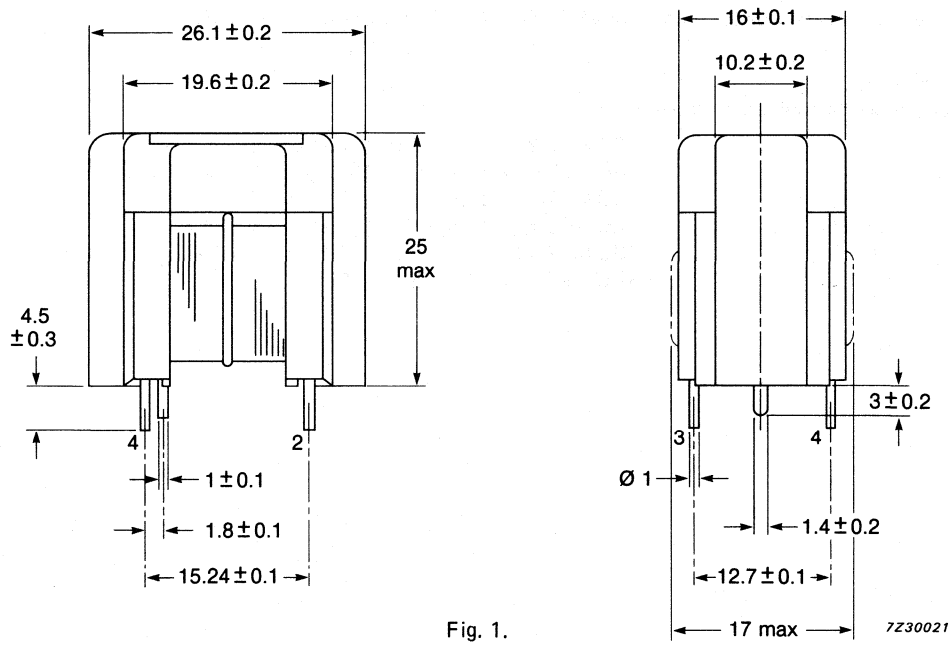
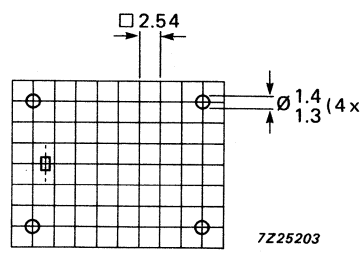


Fig. 1.

Fig.2 Hole pattern for mounting on a printed-wiring board. Viewed from the solder side.



Weight: 20 g.

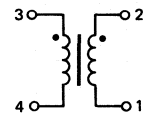
Marking

The 12-digit catalogue number is printed on the Ferroxcube core.

Note: To conform to IEC 651 (VDE 0860), this mains filter must be applied behind the fuse.

ELECTRICAL DATA

Inductance* $L_{1-2} = L_{3-4}$	20 mH ± 30%	
Resistance** $R_{1-2} = R_{3-4}$	2.0 Ω ± 12%	
Leakage inductance		
$L_{s(1-2)}$, L_{3-4} short-circuited	0.3 mH	(orientation value)
$L_{s(3-4)}$; L_{1-2} short-circuited	0.3 mH	(orientation value
→ Capacitance C_o (1-2) = (3-4)	25 pF	(orientation value)
→ Maximum current $I_{RMS(1-2)}$	0.5 A	
Maximum working temperature	115 °C	
Test voltage (AC) between windings	1500 V	



7Z25205

Fig.3.

Approbation

→ VDE released in accordance with DIN VDE 0565 sec. 2/9.78. Climatic class HKF.

TESTS

The choke withstands the following tests:

Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat, cyclic	IEC 68-2-4, test Db; + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C

* Measured at 10 kHz, 1 V.

** Measured at T (ambient) = 23 °C ± 2 °C.

HIGH PERFORMANCE MAINS FILTER CHOKES

APPLICATION

The CU15d3 has been designed for use in consumer equipment, such as CTV sets, video recorders and monitors, as part of the filter network in the power supply. In addition, it can be used as a general-purpose mains filter choke in professional applications.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two high permeability Ferroxcube U15 cores. To reduce the winding capacitance (C_O), each winding is split into two sections. The unit has four connecting pins and two locating pins for mounting on a printed-wiring board. (To be used without reference).

Outlines Dimensions in mm

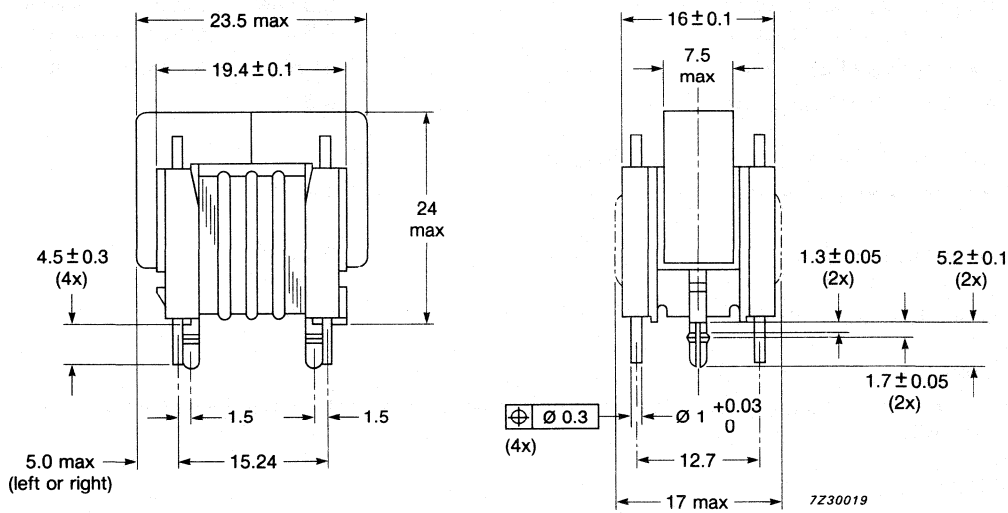
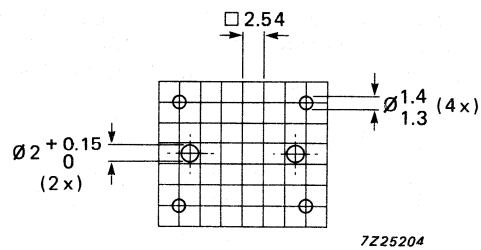


Fig. 1.

Fig.2 Hole pattern for mounting on a printed-wiring board. Viewed from the solder side.



Weight: 15 g.

Marking

The 12-digit catalogue number is printed on the Ferroxcube core.

Note: To conform to IEC 651 (VDE 0860), this mains filter must be applied behind the fuse.

ELECTRICAL DATA (Catalogue No. 3112 338 31711)

Inductance* $L_{1-2} = L_{3-4}$	27 mH ± 30%	
Resistance** $R_{1-2} = R_{3-4}$	0.8 Ω ± 12%	
Leakage inductance		
$L_{s(1-2)}$, L_{3-4} short-circuited	0.2 mH	(orientation value)
$L_{s(3-4)}$, L_{1-2} short-circuited	0.2 mH	(orientation value)
Capacitance C_o (1-2) = (3-4)	9 pF	(orientation value)
→ Maximum current $I_{RMS(1-2)}$	0.9 A	

ELECTRICAL DATA (Catalogue No. 3112 338 31731)

Inductance* $L_{1-2} = L_{3-4}$	47 mH ± 30%	
Resistance** $R_{1-2} = R_{3-4}$	1.25 Ω ± 12%	
Leakage inductance		
$L_{s(1-2)}$, L_{3-4} short-circuited	0.3 mH	(orientation value)
$L_{s(3-4)}$, L_{1-2} short-circuited	0.3 mH	(orientation value)
Capacitance C_o (1-2) = (3-4)	11 pF	(orientation value)
→ Maximum current $I_{RMS(1-2)}$	0.6 A	

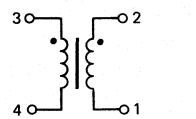


Fig.3

ELECTRICAL DATA (common to both types)

Maximum working temperature	115 °C
Test voltage	
between windings	2000 V
between windings and core	2000 V
Insertion loss (0.5 to 30 MHz)	65 dB

Approbation

Sets with chokes of this construction are expected to be released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The choke withstands the following tests:

Bump	IEC 68-2-29, test Eb; 25g. 4000 bumps, 6 directions
Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat, cyclic	IEC 68-2-4, test Db; + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 100 °C
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C

* Measured at 10 kHz, 1 V.
** Measured at T (ambient) = 23 °C ± 2 °C.

HIGH PERFORMANCE MAINS FILTER CHOKES

- Released according to DIN VDE 0565 Part 2/9.78.

APPLICATION

The CU15d3 has been designed for use in consumer equipment, such as CTV sets, video recorders and monitors, as part of the filter network in the power supply. In addition, it can be used as a general-purpose mains filter choke in professional applications.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two high permeability Ferroxcube U15 cores. To reduce the winding capacitance (C_o), each winding is split into two sections. The unit has four connecting pins and two locating pins for mounting on a printed-wiring board. (To be used without reference).

Outlines Dimensions in mm

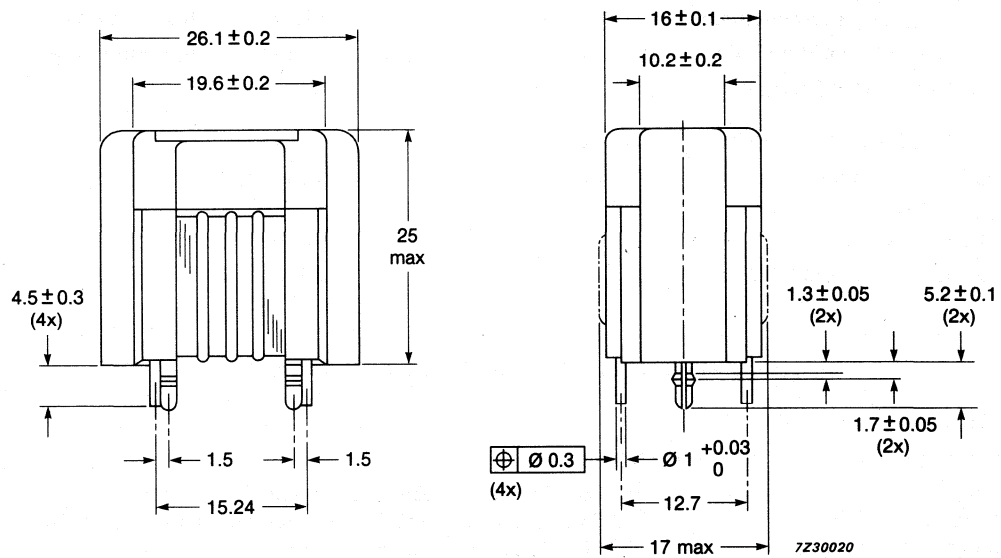
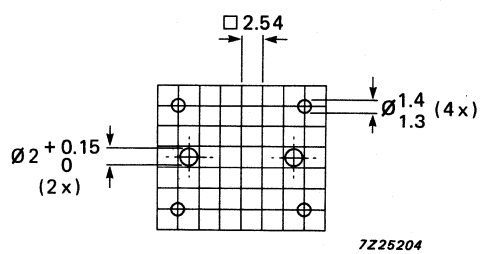


Fig. 1.

Fig.2 Hole pattern for mounting on a printed-wiring board. Viewed from the solder side.



Weight: 20 g.

Marking

The 12-digit catalogue number is printed on the Ferroxcube core.

Note: To conform to IEC 651 (VDE 0860), this mains filter must be applied behind the fuse.

ELECTRICAL DATA (Catalogue No. 3122 338 32101)

Inductance* $L_{1-2} = L_{3-4}$	27 mH ± 30%	
Resistance** $R_{1-2} = R_{3-4}$	0.8 Ω ± 12%	
Leakage inductance		
$L_{s(1-2)}$, L_{3-4} short-circuited	0.2 mH	(orientation value)
$L_{s(3-4)}$, L_{1-2} short-circuited	0.2 mH	(orientation value)
Capacitance C_o (1-2) = (3-4)	9 pF	(orientation value)
Maximum current $I_{RMS(1-2)}$	0.9 A	

ELECTRICAL DATA (Catalogue No. 3112 338 32111)

Inductance* $L_{1-2} = L_{3-4}$	47 mH ± 30%	
Resistance** $R_{1-2} = R_{3-4}$	1.25 Ω ± 12%	
Leakage inductance		
$L_{s(1-2)}$, L_{3-4} short-circuited	0.3 mH	(orientation value)
$L_{s(3-4)}$, L_{1-2} short-circuited	0.3 mH	(orientation value)
Capacitance C_o (1-2) = (3-4)	11 pF	(orientation value)
Maximum current $I_{RMS(1-2)}$	0.6 A	

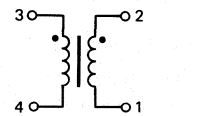


Fig.3

ELECTRICAL DATA (Common to both types)

Maximum working temperature	115 °C
Test voltage (AC) between windings	1500 V
Insertion loss (0.5 to 30 MHz)	65 dB

Approbation

VDE released in accordance with DIN VDE 0565 sec. 2/9.78. Climatic class HKF.

TESTS

The choke withstands the following tests:

Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat, cyclic	IEC 68-2-4, test Db; + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 100 °C
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C

* Measured at 10 kHz, 1 V.
** Measured at T (ambient) = 23 °C ± 2 °C.

LINE DRIVER TRANSFORMERS, BRIDGE COILS AND CHOKES

- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

The magnetic circuit of the unit comprises two Ferroxcube U20 cores. The unit has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

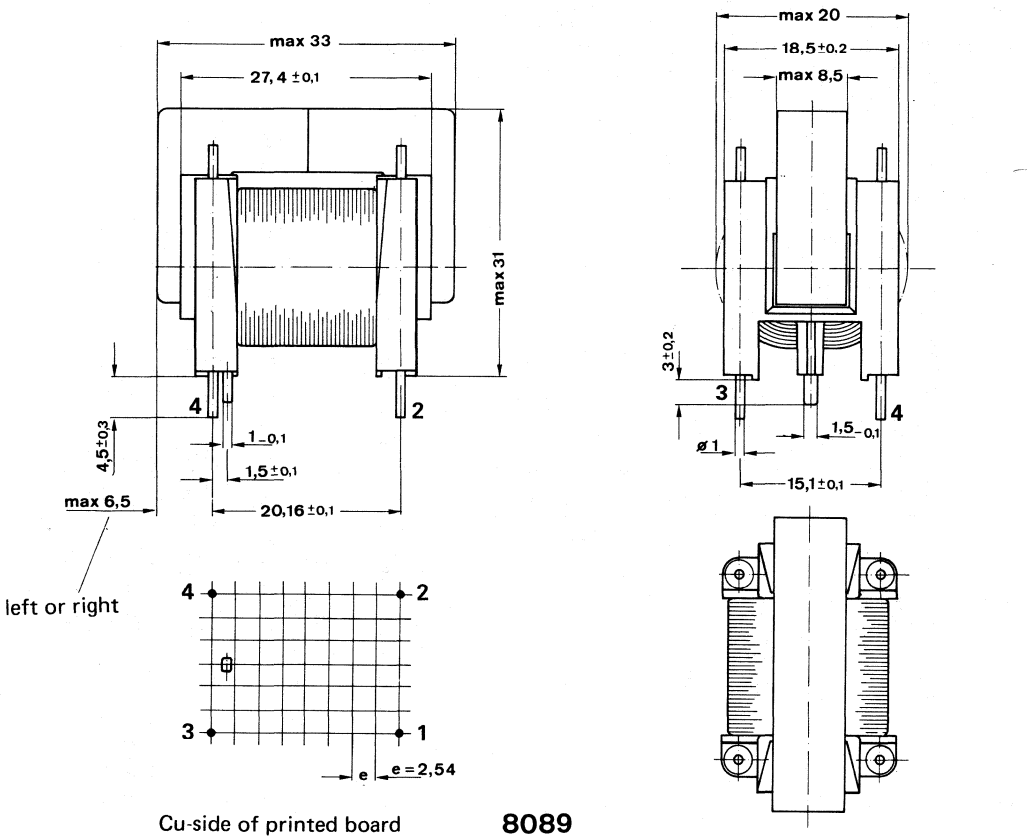
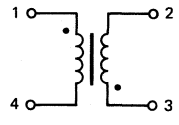
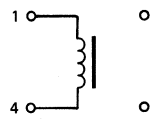
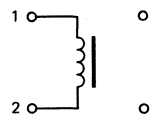
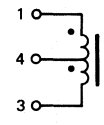
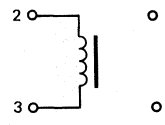


Fig. 1 Assembly.

ELECTRICAL DATA

	catalogue number					
	3112 338 30162	3122 138 26063	3112 338 30831	3112 338 31001	3112 338 30380	3112 338 30211
	driver transformer	driver transformer	bridge coil	bridge coil	driver transformer	choke
Inductance* (± 10%)	(1-4) 80 mH	(1-4) 76 mH	(1-4) 1 mH	(1-2) 0,05 mH	(1-4) 0,3 mH	(2-3) 20 mH
Resistance** (± 12%)	(1-4) 42 Ω (2-3) 0,64 Ω		(1-4) 0,14 Ω	(1-2) 0,04 Ω	(1-4) 0,17 Ω (2-3) 0,01 Ω	(2-3) 13,5 Ω
Leakage inductance	(2-3) < 6,9 μH	(2-3) < 2 μH				
Maximum peak current	(1-4) 95 mA	(1-4) 120 mA	(1-4) 1,3 mA	(1-2) 5000 mA	(1-4) 3400 mA	(2-3) 400 mA
Transformation ratio	184 : 40	574 : 20			62 : 3	
Diagram	 7Z97576.1		 7Z97575	 7Z22854		

Approbation

Sets with units of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The unit withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C.

* Measured at 1 kHz, B_{max} = 0,1 T.

** Measured at T_{amb} = 23 °C.

DRIVER TRANSFORMER

- For consumer applications, e.g. television sets, monitors

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U20 cores. The primary and secondary windings are on separate coil formers, and concentrically mounted on one leg of the core. The transformer has six pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

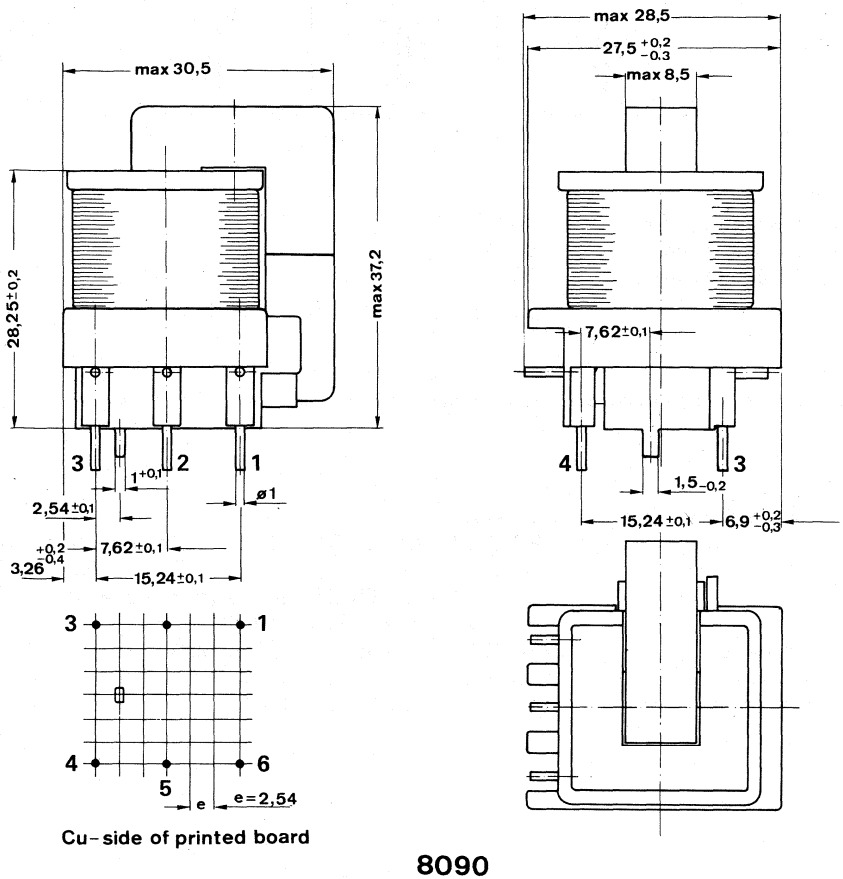
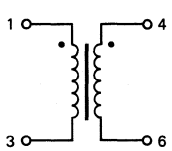
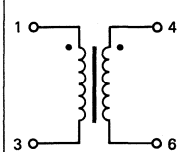
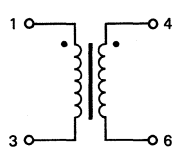
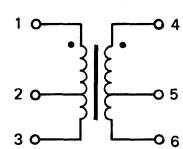


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number			
	3122 138 96571	3122 138 90291	3122 138 90581	3112 338 30781
Inductance * primary	(1-3) > 1 mH	(4-6) > 16 mH	(4-6) > 6 mH	(1-2) 5 mH
Leakage inductance primary			(4-6) 1%	(1-2) 1%
Number of turns primary	(1-3) = 800	(4-6) = 100	(4-6) = 60	(1-2) = 200 (2-3) = 20
secondary	(4-6) = 13	(1-3) = 20	(1-3) = 20	(4-5) = 15 (5-6) = 4
Diagram				

Test voltage (DC)

between (1-2-3) and (4-5-6)	5600 V
between (1-2-3) and core	5600 V
between (4-5-6) and core	500 V
Mains insulation	according to IEC 65 class 2, VDE 0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C

* Measured at 1 kHz, B_{max} = 0,1 T.

MAINS FILTER CHOKE

- For filter networks in the power supply
- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

The magnetic circuit of the filter choke comprises two Ferroxcube U20 cores. The choke has four pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

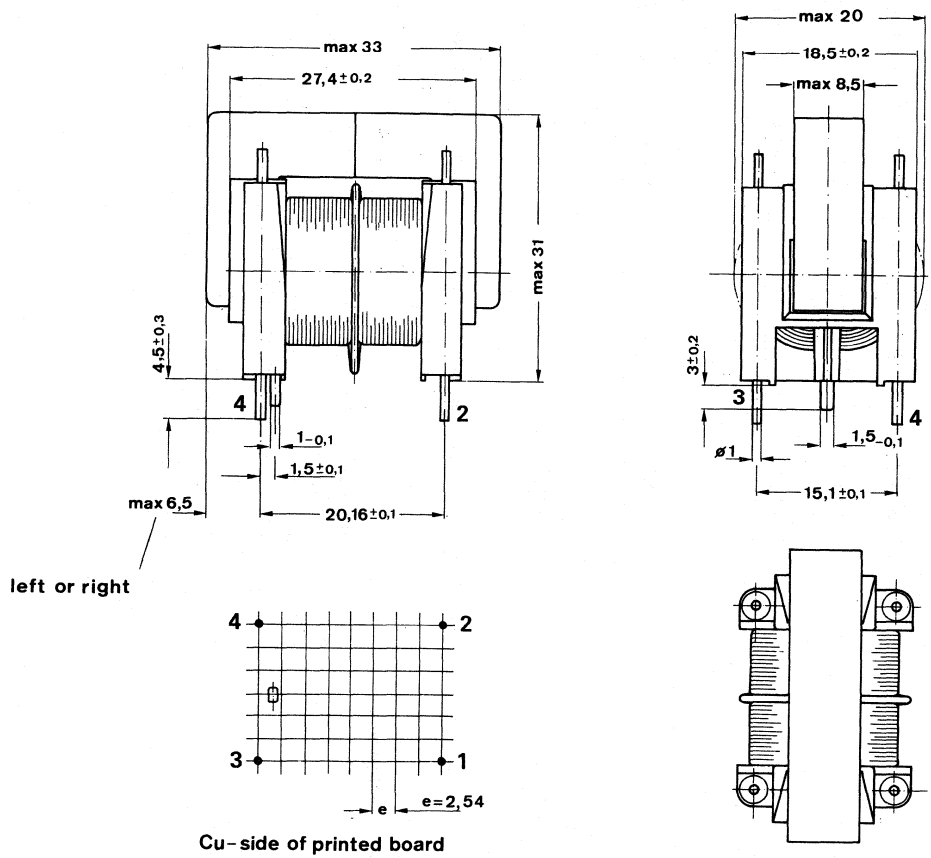


Fig. 1 Choke assembly.

ELECTRICAL DATA

	catalogue number						
	3122 138 53861	3112 338 30190	3112 338 30220	3112 338 30701	3112 338 30810	3112 338 30860	3111 108 33100
Inductance* (± 10%) $L_{1-2} = L_{3-4}$	12 mH	3,5 mH	1,7 mH	0,77 mH	64 mH	17,5 mH	28 mH
Resistance** (± 12%) $R_{1-2} = R_{3-4}$	0,44 Ω	0,21 Ω	0,44 Ω	0,26 Ω	1,7 Ω	0,48 Ω	1,0 Ω
Leakage inductance $L_{l(1-2)} = L_{l(3-4)}$	0,5 mH						
Maximum current, I_{1-2}	1400 mA	280 mA	950 mA	1260 mA	53 mA	100 mA	1000 mA

Test voltage (DC)
between windings 2000 V
between windings and core 2000 V

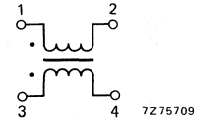


Diagram.

Approbation

Sets with chokes of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The choke withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, $T_A = -25$ °C, $T_B = +100$ °C

* Measured at 1 kHz, $B_{max} = 0,1$ T.
** Measured at $T_{amb} = 23$ °C.

HIGH PERFORMANCE MAINS FILTER CHOKES

APPLICATION

The CU20d3 has been designed for use in consumer equipment, such as CTV sets, monitors, VTRs and CD players, as part of the filter network in the power supply. In addition, it can be used as a general-purpose mains filter in professional applications.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two high permeability Ferroxcube U20 cores. To reduce the winding capacitance (C_o), each winding is split into two sections. The unit has four pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

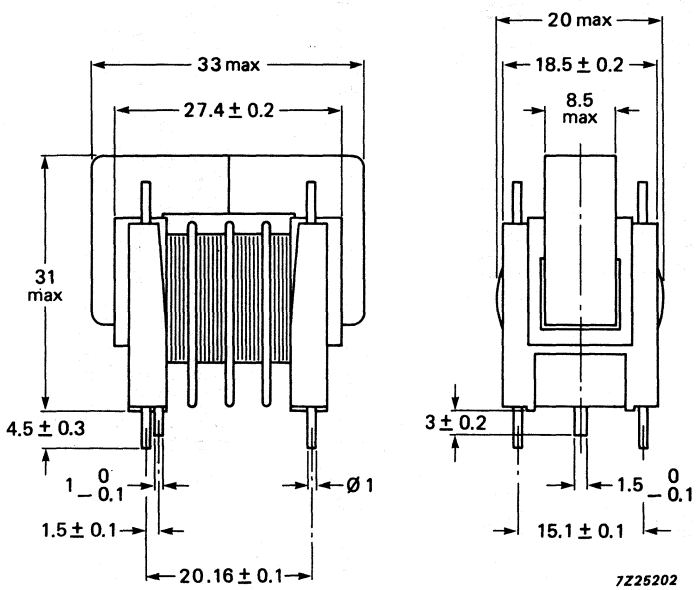


Fig.1.

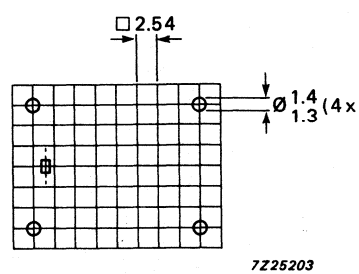


Fig.2 Hole pattern for mounting on a printed-wiring board. Viewed from the solder side.

Weight: 40g.

Marking

The 12-digit catalogue number is printed on the Ferroxcube core.

Note: To conform with IEC 65 (VDE 0860), this mains filter must be applied behind the fuse.

parameter	catalogue number (type number)			
	3112 338 32431 (CU20d3/0)	3112 338 31901 (CU20d3/1)	3112 338 32032 (AT4043/20)	3112 328 32601 (CU20d3/2)
Inductance* $L_{(1-2)} = L_{(3-4)}$	2.6 mH ± 20%	30 mH ± 20%	40 mH ± 25%	47 mH ± 25%
Resistance** $R_{(1-2)} = R_{(3-4)}$	60 Ω ± 12%	0.45 Ω ± 12%	0.65 Ω ± 12%	0.75 Ω ± 12%
Capacitance	20 pF***	14 pF***	16 pF***	18 pF***
Maximum current $I_{peak(1-2)}$	2.5 A	1.4 A	1.0 A	1.4 A
Maximum working temperature	115 °C	115 °C	115 °C	115 °C
Test voltage (DC)				
between windings	1000 V	1000 V	1000 V	1000 V
between windings and core	500 V	500 V	500 V	500 V

Insertion loss (0.5 to 30 MHz): 55 dB

Approbation

Sets with chokes of this construction are expected to be released by Demko, Nemko, EI, SEV, UL and BSI.

TESTS

The choke withstands the following tests:

Bump	IEC 68-2-29, test Eb; 25 g, 4000 bumps, 6 directions
Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat, cyclic	IEC 68-2-4, test Db; + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 100 °C
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C

* Measured at 10 kHz, 1 V.
** Measured at T (ambient) = 23 °C
*** Orientation value.

HIGH PERFORMANCE MAINS FILTER CHOKES

APPLICATION

The CU20d3 has been designed for use in consumer equipment, such as CTV sets, monitors, VTRs and CD players, as part of the filter network in the power supply. In addition, it can be used as a general-purpose mains filter in professional applications.

MECHANICAL DATA

The magnetic circuit of the filter choke comprises two high permeability Ferroxcube U20 cores. To reduce the winding capacitance (C_O), each winding is split into two sections. The unit has four pins for mounting on a printed-wiring board.

Outlines Dimensions in mm

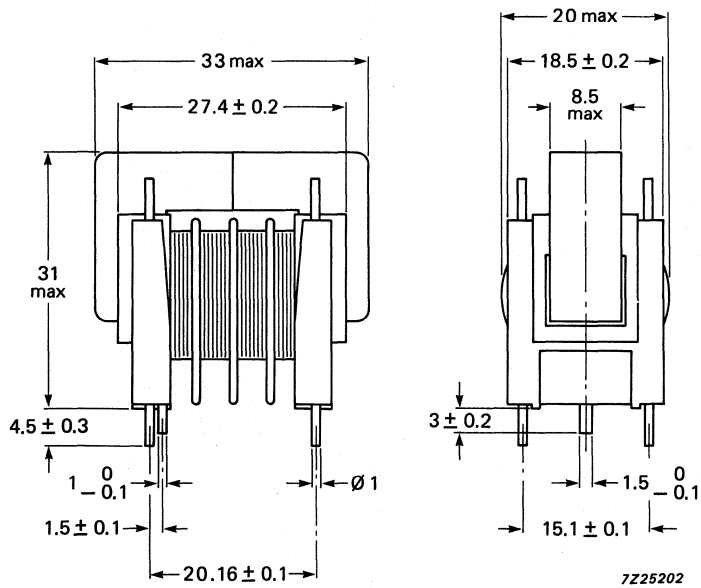


Fig.1.

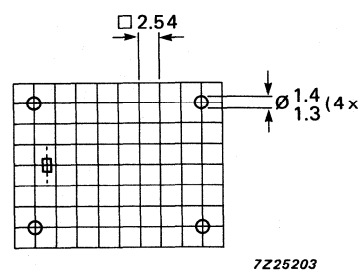


Fig.2 Hole pattern for mounting on a printed-wiring board. Viewed from the solder side.

Weight: 40 g.

Marking

The 12-digit catalogue number is printed on the Ferroxcube core.

Note: To conform with IEC 65 (VDE 0860), this mains filter must be applied behind the fuse.

parameter	catalogue number (type number)			
	3112 338 32441 (CU20d3/4)	3112 338 32451 (CU20d3/5)	3112 338 32461 (CU20d3/6)	3112 338 32471 (CU20d3/7)
Inductance* $L_{(1-2)} = L_{(3-4)}$	2.6 mH + 50% –30%	30 mH + 50% –30%	40 mH + 50% –30%	47 mH + 50% –30%
Resistance** $R_{(1-2)} = R_{(3-4)}$	0.06 Ω ± 12%	0.45 Ω ± 12%	0.65 Ω ± 12%	0.75 Ω ± 12%
Maximum current $I_{peak(1-2)}$	2.5 A	1.4 A	1.0 A	1.4 A
Maximum working temperature	115 °C	115 °	115 °C	115 °C
Test voltage (AC) between windings	1500 V	1500 V	1500 V	1500 V

Insertion loss (0.5 to 30 MHz): 55 dB

Approbation

Sets with chokes of this construction are expected to be released by Demko, Nemko, EI, SEV, UL and BSI.

TESTS

The choke withstands the following tests:

Bump	IEC 68-2-29, test Eb; 25 g, 4000 bumps, 6 directions
Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat, cyclic	IEC 68-2-4, test Db; + 40 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 100 °C
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C

* Measured at 10 kHz, 1 V.
** Measured at T (ambient) = 23 °C.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. television sets.

DESCRIPTION

The magnetic circuit of the vertical designed transformer comprises two Ferroxcube U20 cores. The transformer has 9 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

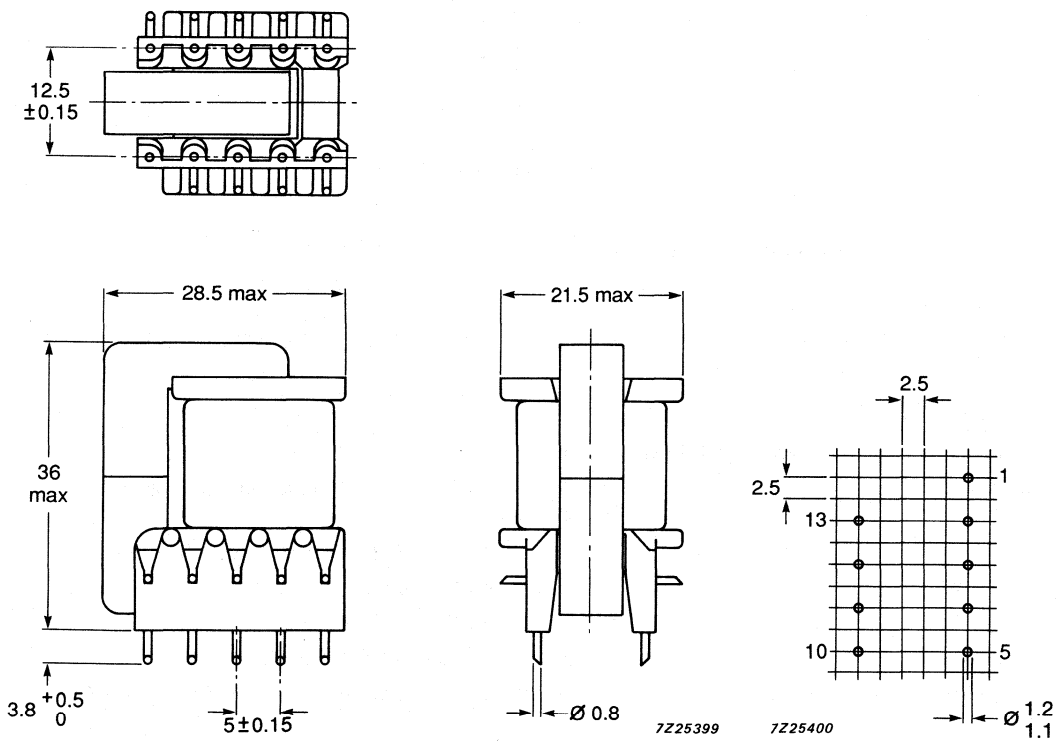


Fig.1 Transformer assembly.

ELECTRICAL DATA	catalogue number 3112 338 32230
Inductance, primary*	(2-12) 1 mH ± 7.5%
Maximum current, primary	(2-12) 2 A
Number of turns	(13-2) = 18
	(2-3) = 50
	(5-10) = 11
	(3-12) = 50
	(4-11) = 12

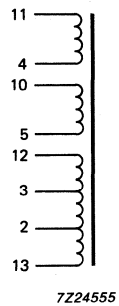


Fig.2 Circuit diagram.

Test voltage (DC)	
between windings mutually and core	500 V

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz amplitude 0.35 mm 3 x 30 minutes
Bump	IEC 68-2-29, test Eb; 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bd; 96 hours, + 125 °C
Damp heat steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat accelerated	IEC 68-2-4, test Db; + 40 °C, RH 95 - 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 55 °C

* Measured at 10 kHz, B_{max} = 0.1 T.

CHOKE

- To be used as a choke or a transformer
- For consumer applications, e.g. monitors and television sets

DESCRIPTION

The magnetic circuit of the choke comprises two Ferroxcube U25 cores. The choke has 10 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

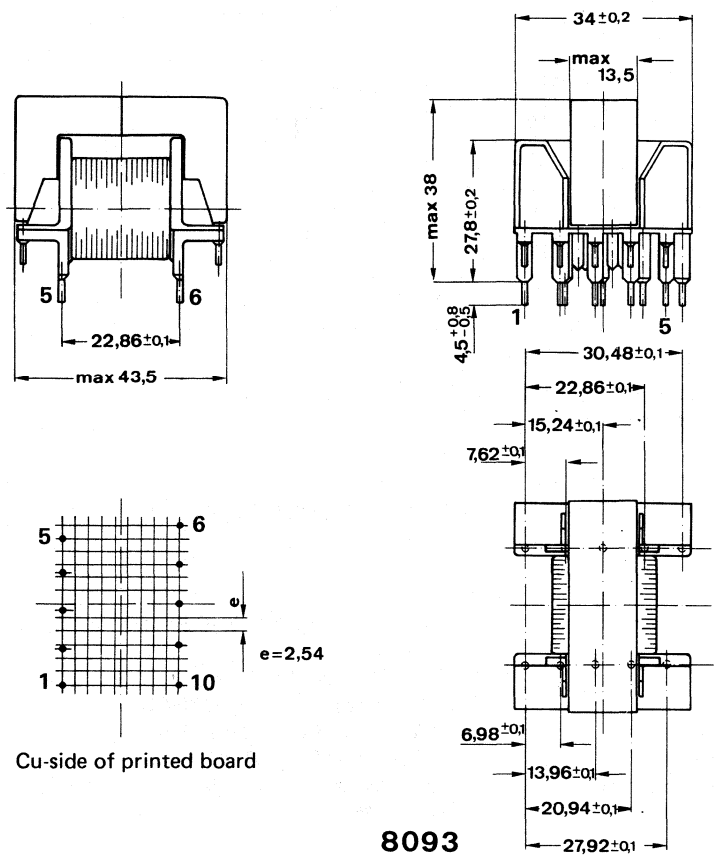
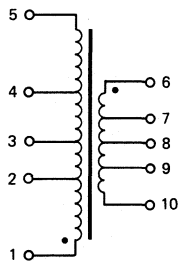
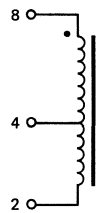
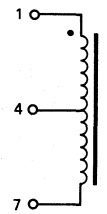
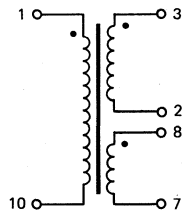


Fig. 1 Choke assembly.

ELECTRICAL DATA

	catalogue number			
	3112 338 30230	3112 338 30660	3122 138 50001	3122 138 50050
Inductance, primary* (tol. ± 10%)	(1-5) 150 mH	(8-2) 9 mH	(1-7) 25 mH	(1-10) 16 mH
Maximum current primary			(1-7) 560 mA	(1-10) 625 mA
Number of turns primary	(1-2) = 160 (2-3) = 80 (3-4) = 110 (4-5) = 165	(8-4) = 180 (4-2) = 162	(1-4) = 225 (4-7) = 225	(1-10) = 365
secondary	(6-7) = 1 (7-8) = 3 (8-9) = 3 (9-10) = 2			(3-2) = 62 (8-7) = 10
Diagram				

Test voltage (d.c.)

between primary and secondary	2000 V
between windings and core	500 V

Approbation

Sets with chokes of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The choke withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C

* Measured at 10 kHz, B_{max} = 0,1 T.

SWITCHED-MODE TRANSFORMER

- For consumer applications, e.g. monitors and television sets

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U25 cores. The primary and secondary windings are on separate coil formers, and concentrically mounted on one leg of the core. The transformer has 8 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

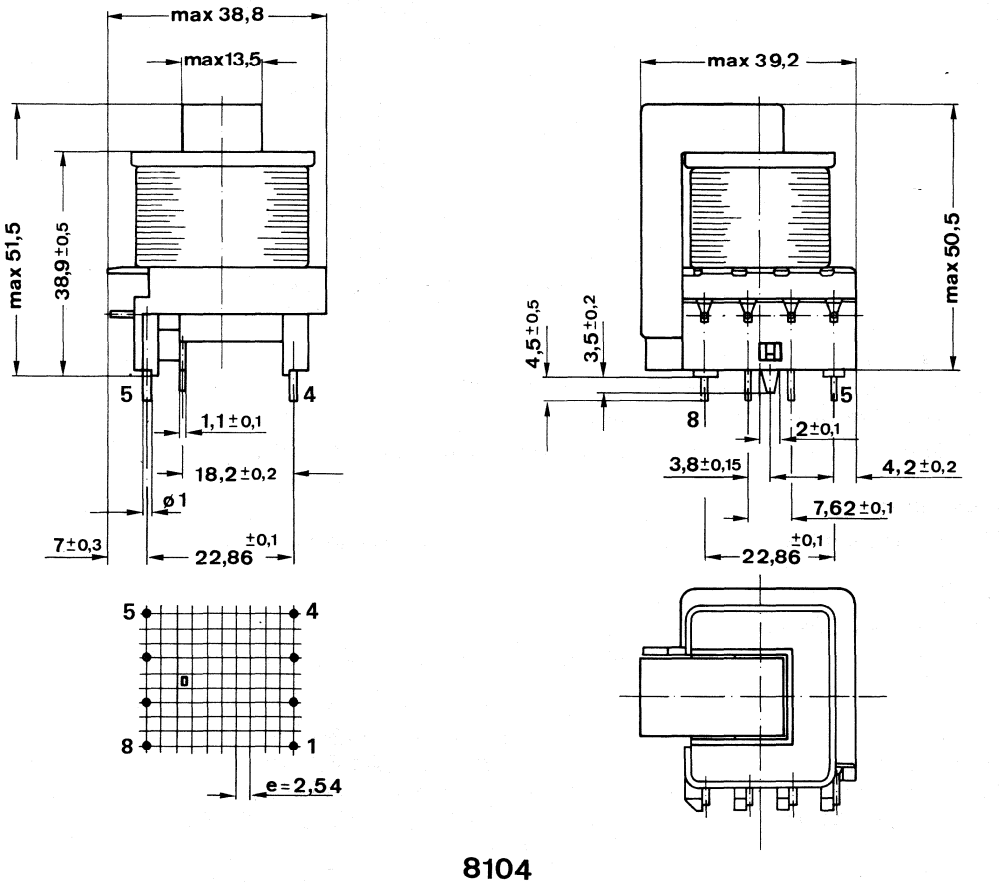
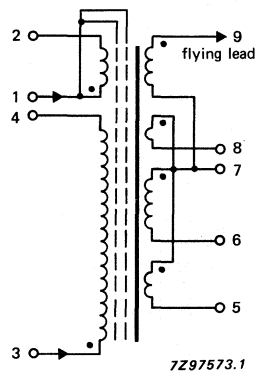


Fig. 1 Transformer assembly.

ELECTRICAL DATA

		catalogue number 3112 338 30120
Inductance, primary	(3-4)	2,2 mH
Leakage inductance, primary	(3-4)	4%
Number of turns, primary	(3-4)	70
	(1-2)	9
secondary	(7-8)	14
	(7-6)	17
	(7-5)	8
	(9-7)	8

Diagram



Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C

* Measured at 1 kHz, B_{max} = 0,1 T.

CHOKE

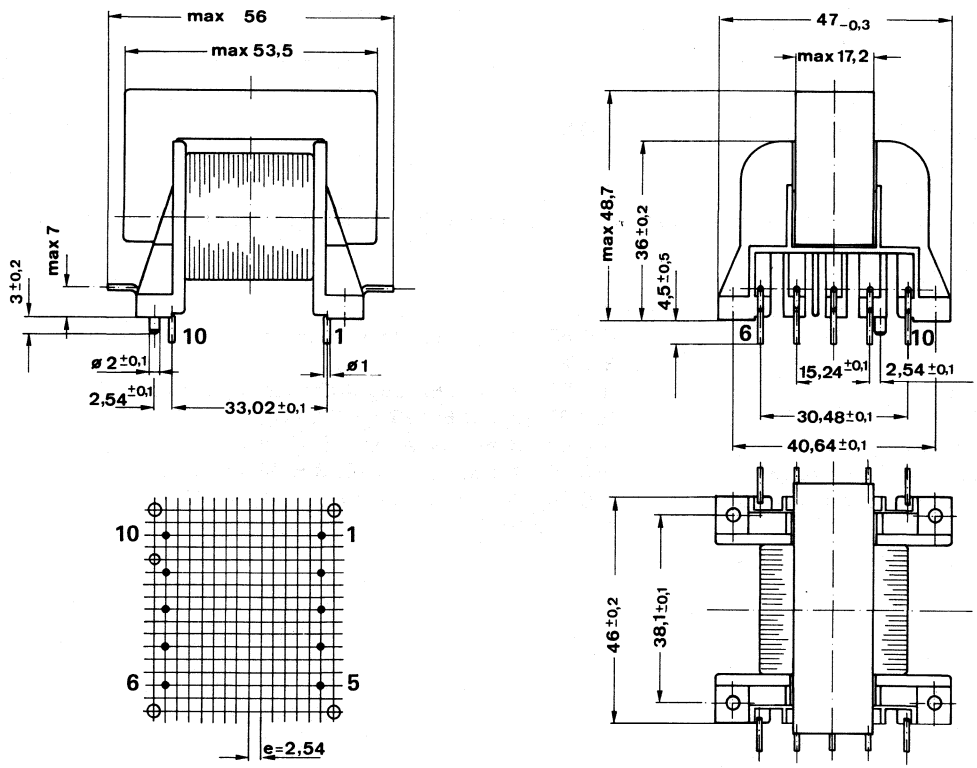
- To be used as a choke or a transformer
- For consumer applications, e.g. monitors and television sets

DESCRIPTION

The magnetic circuit of the choke comprises two Ferroxcube U30 cores. The choke has 10 pins for mounting on a printed-wiring board. It can be fixed to the board with four screws.

MECHANICAL DATA

Dimensions in mm



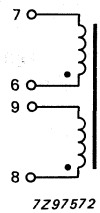
8105

Fig. 1 Choke assembly.

ELECTRICAL DATA

	catalogue number 3112 338 30150
Inductance (8-9)*	16 mH ± 10%
Resistance (8-9)**	1.65 Ω ± 12%
(6-7)**	0.054 Ω ± 12%
Maximum peak current (8-9)	1000 mA

Diagram



Test voltage (DC)
between windings 500 V

Approbation

Sets with chokes of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The choke withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = +100 °C

* Measured at 1 kHz, B_{max} = 0.1 T.
** Measured at T_{amb} = 23 °C.

CURRENT SENSING TRANSFORMER

- For switched-mode power supply circuits.
- For consumer applications, e.g. record players, casette recorders, television sets.

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U15-cores. The primary turn is potted in the coil former to guarantee the required isolation. The transformer has 4 pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

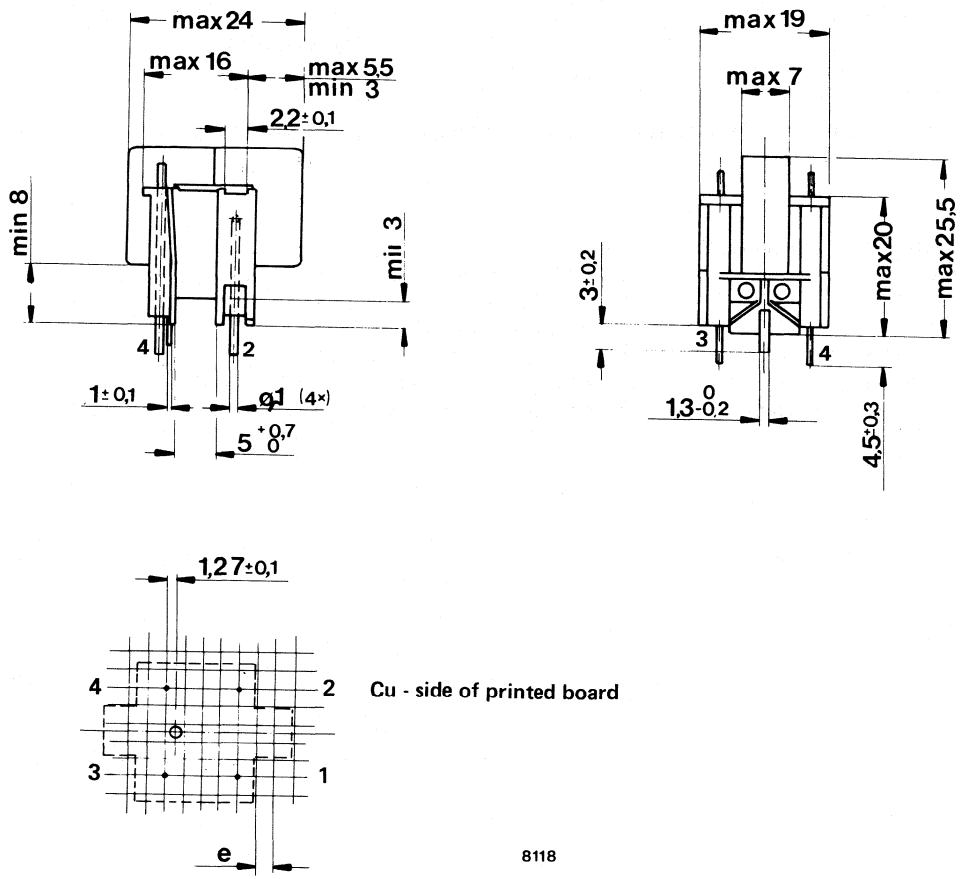
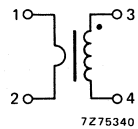


Fig. 1 Transformer assembly.

ELECTRICAL DATA

	catalogue number	
	3122 138 90301	3122 138 93391
Inductance (3-4)*	> 700 mH	> 12,5 mH
Resistance (3-4)**	44 Ω	1 Ω
Maximum current (1-2)	2,5 A	10 A
Turns ratio	1 : 800	1 : 100
Diagram		

Test voltage (DC) between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, and VDE0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0,35 mm 3 x 30 min
Bump	IEC 68-2-29, test Eb; 25g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bb; 96 h, +125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days, R.H. 95%
Damp heat, accelerated	IEC 68-2-4, test Db; +40 °C, R.H. 95 to 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = +100 °C

* Measured at 1 kHz, B_{max} = 0,1 T.
** Measured at T_{amb} = 23 °C.

SWITCHED-MODE TRANSFORMER

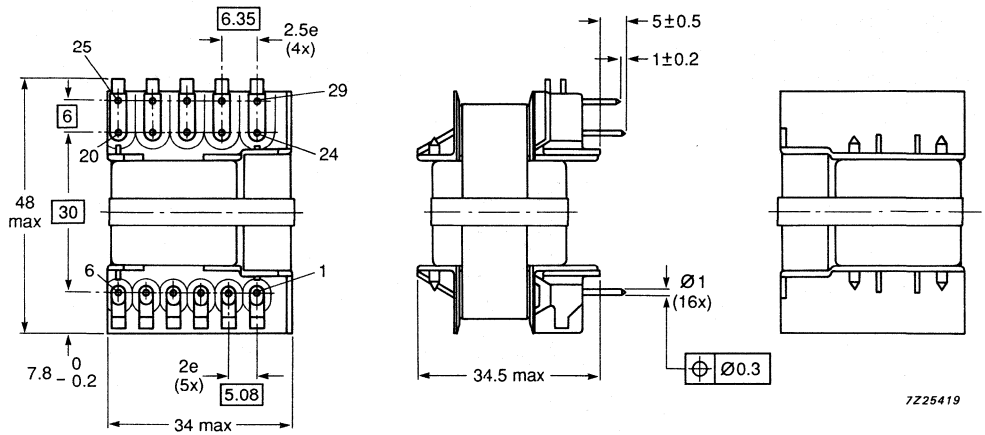
- For consumer applications, e.g. television sets and video recorders

DESCRIPTION

The magnetic circuit of the transformer comprises two Ferroxcube U25/20/13 cores. The primary and secondary windings are wound on one coil former. They are separated by reinforced insulation. The transformer has 6 primary and 10 secondary pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm



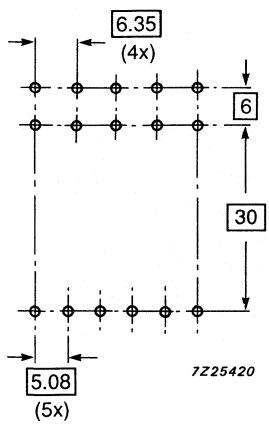


Fig.1 Transformer assembly.

ELECTRICAL DATA

Inductance, primary (note 1)	(6-4) 3.3 mH ± 10%
Leakage inductance, primary	(6-4) ⩽ 80 mH
Maximum peak current, primary	(6-4) 1 A
Number of turns	
primary	(2-1) 24
	(3-2) 4
	(6-4) 100
secondary	(23-24) 3
	(27-25) 8
	(25-29) 9
	(28-21) 7
	(21-22) 4
	(22-23) 4
	(20-26) 3
Power transfer	40 W
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Maximum operating temperature	115 °C

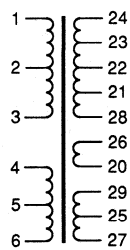


Fig.2 Circuit diagram.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 35g, 1000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bd; 96 hours, + 125 °C
Damp heat, steady state	IEC 68-2-3, test Ca; 21 days; RH 95%
Damp heat, accelerated	IEC 68-2-4, test Db; + 40 °C, RH 95 - 100%
Rapid change of temperature	IEC 68-2-14, test Na; cycles, T_A = –25 °C, T_B = + 55 °C

Note

1. Measured at 10 kHz, B_{max} = 0.3 T.

MAINS TRANSFORMERS

SEPARATING TRANSFORMER

- For consumer applications, e.g. record players, cassette recorders, television sets.

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The unit has seven pins for mounting on a printed-wiring board.

MECHANICAL DATA

Dimensions in mm

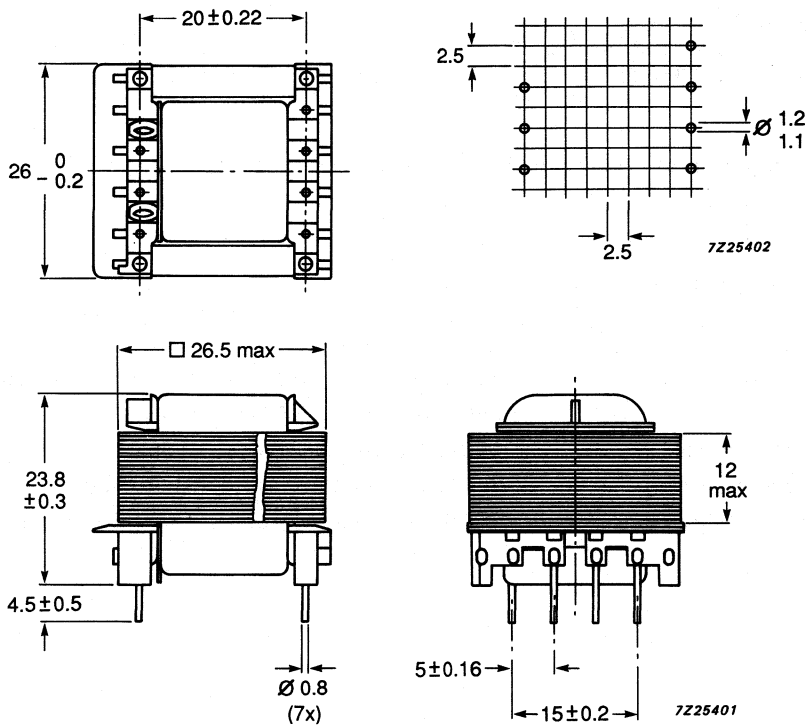


Fig.1 Transformer assembly.

ELECTRICAL DATA	catalogue number 3112 348 30840
Inductance*	(2-3) > 440 mH
Leakage inductance, primary	(2-3) < 25 mH
Resistance**	(2-3) 160 Ω ± 12%
	(5-8) 200 Ω ± 12%

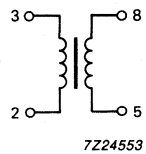


Fig.2 Circuit diagram.

Test voltage (DC)	
between winding 2-3 and winding 5-8	5300 V
between winding 2-3 and core	5300 V

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz amplitude 0.35 mm 3 x 30 minutes
Bump	IEC 68-2-29, test Eb; 25 g, 4000 bumps, 6 directions
Dry heat	IEC 68-2-2, test Bd; 96 hours, + 125 °C
Damp heat steady state	IEC 68-2-3, test Ca; 21 days, RH 95%
Damp heat accelerated	IEC 68-2-4, test Db; + 40 °C, RH 95 - 100%
Rapid change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 55 °C

* Measured at 1 kHz, I_{DC} = 50 mA.
** Measured at T_{amb} = 23 °C.

MAINS TRANSFORMER

- Output power 2.0 VA
- For consumer applications, e.g. record players, radio-cassette recorders, television sets.

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on one coil former, separated by a wall of insulation at least 1.6 mm thick. The transformer has 8 pins for mounting on printed-wiring boards.

MECHANICAL DATA

Dimensions in mm

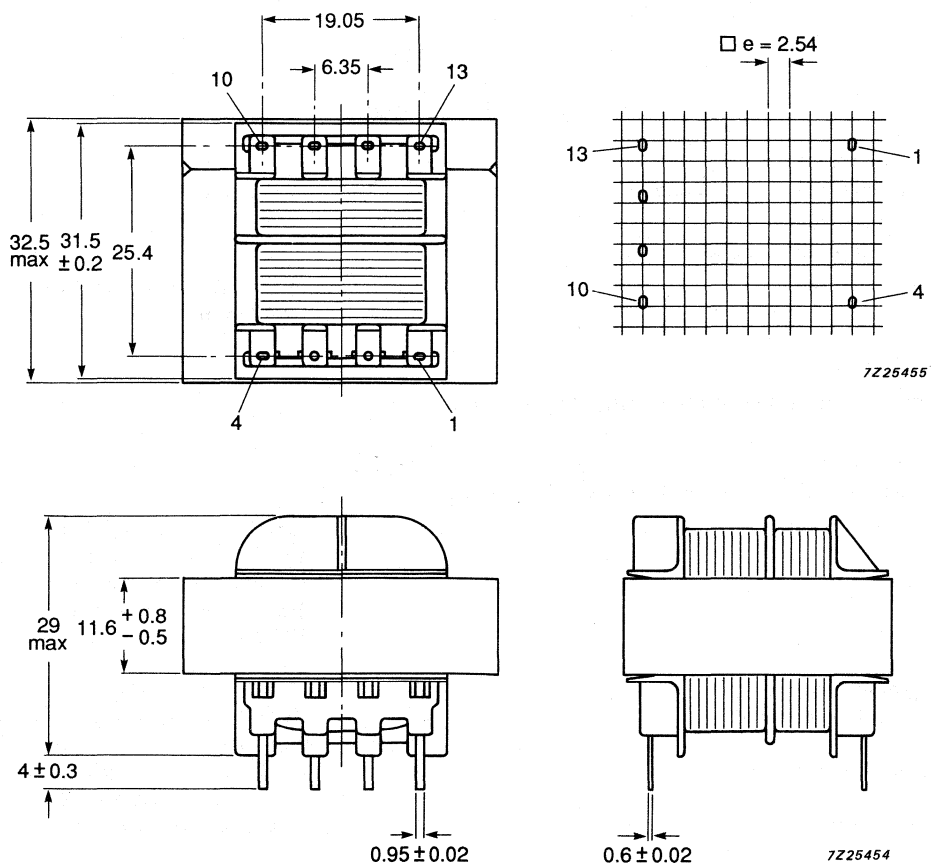


Fig.1 Mechanical assembly.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 80 °C) 2.0 VA

	catalogue number 3112 348 31190
Primary voltage	(4-1) 115 V
Primary resistance (at T_{amb} = 25 °C)	(4-1) 325 Ω
Secondary voltage	(13-11) 14.7 V (13-12) 18.3 V
Secondary resistance (at T_{amb} = 25 °C)	(13-11) 14.20 Ω (13-12) 11.80 Ω

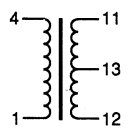


Fig.2 Circuit diagram.

Insulation resistance between primary and secondary	> 100 MΩ
Test voltage (AC) between primary and secondary	2000 V
Mains insulation	in accordance with UL1411 (⩾ 1.6 mm)

Approbation

Sets with transformers of this construction are released by UL.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc; 10-55-10 Hz, amplitude 0.35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb, 40 g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb, 96 hours, +125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, RH 95%
Damp heat, accelerated	IEC 68-2-4, test Dd, +55 °C, RH 95 to 100%
Change of temperature	IEC 68-2-14, test Na, 5 cycles, T_A = −25 °C, T_B = +100 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

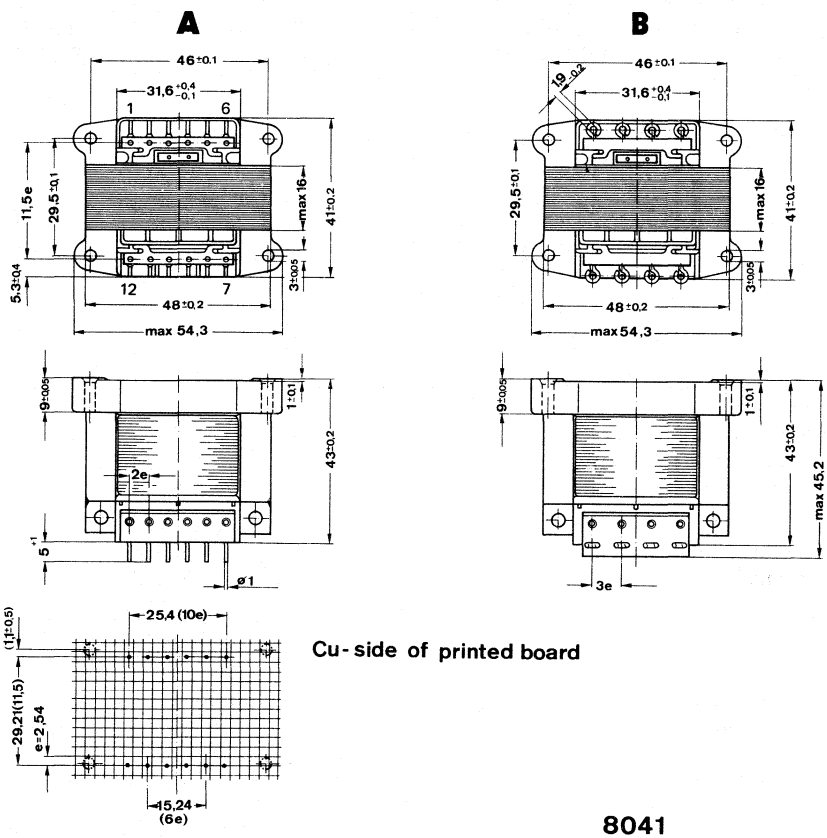
- Output power 8 VA
- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.
The transformer has 12 pins for mounting on printed-wiring boards (A), or solder tags with eyelets for wire connections (B).

MECHANICAL DATA

Dimensions in mm



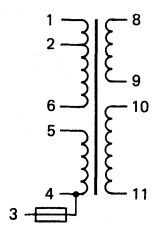
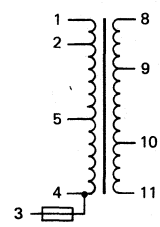
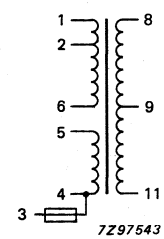
Mounting

The transformer is secured by means of four self-tapping screws of 3 mm.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 8 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number		
	3112 318 38130	3112 348 30110	3112 348 30330
Primary voltage	(3-5)* 110 V (3-1)* 127 V (3-2)** 220 V (3-1)** 240 V	(3-5) 110 V (3-2) 220 V (3-1) 240 V –	(3-5)* 110 V (3-1)* 127 V (3-2)** 220 V (3-1)** 240 V
Primary resistance (at T_{amb} = 25 °C)	(3-5)* 150 Ω (3-1)* 202 Ω (3-2)** 600 Ω (3-1)** 652 Ω	(3-5) 250 Ω (3-2) 590 Ω (3-1) 649 Ω –	(3-5)* 105 Ω (3-1)* 140 Ω (3-2)** 420 Ω (3-1)** 455 Ω
Secondary voltage	(8-9) 17,3 V (10-11) 28,3 V	(9-10) 9,2 V (8-11) 21 V	(8-9) 12,5 V (9-11) 12,5 V
Secondary resistance (at T_{amb} = 25 °C)	(8-9) 4,4 Ω (10-11) 110 Ω	(9-10) 2,1 Ω (8-11) 4,8 Ω	(8-9) 3,25 Ω (9-11) 3,25 Ω
Diagram			

Insulation resistance
- between primary and secondary > 60 MΩ
- between primary and core > 60 MΩ

Test voltage (d.c.)
- between primary and secondary 5600 V
- between primary and core 5600 V

Mains insulation according to IEC 65 class 2, VDE 0860

* (4-5) parallel connected to (6-2).

** Terminals 5 and 6 interconnected.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

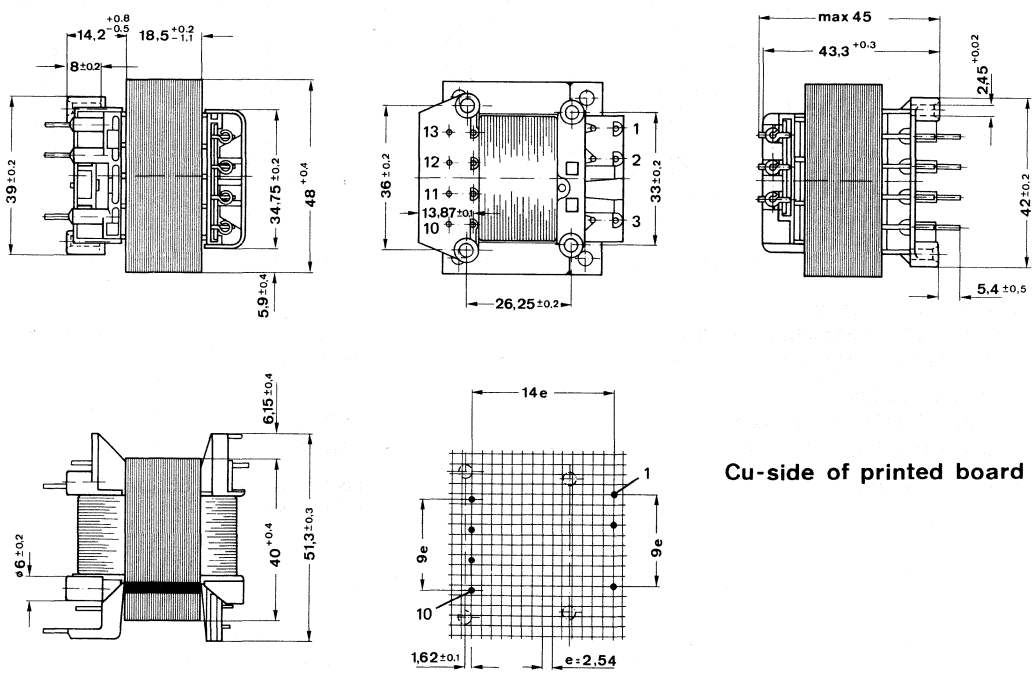
- Output power 8 VA
- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.
The transformer has 7 pins for mounting on printed-wiring boards.

MECHANICAL DATA

Dimensions in mm



Cu-side of printed board

8048

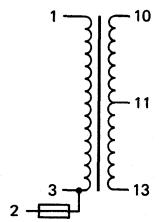
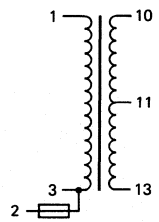
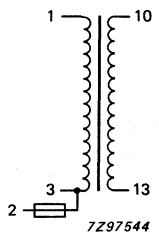
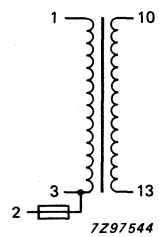
Mounting

The transformer is secured by means of four self-tapping screws of 3 mm.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 8 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112 318			
	35730	36940	37490	39190
Primary voltage	(1-2) 220 V (1-2) 240 V	(1-2) 220 V	(1-2) 220 V	(1-2) 240 V
Primary resistance (at T_{amb} = 25 °C)	(1-2) 400 Ω	(1-2) 400 Ω	(1-2) 540 Ω	(1-2) 540 Ω
Secondary voltage	(10-11) 25,2 V* (11-13) 25,2 V*	(10-11) 10,5 V (11-13) 10,5 V	(10-13) 10,8 V	(10-13) 22,3 V
Secondary resistance (at T_{amb} = 25 °C)	(10-11) 14 Ω (11-13) 14 Ω	(10-11) 2,2 Ω (11-13) 2,2 Ω	(10-13) 1,5 Ω	(10-13) 5,6 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

* At primary voltage of 220 V.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

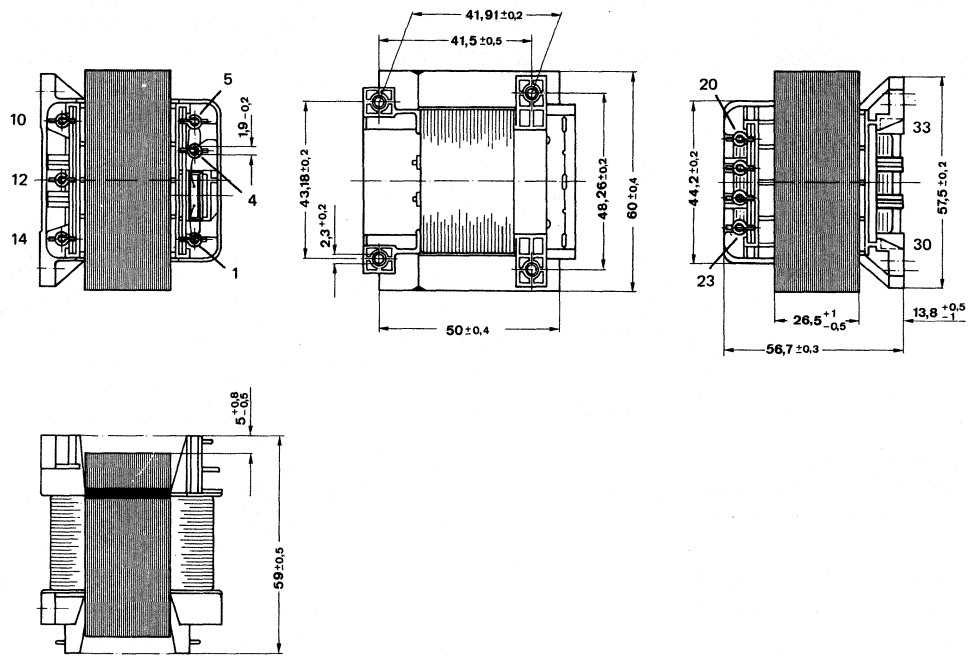
- Output power 25 VA
- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.

MECHANICAL DATA

Dimensions in mm



8103

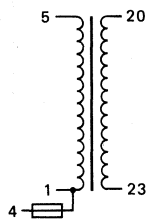
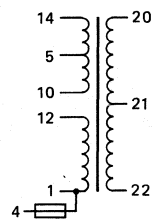
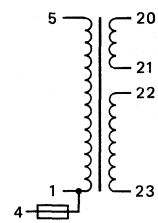
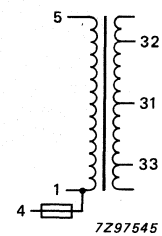
Mounting

The transformer is secured by means of four self-tapping screws of 3 mm.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 25 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112			
	318 38020	318 39560	318 39970	348 30340*
Primary voltage	(4-5) 220 V	(4-12)** 110 V (4-14)** 127 V (4-5)▲ 220 V (4-14)▲ 240 V	(4-5) 220 V	(4-5) 120 V
Primary resistance (at T_{amb} = 25 °C)	(4-5) 79,5 Ω	(4-12)** 22,3 Ω (4-14)** 30,2 Ω (4-5)▲ 89,3 Ω (4-14)▲ 97,2 Ω	(4-5) 61 Ω	(4-5) 20,5 Ω
Secondary voltage	(20-23) 14,8 V	(20-21) 12,3 V (21-22) 12,3 V	(20-21) 9,7 V (22-23) 17,1 V	(32-31) 10,3 V (31-33) 10,3 V
Secondary resistance (at T_{amb} = 25 °C)	(20-23) 0,37 Ω	(20-21) 0,7 Ω (21-22) 0,7 Ω	(20-21) 0,19 Ω (22-23) 2,3 Ω	(32-31) 0,46 Ω (31-33) 0,46 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

* UL approved.

** (1-12) parallel connected to (10-5).

▲ Terminals 10 and 12 interconnected.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

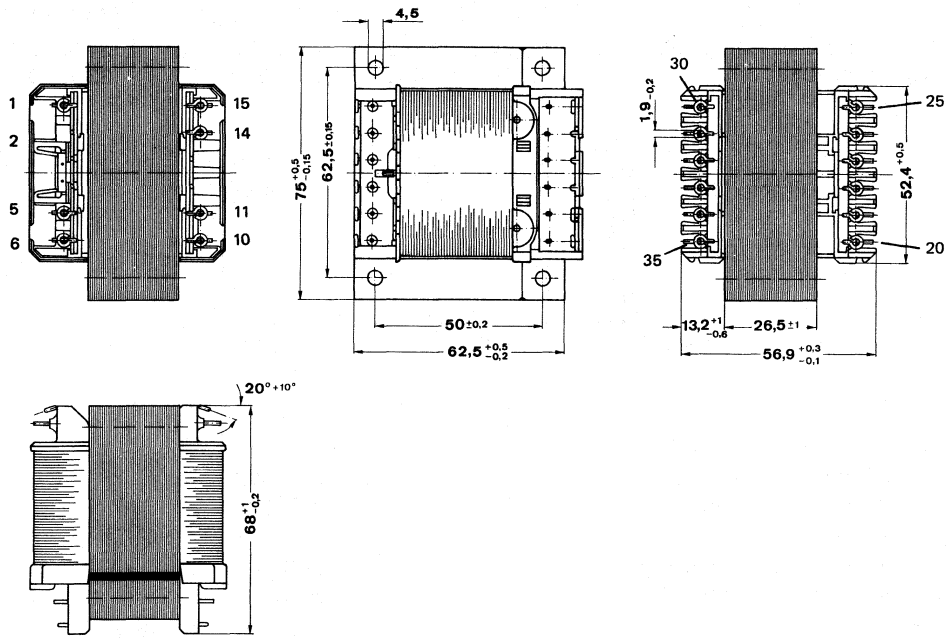
- Output power 48 VA
- For consumer applications, e.g. record players, video recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.

MECHANICAL DATA

Dimensions in mm



8061

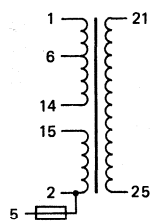
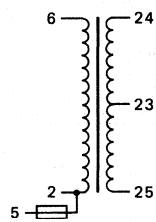
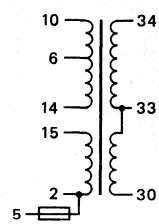
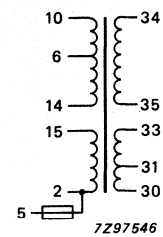
Mounting

The transformers can be fitted with four screws M4; the mounting holes are positioned according to DIN 41302.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 48 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112.			
	318 39480	318 39700	318 39990	348 30000
Primary voltage	(5-15)* 110 V (5-1)* 127 V (5-6)** 220 V (5-1)** 240 V	(5-6) 220 V	(5-6)* 110 V (5-10)* 127 V (5-6)** 220 V (5-10)** 240 V	(5-6)* 110 V (5-10)* 127 V (5-6)** 220 V (5-10)** 240 V
Primary resistance (at T_{amb} = 25 °C)	(5-15)* 10,2 Ω (5-1)* 13,8 Ω (5-6)** 41 Ω (5-1)** 44,6 Ω	(5-6) 39 Ω	(5-6)* 9,5 Ω (5-10)* 13 Ω (5-6)** 38 Ω (5-10)** 41,5 Ω	(5-6)* 9,5 Ω (5-10)* 13 Ω (5-6)** 38 Ω (5-10)** 41,5 Ω
Secondary voltage	(21-25) 62,5 V	(24-23) 9,1 V (23-25) 9,1 V	(34-33) 18,8 V (33-30) 10,2 V	(34-35) 27 V (33-30) 10,6 V
Secondary resistance (at T_{amb} = 25 °C)	(21-25) 3,1 Ω	(24-23) 0,16 Ω (23-25) 0,16 Ω	(34-33) 0,29 Ω (33-30) 2,6 Ω	(34-35) 0,8 Ω (33-30) 0,7 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Main insulation	according to IEC 65 class 2, VDE 0860

* (2-15) parallel connected to (14-6).

** Terminals 14 and 15 interconnected.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

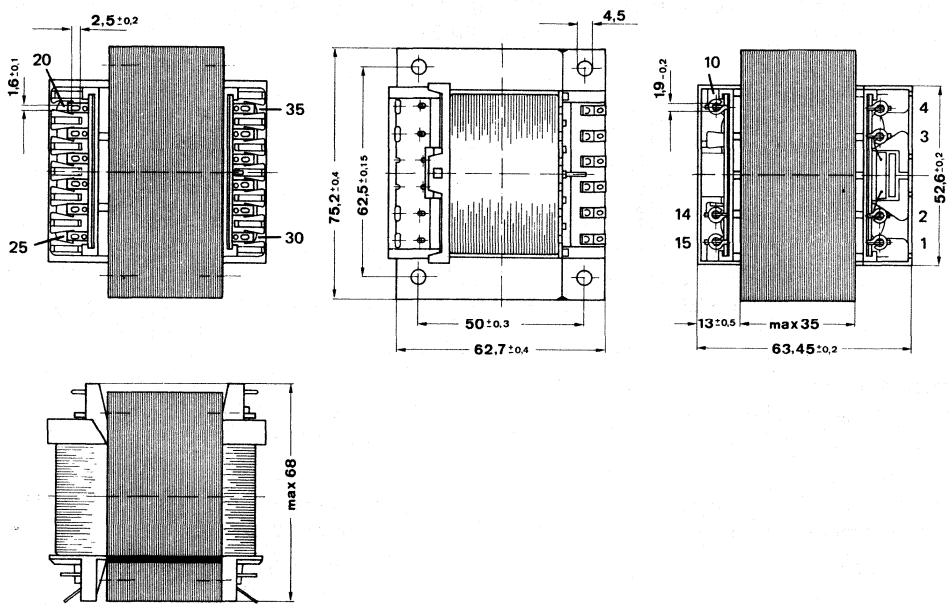
- Output power 60 VA
- For consumer applications, e.g. amplifiers, cassette recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.
The transformer has solder tags with eyelets for wire connections.

MECHANICAL DATA

Dimensions in mm



8054

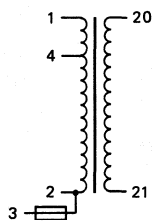
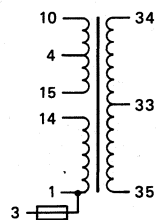
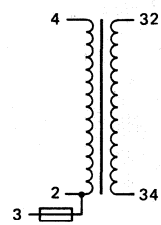
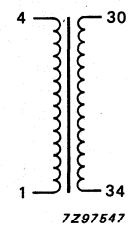
Mounting

The transformers can be fitted with four screws M4; the mounting holes are positioned according to DIN 41302.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 60 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112 318			
	38620	38820	39010	39440*
Primary voltage	(3-4) 220 V (3-1) 240 V	(3-14)** 110 V (3-10)** 127 V (3-4)▲ 220 V (3-10)▲ 240 V	(3-4) 220 V	(1-4) 120 V
Primary resistance (at T_{amb} = 25 °C)	(3-4) 27 Ω (3-1) 29,3 Ω	(3-14)** 6,7 Ω (3-10)** 9,2 Ω (3-4)▲ 27 Ω (3-10)▲ 29,5 Ω	(3-4) 21 Ω	(1-4) 7,0 Ω
Secondary voltage	(20-21) 15,5 V	(34-33) 25,6 V (33-35) 25,6 V	(32-34) 28 V	(30-34) 17,2 V
Secondary resistance (at T_{amb} = 25 °C)	(20-21) 0,13 Ω	(34-33) 0,65 Ω (33-35) 0,65 Ω	(32-34) 0,37 Ω	(30-34) 0,18 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

* Without temperature/current fuse.

** (1-14) parallel connected to (15-4).

▲ Terminals 14 and 15 interconnected.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

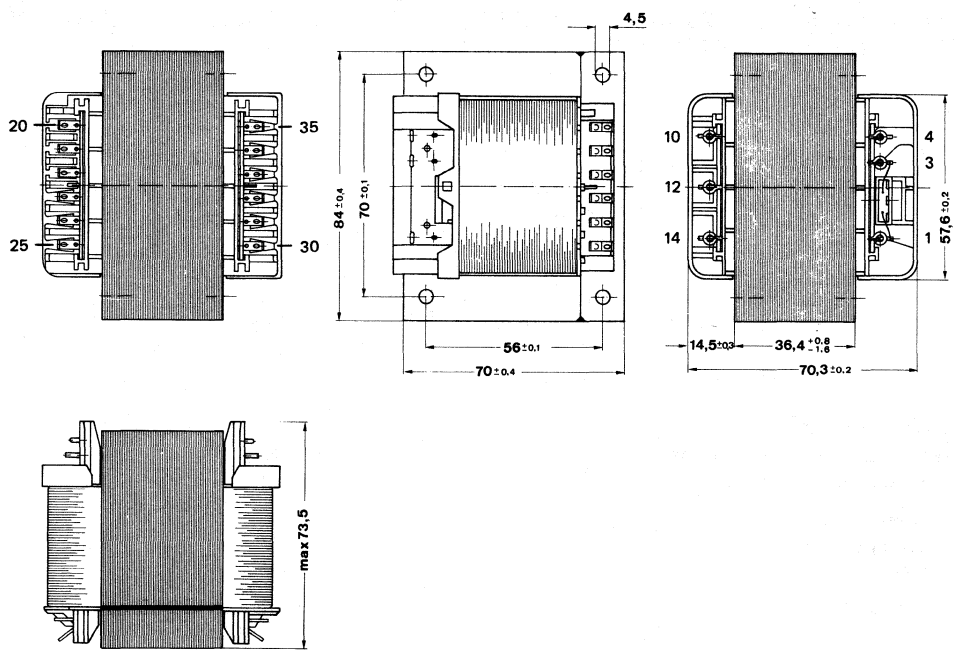
- Output power 95 VA
- For consumer applications, e.g. amplifiers, cassette recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.
The transformer has solder tags with eyelets for wire connections.

MECHANICAL DATA

Dimensions in mm



8064

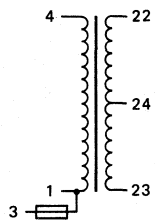
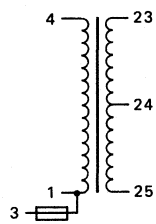
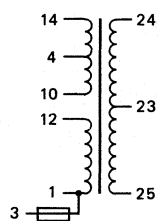
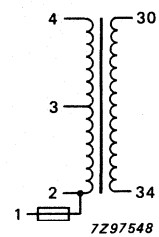
Mounting

The transformers can be fitted with four screws M4; the mounting holes are positioned according to DIN 41302.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 95 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112 318			
	37600	38710*	39030	39640**
Primary voltage	(2-4) 220 V	(3-4) 120 V	(3-12)▲ 110 V (3-14)▲ 127 V (3-4)▲▲ 220 V (3-14)▲▲ 240 V	(1-3) 120 V (1-4) 240 V
Primary resistance (at T_{amb} = 25 °C)	(2-4) 13 Ω	(3-4) 3 Ω	(3-12)▲ 4 Ω (3-14)▲ 5,4 Ω (3-4)▲▲ 16,0 Ω (3-14)▲▲ 17,4 Ω	(1-3) 5,3 Ω (1-4) 23,5 Ω
Secondary voltage	(22-24) 29,8 V (24-23) 29,8 V	(24-23) 28,4 V (23-25) 28,4 V	(24-23) 27,2 V (23-25) 27,2 V	(30-34) 49,7 V
Secondary resistance (at T_{amb} = 25 °C)	(22-24) 0,6 Ω (24-23) 0,6 Ω	(24-23) 0,36 Ω (23-25) 0,36 Ω	(24-23) 0,55 Ω (23-25) 0,55 Ω	(30-34) 0,78 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

* UL approved.
** UL and CSA approved.
▲ (1-12) parallel connected to (10-4).
▲▲ Terminals 10 and 12 interconnected.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

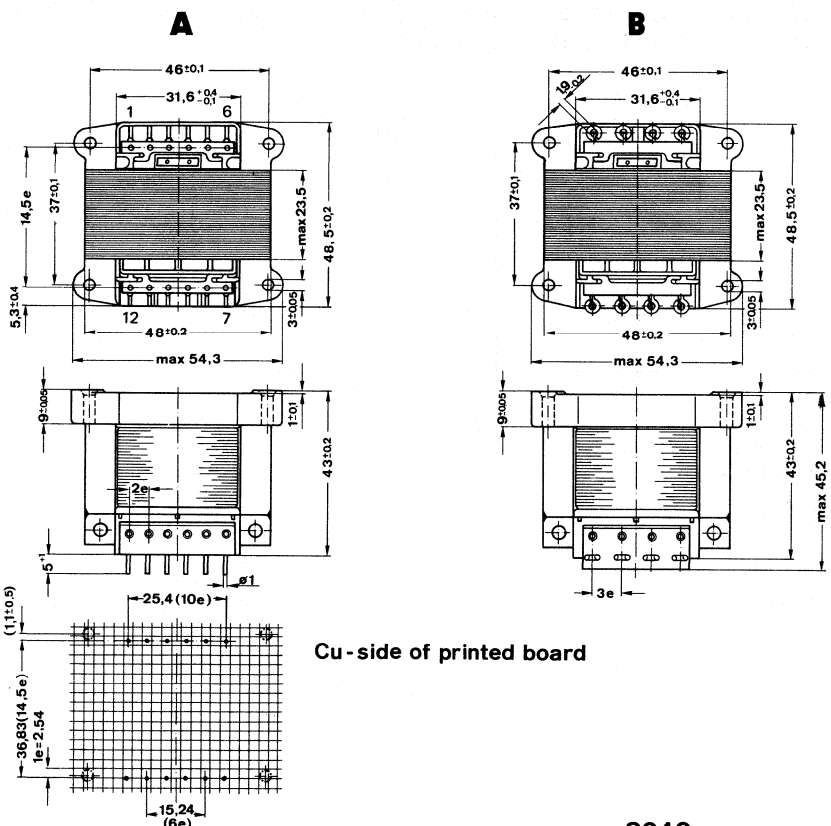
- Output power 12 VA
- For consumer applications, e.g. record players, cassette recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.
The transformer has 12 pins for mounting on printed-wirings boards (A), or solder tags with eyelets for wire connections (B).

MECHANICAL DATA

Dimensions in mm



8040

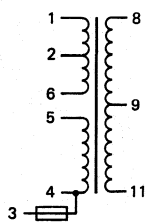
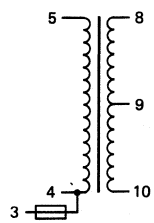
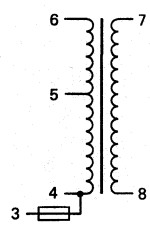
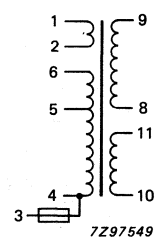
Mounting

The transformer is secured by means of four self-tapping screws of 3 mm.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 12 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112			
	348 30412	318 39470	348 30190	348 30430*
Primary voltage	(3-5)** 110 V (3-1)** 127 V (3-2)▲ 220 V (3-1)▲ 240 V	(3-5) 240 V	(3-5) 127 V (3-6) 220 V	(3-5) 220 V (3-6) 240 V (1-2) 7,9 V –
Primary resistance (at T_{amb} = 25 °C)	(3-5)** 79 Ω (3-1)** 106 Ω (3-2)▲ 315 Ω (3-1)▲ 342 Ω	(3-5) 270 Ω	(3-5) 147 Ω (3-6) 275 Ω	(3-5) 268 Ω (3-6) 294 Ω
Secondary voltage	(8-9) 11,9 V (9-11) 11,9 V	(8-9) 18,3 V (9-10) 18,3 V	(7-8) 11,8 V	(11-10) 10,9 V (9-8) 21,5 V
Secondary resistance (at T_{amb} = 25 °C)	(8-9) 2,2 Ω (9-11) 2,2 Ω	(8-9) 3,7 Ω (9-10) 3,7 Ω	(7-8) 1,23 Ω	(11-10) 1,2 Ω (9-8) 18 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

* Vacuum sealed, VDE 0551 approved.

** (4-5) parallel connected to (6-2).

▲ Terminals 5 and 6 interconnected.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

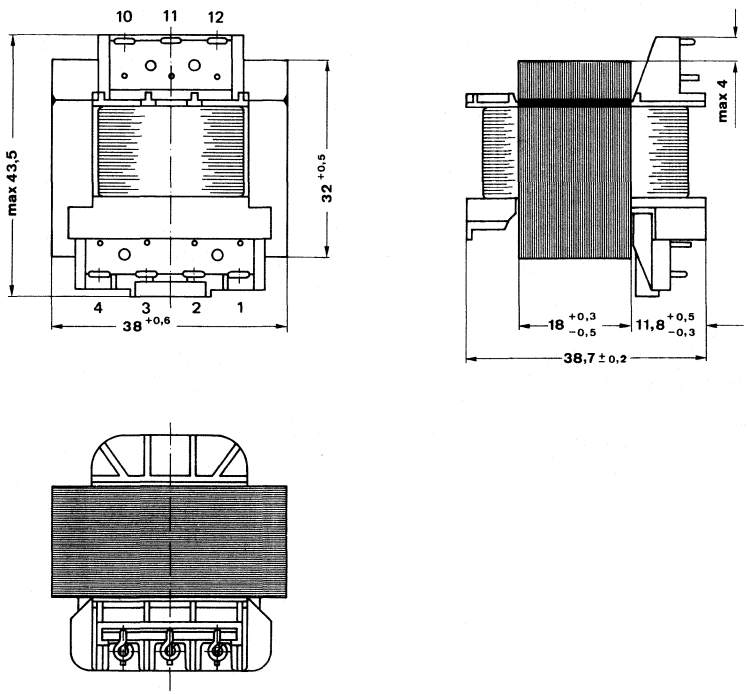
- Output power 3,2 VA
- For consumer applications, e.g. record players, radio-cassette recorders

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.

MECHANICAL DATA

Dimensions in mm

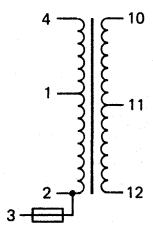
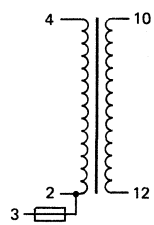
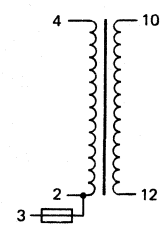
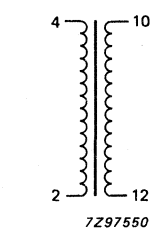


8067

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 3,2 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112 318			
	36510	38000	38010	39410*
Primary voltage	(3-1) 127 V (3-4) 220 V (3-4) 240 V	(3-4) 220 V	(3-4) 240 V	(2-4) 120 V
Primary resistance (at T_{amb} = 25 °C)	(3-1) 640 Ω (3-4) 1140 Ω	(3-4) 830 Ω	(3-4) 1140 Ω	(2-4) 290 Ω
Secondary voltage	(10-11) 10,3 V (11-12) 10,3 V	(10-12) 9,9 V	(10-12) 10 V	(10-12) 9,8 V
Secondary resistance (at T_{amb} = 25 °C)	(10-11) 7 Ω (11-12) 7 Ω	(10-12) 1,7 Ω	(10-12) 1,8 Ω	(10-12) 1,7 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

* Without fuse; UL approved.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

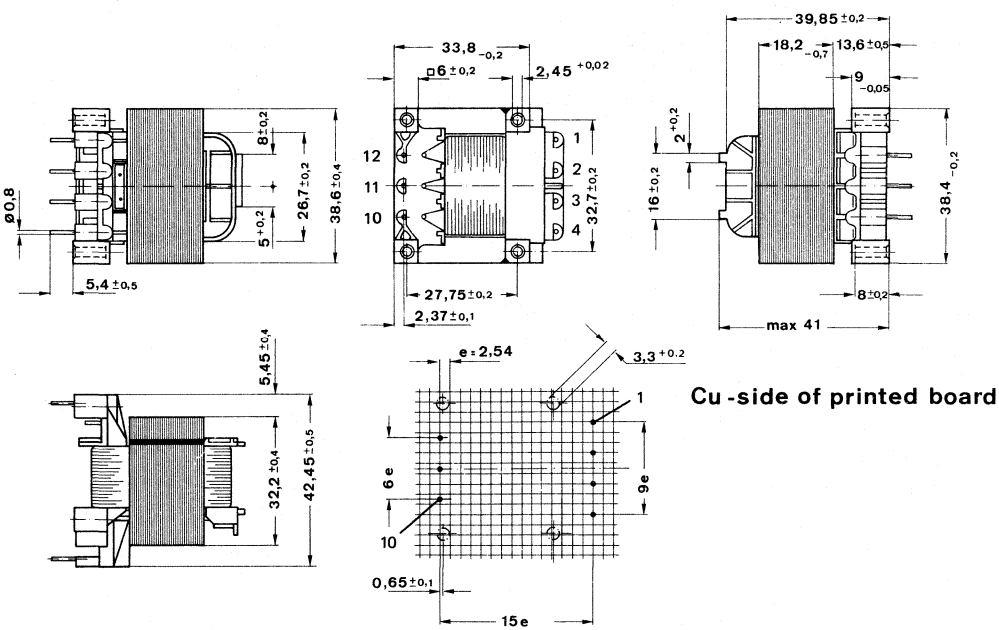
- Output power 3,2 VA
- For consumer applications, e.g. record players, radio-cassette recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination.
The transformer has 7 pins for mounting on printed-wiring boards.

MECHANICAL DATA

Dimensions in mm



8060

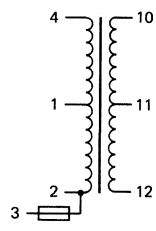
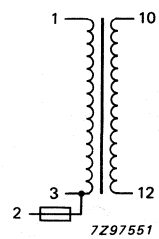
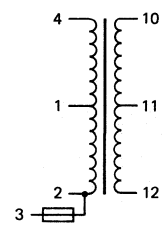
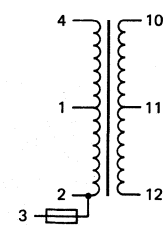
Mounting

The transformer is secured by means of four self-tapping screws of 3 mm.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 3,2 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

	catalogue number 3112			
	318 38210	318 39321*	318 39873**	348 30050
Primary voltage	(3-1) 115 V (3-4) 220 V	(2-1) 120 V	(3-1) 120 V (3-4) 230 V	(3-1) 127 V (3-4) 220 V (3-4) 240 V
Primary resistance (at T_{amb} = 25 °C)	(3-1) 360 kΩ (3-4) 1430 Ω	(2-1) 150 Ω	(3-1) 850 Ω (3-4) 2100 Ω	(3-1) 640 Ω (3-4) 1140 Ω
Secondary voltage	(10-11) 8,8 V (11-12) 8,8 V	(10-12) 14,6 V	(10-11) 20 V (11-12) 20 V	(10-11) 10,3 V (11-12) 10,3 V
Secondary resistance (at T_{amb} = 25 °C)	(10-11) 4,1 Ω (11-12) 4,1 Ω	(10-12) 2,4 Ω	(10-11) 38 Ω (11-12) 38 Ω	(10-11) 5,9 Ω (11-12) 5,9 Ω
Diagram				

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (d.c.)	
between primary and secondary	5600 V
between primary and core	5600 V
Mains insulation	according to IEC 65 class 2, VDE 0860

* UL approved.

** UL and CSA approved.

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

MAINS TRANSFORMER

- Output power 17 VA
- For consumer applications, e.g. CD players

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination. Fullprint, additional shielding is optional.

MECHANICAL DATA

Dimensions in mm

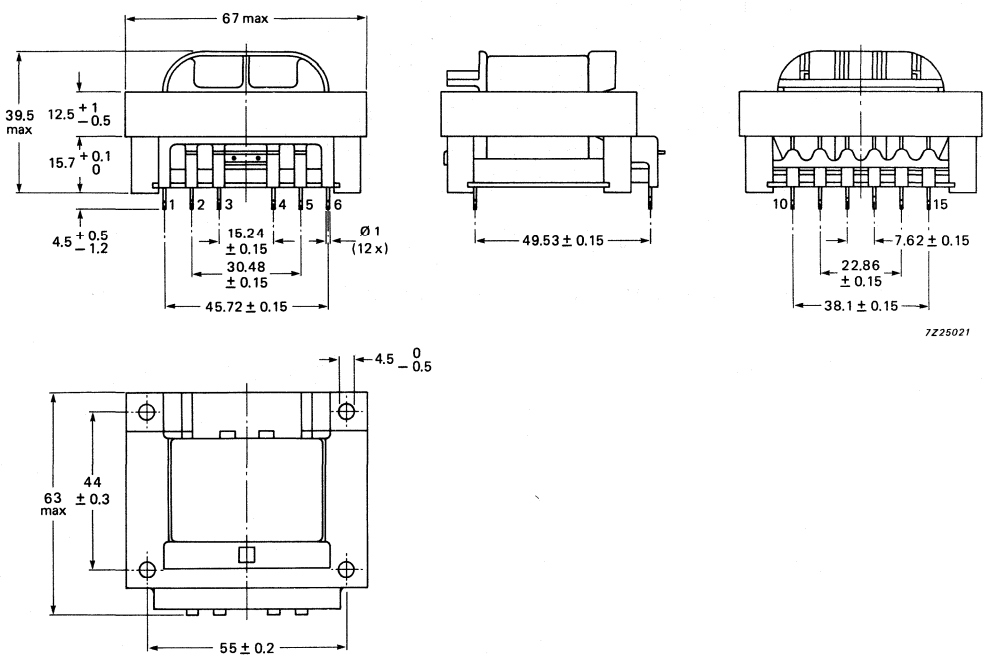
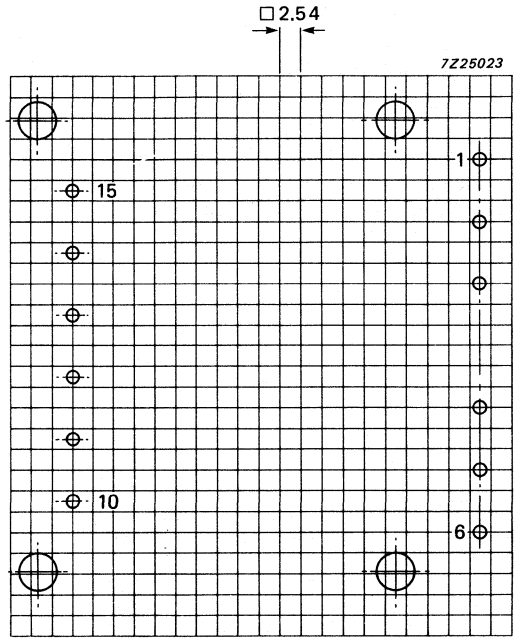


Fig. 1 Transformer assembly.

Mounting

The transformer is mounted to the printed-wiring board by means of a special mounting frame. The mounting holes are positioned according to DIN 41302. Four screws, size N6 are required.



Cu-side of printed board.

Fig. 2 Hole pattern for mounting on a printed wiring board.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 17 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

Primary voltages	(4-2)*	110 V
	(4-6)*	127 V
	(4-5)**	220 V
	(4-6)**	240 V
Primary resistances (at T_{amb} = 25 °C)	(4-2)*	95 Ω
	(4-6)*	111 Ω
	(4-5)**	190 Ω
	(4-6)**	206 Ω
Secondary voltages	(11-12)	21 V
	(14-15)	39,2 V
Secondary resistances (at T_{amb} = 25 °C)	(11-12)	2,1 Ω
	(14-15)	43 Ω

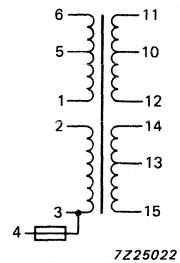


Fig. 3 Transformer circuit.

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Main insulation	according to IEC 65 class 2, VDE 0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = –25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

* (3-2) parallel connected to (1-5).

** Terminals 1 and 2 interconnected.

MAINS TRANSFORMER

- Output power 25 VA
- For consumer applications, e.g. CD players, video recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination. Fullprint, additional shielding is optional.

MECHANICAL DATA

Dimensions in mm

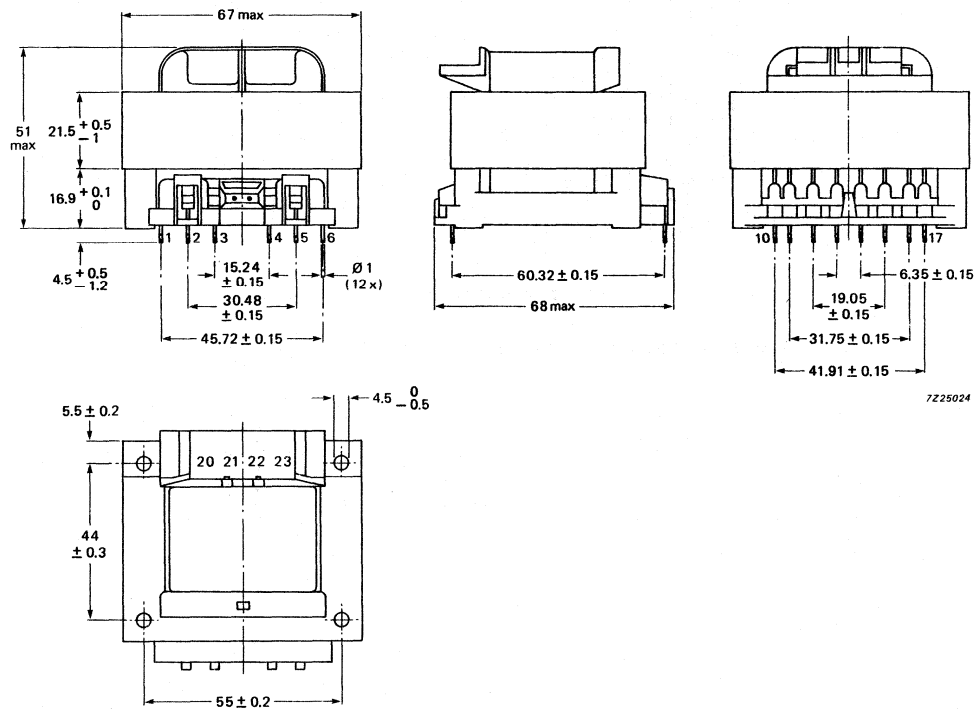
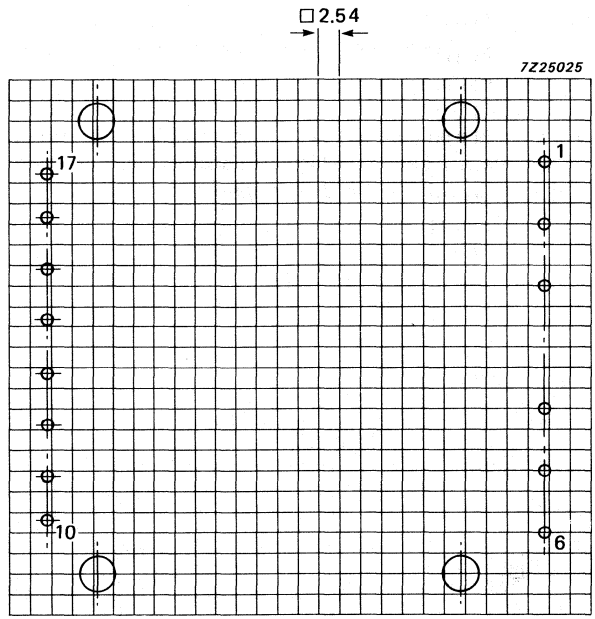


Fig. 1 Transformer assembly.

Mounting

The transformer is mounted to the printed-wiring board by means of a special mounting frame. The mounting holes are positioned according to DIN 41302. Four screws, size N6 are required.



Cu-side of printed board.

Fig. 2 Hole pattern for mounting on a printed wiring board.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 25 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

Primary voltages	(4-2)*	110 V
	(4-6)*	127 V
	(4-5)**	220 V
	(4-6)**	240 V
Primary resistances (at T_{amb} = 25 °C)	(4-1)*	22 Ω
	(4-6)*	29,5 Ω
	(4-5)**	88 Ω
	(4-6)**	95,5 Ω
Secondary voltages	(13-14)	2 x 10,0 V
	(15-16)	2 x 20,3 V
	(20-21)	2 x 38,0 V
	(22-23)	2 x 2,3 V
Secondary resistances (at T_{amb} = 25 °C)	(20-21)	25,7 Ω

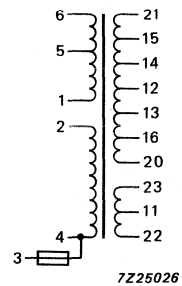


Fig. 3 Transformer circuit.

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Main insulation	according to IEC 65 class 2, VDE 0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

* (3-2) parallel connected to (1-5).

** Terminals 2 and 1 interconnected.

MAINS TRANSFORMER

- Output power 35 VA
- For consumer applications, e.g. CD players, video recorders, television sets

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination. Fullprint, additional shielding is optional.

MECHANICAL DATA

Dimensions in mm

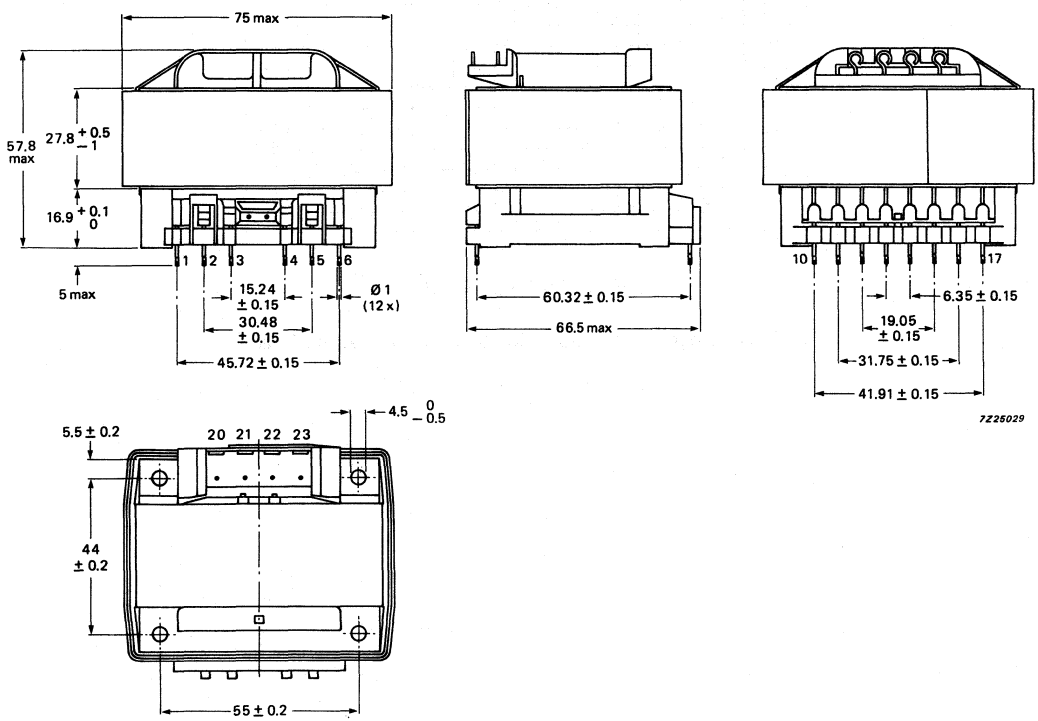
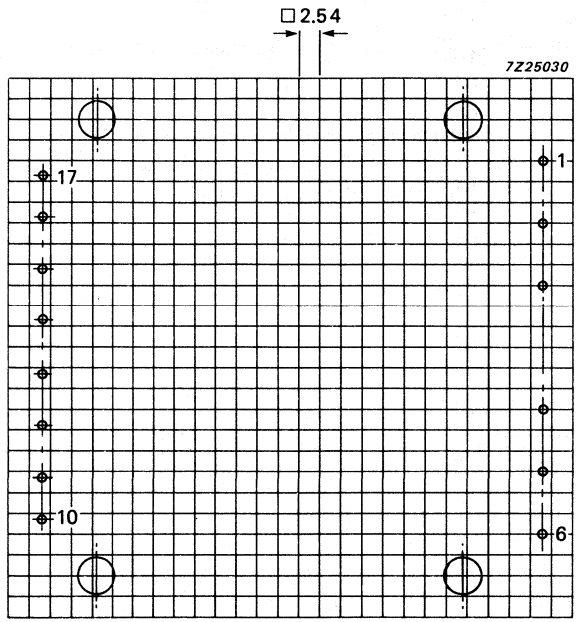


Fig. 1 Transformer assembly.

Mounting

The transformer is mounted to the printed-wiring board by means of a special mounting frame. The mounting holes are positioned according to DIN 41302. Four screws, size N6 are required.



Cu-side of printed board.

Fig. 2 Hole pattern for mounting on a printed wiring board.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 35 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

Primary voltages	(4-2)*	110 V
	(4-6)*	127 V
	(4-5)**	220 V
	(4-6)**	240 V
Primary resistances (at T_{amb} = 25 °C)	(4-2)*	15,5 Ω
	(4-6)*	20,5 Ω
	(4-5)**	62 Ω
	(4-6)**	67 Ω
Secondary voltages	(13-14)	13 V
	(14-15)	13 V
	(16-17)	20 V
Secondary resistances (at T_{amb} = 25 °C)	(13-14)	0,65 Ω
	(14-15)	0,65 Ω
	(16-17)	1,70 Ω

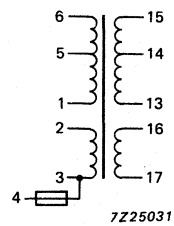


Fig. 3 Transformer circuit.

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Main insulation	according to IEC 65 class 2, VDE 0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

* (3-2) parallel connected to (1-5).

** Terminals 1 and 2 interconnected.

MAINS TRANSFORMER

- Output power 45 VA
- For consumer applications, e.g. video recorders, television sets, audio combinations

DESCRIPTION

This transformer has a laminated iron core (welded E-I combination). The primary and secondary windings are wound on separate coil formers, which are concentrically mounted on the centre leg of the E-I combination. Fullprint, additional shielding is optional.

MECHANICAL DATA

Dimensions in mm

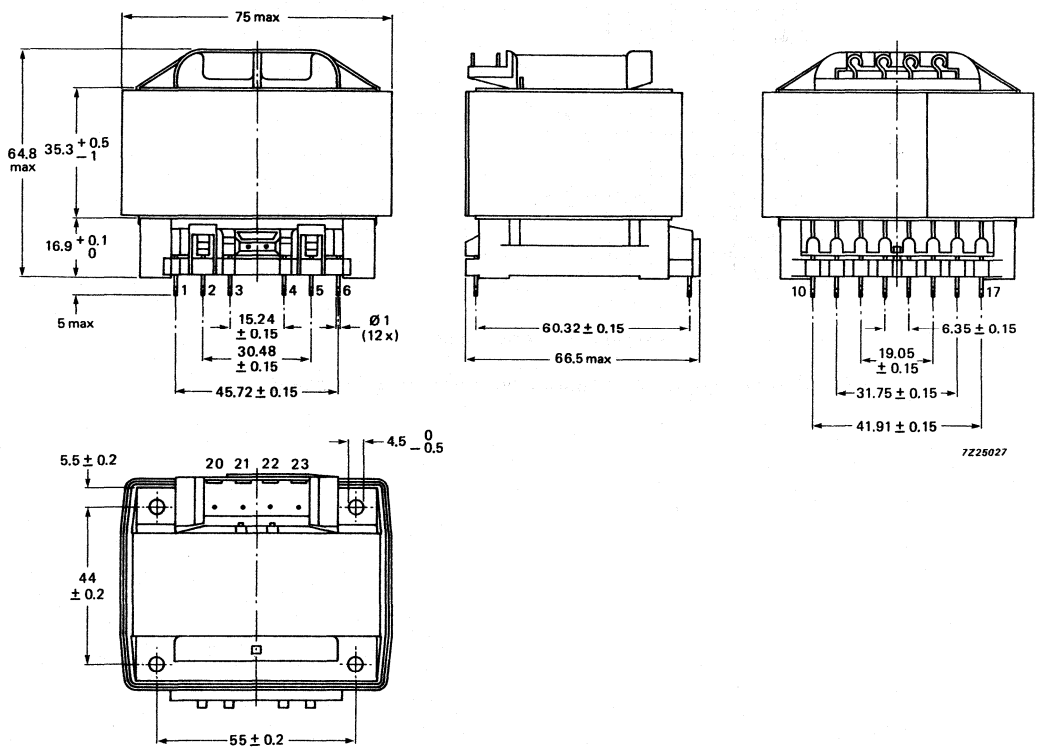
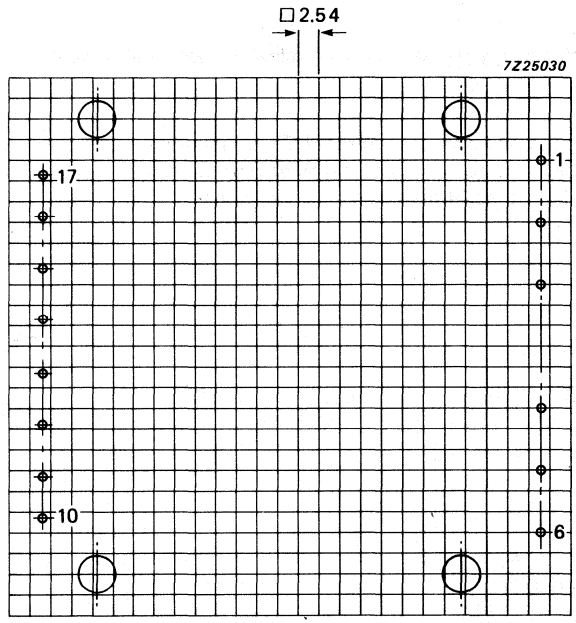


Fig. 1 Transformer assembly.

Mounting

The transformer is mounted to the printed-wiring board by means of a special mounting frame. The mounting holes are positioned according to DIN 41302. Four screws, size N6 are required.



Cu-side of printed board.

Fig. 2 Hole pattern for mounting on a printed-wiring board.

ELECTRICAL DATA

Output power at T = 115 °C (T_{amb} = 60 °C) 45 VA

Note: for over-temperature protection a built-in temperature/current fuse for 123 °C is used.

Primary voltages	(3-2)*	110 V
	(3-6)*	127 V
	(3-5)**	220 V
	(3-6)**	240 V
Primary resistances (at T_{amb} = 25 °C)	(3-2)*	12 Ω
	(3-6)*	15,5 Ω
	(3-5)**	47 Ω
	(3-6)**	50,6 Ω
Secondary voltages	(13-15)	2 x 11,2 V
	(16-17)	2 x 17,7 V
Secondary resistances (at T_{amb} = 25 °C)	(13-15)	1 Ω
	(16-17)	2 Ω

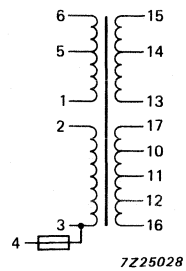


Fig. 2 Transformer circuit.

Insulation resistance	
between primary and secondary	> 60 MΩ
between primary and core	> 60 MΩ
Test voltage (DC)	
between primary and secondary	5600 V
between primary and core	5600 V
Main insulation	according to IEC 65 class 2, VDE 0860

Approbation

Sets with transformers of this construction are released by Demko, Nemko, Semko, EI, SEV, UL and BSI.

TESTS

The mains transformer withstands the following tests:

Vibration	IEC 68-2-6, test Fc, 10-55-10 Hz, amplitude 0,35 mm, 3 x 30 min.
Bump	IEC 68-2-29, test Eb; 40g, 4000 bumps, 3 directions.
Dry heat	IEC 68-2-2, test Bb; 96 h, + 125 °C.
Damp heat, steady state	IEC 68-2-3, test Ca, 21 days, R.H. 95%.
Damp heat, accelerated	IEC 68-2-4, test D, + 55 °C, R.H. 95 to 100%.
Change of temperature	IEC 68-2-14, test Na; 5 cycles, T_A = −25 °C, T_B = + 125 °C.
Flammability	UL94, category V2.

* (3-2) parallel connected to (1-5).

** Terminals 1 and 2 interconnected.

DATA HANDBOOK SYSTEM

DATA HANDBOOK SYSTEM

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DISCRETE SEMICONDUCTORS

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PASSIVE COMPONENTS*

PROFESSIONAL COMPONENTS**

MATERIALS*

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The data handbooks contain all pertinent data available at the time of publication, and each is revised and reissued periodically.

When ratings or specifications differ from those published in the preceding edition they are indicated with arrows in the page margin. Where application is given it is advisory and does not form part of the product specification.

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code	handbook title
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IC04	**HE4000B logic family** CMOS
IC05	**Advanced Low-power Schottky (ALS) Logic Series**
IC06	**High-speed CMOS; PC74HC/HCT/HCU** Logic family
IC07	**Advanced CMOS logic (ACL)**
IC08	**ECL 10K and 100K logic families**
IC09N	**TTL logic series**
IC10	**Memories** MOS, TTL, ECL
IC11	**Linear Products**
IC12	**I^2C-bus compatible ICs**
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IC14	**Microcontrollers** NMOS, CMOS
IC15	**FAST TTL logic series**
Supplement to IC15	**FAST TTL logic series**
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IC17	**ICs for Telecom** Bipolar, MOS Radio pagers Mobile telephones ISDN
IC18	**Microprocessors and peripherals**
IC19	**Data communication products**

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current code	new code	handbook title
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S2a	**SC02***	**Power diodes**
S2b	**SC03***	**Thyristors and triacs**
S3	**SC04**	**Small-signal transistors**
S4a	**SC05**	**Low-frequency power transistors and hybrid IC power modules**
S4b	**SC06**	**High-voltage and switching power transistors**
S5	**SC07**	**Small-signal field-effect transistors**
S6	**SC08** **SC09**	**RF power transistors** **RF power modules**
S7	**SC10**	**Surface mounted semiconductors**
S8a	**SC11***	**Light emitting diodes**
S8b	**SC12**	**Optocouplers**
S9	**SC13***	**PowerMOS transistors**
S10	**SC14**	**Wideband transistors and wideband hybrid IC modules**
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S15**	**SC16**	**Laser diodes**
S13	**SC17**	**Semiconductor sensors**
S14	**SC18***	**Liquid crystal displays and driver ICs for LCDs**

* Not yet issued with the new code in this series of handbooks.
** New handbook in this series; will be issued shortly.

DISPLAY COMPONENTS

This series of data handbooks comprises:

current code	new code	handbook title
T8	**DC01**	**Colour display components**
T16	**DC02**	**Monochrome monitor tubes and deflection units**
C2	**DC03***	**Television tuners, coaxial aerial input assemblies**
C3	**DC04***	**Loudspeakers**
C20	**DC05**	**Flyback transformers, mains transformers and general-purpose FXC assemblies**

* These handbooks are currently issued in another series; they are not yet issued in the Display Components series of handbooks.

PASSIVE COMPONENTS

This series of data handbooks comprises:

current code	new code	handbook title
C14	**PA01**	**Electrolytic capacitors; solid and non-solid**
C11	**PA02**	**Varistors, thermistors and sensors**
C12	**PA03**	**Potentiometers and switches**
C7	**PA04**	**Variable capacitors**
C22	**PA05***	**Film capacitors**
C15	**PA06***	**Ceramic capacitors**
C9	**PA07***	**Piezoelectric quartz devices**
C13	**PA08***	**Fixed resistors**

* Not yet issued with the new code in this series of handbooks.

PROFESSIONAL COMPONENTS

This series of data handbooks comprises:

current code	new code	handbook title
T1	*	**Power tubes for RF heating and communications**
T2a	*	**Transmitting tubes for communications, glass types**
T2b	*	**Transmitting tubes for communications, ceramic types**
T3	**PC01****	**High-power klystrons**
T4	*	**Magnetrons for microwave heating**
T5	**PC02****	**Cathode-ray tubes**
T6	**PC03****	**Geiger-Müller tubes**
T9	**PC04****	**Photo and electron multipliers**
T10	**PC05**	**Plumbicon camera tubes and accessories**
T11	**PC06**	**Circulators and Isolators**
T12	**PC07**	**Vidicon and Newvicon camera tubes and deflection units**
T13	**PC08**	**Image intensifiers**
T15	**PC09****	**Dry reed switches**
C8	**PC10**	**Variable mains transformers; annular fixed transformers**
	PC11	**Solid state image sensors and peripheral integrated circuits**

* These handbooks will not be reissued.
** Not yet issued with the new code in this series of handbooks.

MATERIALS

This series of data handbooks comprises:

current code	new code	handbook title
C4, C5	MA01*	**Soft Ferrites**
C16	MA02**	**Permanent magnet materials**
C19	MA03**	**Piezoelectric ceramics**

* Handbooks C4 and C5 will be reissued as one handbook having the new code MA01.

** Not yet issued with the new code in this series of handbooks.

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