1. General description

The NMUX27518E is a bidirectional, 6-channel, 1:2 multiplexer-demultiplexer designed to operate from 1.62 V to 3.6 V. This device can handle both digital and analog signals, and can transmit signals up to V_{CC} in either direction. The NMUX27518E has two control pins (S0, S1), each controlling three 1:2 muxes at the same time, and an enable pin ($\overline{\text{EN}}$) that put all outputs in high-impedance mode. The control pins are compatible with 1.8 V logic thresholds and are backward compatible with 2.5 V and 3.3 V logic thresholds.

2. Features and benefits

- Wide operating range: 1.62 V to 3.6 V
- Isolation in power-down mode, V_{CC} = 0 V
- Low-capacitance switches, 21.5 pF (typical)
- Bandwidth up to 240 MHz for high-speed rail-to-rail signal handling
- · Crosstalk and isolation OFF-state: -62 dB
- 1.8 V logic compatible control inputs
- · 3.6 V tolerant control inputs
- Latch-up performance exceeds 100 mA per JESD 78, Class II
- ESD protection:
 - HBM: ANSI/ESDA/JEDEC JS-001 class 2 exceeds 2 kV
 - CDM: ANSI/ESDA/JEDEC JS-002 class C3 exceeds 1.5 k V
 - IEC61000-4-2, level 3, contact discharge on all nYn pins exceeds ±6 kV
- 24 pins TSSOP24 (7.8 x 4.4 x 1.1 mm body) and HWQFN24 (4 × 4 × 0.75 mm body) packages
- Specified from -40 °C to +85 °C

3. Applications

- SD-SDIO and MMC two-port MUX
- PC VGA video MUX-video systems
- · Audio and video signal routing
- Server



6-channel, 1-of-2 multiplexer and demultiplexer

4. Ordering information

Table 1. Ordering information

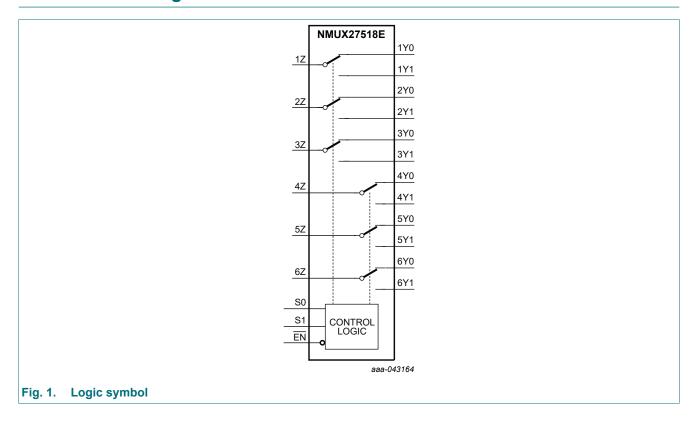
Type number	Package	kage								
	Temperature range Name Description Ve									
NMUX27518EPW	-40 °C to +85 °C	TSSOP24	plastic thin shrink small outline package; 24 leads; body width 4.4 mm	SOT355-1						
NMUX27518EBY	-40 °C to +85 °C	HWQFN24	plastic thermal enhanced very very thin Quad Flat packages; no leads; 24 terminals; 0.5 mm pitch; 4 × 4 × 0.75 mm body	SOT8041-1						

5. Marking

Table 2. Marking

Type number	Marking code
NMUX27518EPW	MUX27518E
NMUX27518EBY	M7518E

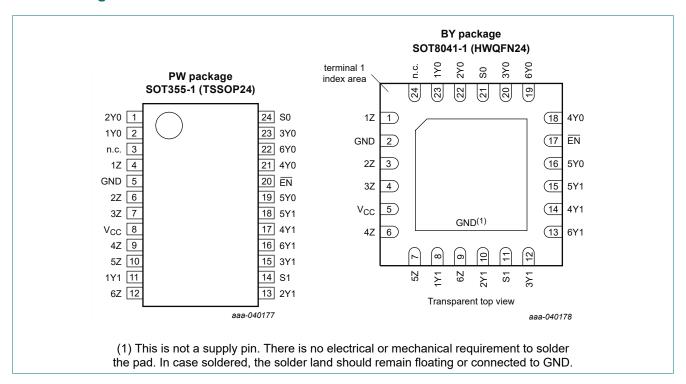
6. Functional diagram



6-channel, 1-of-2 multiplexer and demultiplexer

7. Pinning information

7.1. Pinning



7.2. Pin description

Table 3. Pin description

Symbol	Pin		Type	Description
	SOT355-1	SOT8041-1		
2Y0	1	22	I/O	Port 2 independent analog channel; normally closed
1Y0	2	23	I/O	Port 1 independent analog channel; normally closed
n.c.	3	24	open	not connected
1Z	4	1	I/O	Port 1 common analog channel
GND	5	2	power	ground (0 V)
2Z	6	3	I/O	Port 2 common analog channel
3Z	7	4	I/O	Port 3 common analog channel
V _{CC}	8	5	power	supply voltage
4Z	9	6	I/O	Port 4 common analog channel
5Z	10	7	I/O	Port 5 common analog channel
1Y1	11	8	I/O	Port 1 independent analog channel; normally open
6Z	12	9	I/O	Port 6 common analog channel
2Y1	13	10	I/O	Port 2 independent analog channel; normally open
S1	14	11	input	select input; do not leave this pin floating
3Y1	15	12	I/O	Port 3 independent analog channel; normally open
6Y1	16	13	I/O	Port 6 independent analog channel; normally open
4Y1	17	14	I/O	Port 4 independent analog channel; normally open

6-channel, 1-of-2 multiplexer and demultiplexer

Symbol	Pin		Туре	Description		
	SOT355-1	SOT8041-1				
5Y1	18	15	I/O	Port 5 independent analog channel; normally open		
5Y0	19	16	I/O	Port 5 independent analog channel; normally closed		
EN	20	17	input	enable input (active Low); do not leave this pin floating		
4Y0	21	18	I/O	Port 4 independent analog channel; normally closed		
6Y0	22	19	I/O	Port 6 independent analog channel; normally closed		
3Y0	23	20	I/O	Port 3 independent analog channel; normally closed		
S0	24	21	input	select input; do not leave this pin floating		

8. Functional description

8.1. Overview

The NMUX27518E is a general purpose, six-channel analog switch with a single pole that can be configured to select between one of two possible connection paths (SPDT). Each analog connection path is bi-directional, with similar electrical characteristics independent of the direction of signal propagation.

8.2. Key features

1.8 V Compatible digital logic thresholds

It is common for modern systems to operate control signals from lower voltage nodes such as 1.8 V, while operating their data signals at higher voltage nodes such as 3.3 V. To remove the requirements for a voltage translation device, the NMUX27518E digital control pins maintain 1.8 V logic compatible thresholds at higher operating voltages, up to 3.63 V. Please note that operating control pins at a lower voltage than the device operating voltage will increase the device supply current, as represented by the datasheet parameter ΔI_{CC} .

loff protection circuitry of digital inputs

The NMUX27518E implements I_{off} protection circuitry on the digital control pins, isolating those pins from the internal circuits when the supply is unpowered (i.e., V_{CC} = 0 V). The ESD protection diodes on the digital input pins do not have a connection path to V_{CC} . If the digital input pins are biased when the V_{CC} pin is unpowered:

- 1. The high impedance of the digital input pins minimizes input current leakage.
- 2. The isolation between the digital input pins and the V_{CC} pin ensures no back-powering to the supply rail.

loff protection circuitry of analog inputs/outputs

The NMUX27518E implements I_{off} protection circuitry on the analog switch pins, isolating those pins from the internal circuits when the supply is unpowered (i.e., V_{CC} = 0 V). The ESD protection diodes on the analog switch pins do not have a connection path to V_{CC} . If the analog switch pins are biased when the V_{CC} pin is unpowered:

- 1. The high impedance of the analog pins minimizes input current leakage.
- 2. The isolation between the analog pins and the V_{CC} pin ensures no back-powering to the supply rail.
- 3. The high impedance of the analog switch path itself minimizes signal coupling across the switch.

6-channel, 1-of-2 multiplexer and demultiplexer

Function table

Table 4. Function table

 $H = HIGH \ voltage \ level; \ L = LOW \ voltage \ level; \ X = don't \ care; \ Z = high-impedance \ OFF-state$

Control inputs			Analog chai	Analog channels						
EN	S0	S1	connection path 1Z	connection path 2Z				connection path 6Z		
Н	Х	Х	Hi-Z (all nYn	and nZ pins a	re in high-imp	edance OFF-s	state			
L	L	L	1Y0	2Y0	3Y0	4Y0	5Y0	6Y0		
L	Н	L	1Y1	2Y1	3Y1	4Y0	5Y0	6Y0		
L	L	Н	1Y0	2Y0	3Y0	4Y1	5Y1	6Y1		
L	Н	Н	1Y1	2Y1	3Y1	4Y1	5Y1	6Y1		

9. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134). Voltages are referenced to GND (ground = 0 V).

Symbol	Parameter	Conditions	Min	Max	Unit
V _{CC}	supply voltage		-0.5	4.6	V
VI	input voltage	<u>EN</u> , S0, S1 [1]	-0.5	4.6	V
V _{SW}	switch voltage	nYn, nZ [2]	-0.5	4.6	V
I _{SW}	switch current	nYn, nZ; $V_{SW} > -0.5 \text{ V or } V_{SW} < V_{CC} + 0.5 \text{ V};$ $T_{amb} = -40 \text{ °C to } +85 \text{ °C}$	-50	50	mA
		nYn, nZ; $V_{SW} > -0.5 \text{ V or } V_{SW} < V_{CC} + 0.5 \text{ V};$ $T_{amb} = -40 \text{ °C to } +85 \text{ °C}$	-25	25	mA
I _I	input current	<u>EN</u> , S0, S1	-30	30	mA
I _{CC}	supply current		-	100	mA
I _{GND}	ground current		-100	-	mA
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		-	+150	°C
P _{tot}	total power dissipation	$T_{amb} = -40 ^{\circ}\text{C} \text{ to } +85 ^{\circ}\text{C}$ [3][4]	-	500	mW

- The minimum and maximum input voltage rating may be exceeded if the input clamping current rating is observed.
- The minimum and maximum switch voltage rating may be exceeded if the switch clamping current rating is observed.
- For SOT355-1 (TSSOP24) package: P_{tot} derates linearly with tbd mW/K above tbd °C. For SOT8041-1 (HWQFN24) package: P_{tot} derates linearly with tbd mW/K above tbd °C.

10. ESD ratings

Table 6. ESD ratings

Symbol	Parameter	Conditions	Value	Unit
		HBM: ANSI/ESDA/JEDEC JS-001 class 2	±2000	V
V _{ESD} electrostatic discharge voltage	electrostatic discharge voltage	CDM: ANSI/ESDA/JEDEC JS-002 class C3	±1500	V
		IEC61000-4-2, level 3, contact discharge on all nYn pins	±6000	V

6-channel, 1-of-2 multiplexer and demultiplexer

11. Recommended operating conditions

Table 7. Recommended operating conditions

Symbol	Parameter	Conditions	Min	Max	Unit
V_{CC}	supply voltage		1.62	3.63	V
VI	digital input voltage	EN, S0, S1	0	3.63	V
V_{SW}	analog switch input voltage	nZ, nYn	0	V _{CC}	V
I _{SW}	analog switch continuous current	nZ, nYn	-50	50	mA
T _{amb}	ambient temperature		-40	+85 °C	°C

12. Thermal characteristics

Table 8. Thermal characteristics

Symbol	Parameter	SOT8041-1 (HWQFN24)	SOT355-1 (TSSOP24)	Unit
$R_{\theta JA}$	Junction-to-ambient thermal resistance	31.58	81.0	°C/W
$R_{\theta JC(top)}$	Junction-to-case (top) thermal resistance	38.36	36.0	°C/W
Ψ_{JT}	Junction-to-top characterization parameter	1.88	2.3	°C/W

13. Static characteristics

Table 9. Static characteristics

At recommended operating conditions; Voltages are referenced to GND (ground 0 V); for test circuit see Fig. 5. $V_{CC} = 1.62 \text{ V}$ to 3.63 V, unless otherwise stated.

Symbol	Parameter	Conditions		25 °C		-40 °C to	-40 °C to +85 °C		
			Min	Тур	Max	Min	Max		
Supply I	Pin								
I _{CC}	supply current	$\overline{\text{EN}}$, Sn inputs; V _I = GND or V _{CC}							
		V _{CC} = 3.3 V ± 10%	-	0.005	-	-	5	μΑ	
		V _{CC} = 2.5 V ± 10%	-	0.004	-	-	3	μΑ	
		V _{CC} = 1.8 V ± 10%	-	0.003	-	-	2.5	μΑ	
ΔI _{CC}	supply current increase	$\overline{\text{EN}}$, Sn inputs = 1.8 V, V_{CC} = 3.3 V ± 10%	-	4	-	-	9	μA/input	
Control	pins					'	'	'	
V _{IH}	HIGH-level	V _{CC} = 3.3 V ± 10%	-	-	-	1.24	-	V	
	input voltage	V _{CC} = 2.5 V ± 10%	-	-	-	1.07	-	V	
		V _{CC} = 1.8 V ± 10%	-	-	-	0.89	-	V	
V _{IL}	LOW level	V _{CC} = 3.3 V ± 10%	-	-	-	-	0.66	V	
	input voltage	V _{CC} = 2.5 V ± 10%	-	-	-	-	0.56	V	
		V _{CC} = 1.8 V ± 10%	-	-	-	-	0.46	V	
I _I	input leakage current	V _I = 0 V or V _{CC}	-	-	-	-1	1	μΑ	
C _I	input capacitance	V _I = 0 V or V _{CC} ; f = 1 MHz	-	2	-	-	-	pF	

6-channel, 1-of-2 multiplexer and demultiplexer

Symbol	Parameter	Conditions		25 °C		-40 °C to +85 °C		
				Тур	Max	Min	Max	
Analog _I	pins		'					
R _{ON(peak)}		$V_I = 0 \text{ V to } V_{CC}; I_{SW} = 32 \text{ mA}$						
	(peak)	V _{CC} = 3.3 V ± 10%	-	8	-	-	14	Ω
		V _{CC} = 2.5 V ± 10%	-	11	-	-	20	Ω
		V _{CC} = 1.8 V ± 10%	-	19	-	-	32	Ω
ΔR _{ON} O	ON resistance	$V_I = 0 \text{ V to } V_{CC}; I_{SW} = 32 \text{ mA}$						
	matching	V _{CC} = 3.3 V ± 10%	-	0.2	-	-	1.0	Ω
		V _{CC} = 2.5 V ± 10%	-	0.2	-	-	1.0	Ω
		V _{CC} = 1.8 V ± 10%	-	0.6	-	-	3.2	Ω
R _{ON(flat)}	ON resistance	V _I = 0 V to V _{CC} ; I _{SW} = 32 mA						
	(flatness)	V _{CC} = 3.3 V ± 10%	-	2	-	-	5	Ω
		V _{CC} = 2.5 V ± 10%	-	4	-	-	11	Ω
		V _{CC} = 1.8 V ± 10%	-	12	-	-	21	Ω
I _{S(OFF)}	OFF-state	nYn OFF						
	leakage current	V _{CC} = 3.63 V; V _I = 1 V; V _O = 3.0 V	-	0.05	-	-7	7	μΑ
	Current	$V_{CC} = 2.75 \text{ V}; V_I = 0.5 \text{ V}; V_O = 2.3 \text{ V}$	-	0.04	-	-6	6	μΑ
		V _{CC} = 1.98 V; V _I = 0.3 V; V _O = 1.62 V	-	0.03	-	-5	5	μΑ
I _{D(OFF)}	OFF-state leakage current	nZ OFF						
		V _{CC} = 3.63 V; V _I = 1 V; V _O = 3.0 V	-	0.05	-	-2	2	μA
		$V_{CC} = 2.75 \text{ V}; V_I = 0.5 \text{ V}; V_O = 2.3 \text{ V}$	-	0.02	-	-1	1	μΑ
		V _{CC} = 1.98 V; V _I = 0.3 V; V _O = 1.62 V	-	0.02	-	-0.9	0.9	μA
I _{S(ON)}	ON-state leakage current	nYn ON						
		V _{CC} = 3.63 V; V _I = 1 V or 3.0 V; V _O = open	-	0.04	-	-7	7	μA
		V _{CC} = 2.75 V; V _I = 0.5 V or 2.3 V; V _O = open	-	0.03	-	-6	6	μA
		V _{CC} = 1.98 V; V _I = 0.3 V or 1.62 V; V _O = open	-	0.02	-	-5.2	5.2	μA
I _{D(ON)}	ON-state	nZ ON						
	leakage current	V _{CC} = 3.63 V; V _I = 1 V or 3.0 V; V _O = open	-	0.03	-	-7	7	μΑ
		V _{CC} = 2.75 V; V _I = 0.5 V or 2.3 V; V _O = open	-	0.02	-	-5.7	5.7	μΑ
		V _{CC} = 1.98 V; V _I = 0.3 V or 1.62 V; V _O = open	-	0.02	-	-5.2	5.2	μΑ
S(POFF)	power-OFF	nYn; V _{CC} = 0 V						
. ,	leakage	V _I = 0 V to 3.63 V; V _O = 3.63 V to 0 V	-	2.6	-	-12	12	μA
	current	V _I = 0 V to 2.75 V; V _O = 2.75 V to 0 V	-	1.4	-	-10	10	μA
		V _I = 0 V to 1.98 V; V _O = 1.98 V to 0 V	-	0.6	-	-7.2	7.2	μA
I _{D(POFF)}	power-OFF	nZ; V _{CC} = 0 V						
, ,	leakage	V _I = 0 V to 3.63 V; V _O = 3.63 V to 0 V	-	2.6	-	-12	12	μA
	current	V _I = 0 V to 2.75 V; V _O = 2.75 V to 0 V	-	1.4	-	-7.2	7.2	μA
		V _I = 0 V to 1.98 V; V _O = 1.98 V to 0 V	_	0.5	-	-5	5	μA

6-channel, 1-of-2 multiplexer and demultiplexer

14. Dynamic characteristics

Table 10. Dynamic characteristics

At recommended operating conditions; voltages are referenced to GND (ground 0 V); V_{CC} = 1.62 V to 3.63 V, unless otherwise stated; for test circuit see Fig. 5.

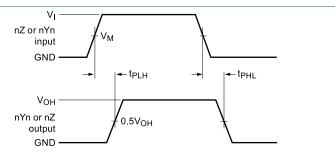
Symbol	Parameter	Conditions		25 °C			°C to 5 °C	Unit
			Min	Тур	Max	Min	Max	
Analog _l	pins		·					
t _t	transition time between	Sn to nZ channel; nY0 = 0 V and nY1 = V_{CC} ; nY0 = V_{CC} and nY1 = 0 V; R_L = 50 Ω ; C_L = 35 pF						
	channels	V _{CC} = 3.3 V ± 10%	-	15	-	-	22	ns
		V _{CC} = 2.5 V ± 10%	-	18	-	-	26	ns
		V _{CC} = 1.8 V ± 10%	-	20	-	-	35	ns
		Sn to nYn channel; nZ = V_{CC} ; R_L = 50 Ω ; C_L = 35 pF						
		V _{CC} = 3.3 V ± 10%	-	16	-	-	22	ns
		V _{CC} = 2.5 V ± 10%	-	18	-	-	26	ns
		V _{CC} = 1.8 V ± 10%	-	22	-	- 35 - 22	ns	
t _{b-m}	break before	nZ; $V_I = V_{CC}$; $R_L = 50 Ω$; $C_L = 35 pF$						
	make time	V _{CC} = 3.3 V ± 10%	-	10	-	1	-	ns
		V _{CC} = 2.5 V ± 10%	-	11	-	1	-	ns
		V _{CC} = 1.8 V ± 10%	-	12	-	1	-	ns
t _{en}	enable time	$\overline{\text{EN}}$ to nZ or nYn; V _I = V _{CC} ; R _L = 50 Ω ; C _L = 35 pF; S1 = GND						
		V _{CC} = 3.3 V ± 10%	_	6	-	-	11	ns
		V _{CC} = 2.5 V ± 10%	-	8	-	-	14	ns
		V _{CC} = 1.8 V ± 10%	_	13	-	-	24	ns
		$\overline{\text{EN}}$ to nZ or nYn; V _I = V _{CC} ; R _L = 50 Ω ; C _L = 35 pF; S1 = V _{CC}						
		V _{CC} = 3.3 V ± 10%	-	6	-	-	10	ns
		V _{CC} = 2.5 V ± 10%	-	8	-	-	14	ns
		V _{CC} = 1.8 V ± 10%	_	11	-	-	23	ns
t _{dis}	disable time	$\overline{\text{EN}}$ to nZ or nYn; V _I = V _{CC} ; R _L = 50 Ω ; C _L = 35 pF; S1 = GND						
		V _{CC} = 3.3 V ± 10%	-	4	-	-	7	ns
		V _{CC} = 2.5 V ± 10%	-	5	-	-	8	ns
		V _{CC} = 1.8 V ± 10%	-	7	-	-	12	ns
		$\overline{\text{EN}}$ to nZ or nYn; V _I = V _{CC} ; R _L = 50 Ω ; C _L = 35 pF; S1 = V _{CC}						
		V _{CC} = 3.3 V ± 10%	-	9	-	-	11	ns
		V _{CC} = 2.5 V ± 10%	-	10	-	-	14	ns
		V _{CC} = 1.8 V ± 10%	-	12	-	-	22	ns
Q _{inj}	charge injection	$V_{gen} = 0 \text{ V; } R_{gen} = 0 \Omega; C_L = 0.1 \text{ nF}$						
- -		V _{CC} = 3.3 V	-	0.2	-	-	-	рС
		V _{CC} = 2.5 V	-	0.1	-	-	-	рС
		V _{CC} = 1.8 V	_	0.1	-	-	-	рС

6-channel, 1-of-2 multiplexer and demultiplexer

Symbol	Parameter	Conditions		25 °C			-40 °C to +85 °C	
			Min	Тур	Max	Min	Max	
α_{iso} isolation (OFF-state)		R_L = 50 Ω; C_L = 5 pF; f = 10 MHz; $V_{I(DC)}$ = 0.35 V; $V_{I(AC)}$ = 632 mV(p-p)						
		V _{CC} = 3.3 V	-	-59	-	-	-	dB
		V _{CC} = 2.5 V	-	-57	-	-	-	dB
		V _{CC} = 1.8 V	-	-54	-	-	-	dB
Xtalk	crosstalk	between any two analog pins; R_L = 50 Ω ; C_L = 5 pF; f = 10 MHz; $V_{I(DC)}$ =0.35 V; $V_{I(AC)}$ = 632 mV(p-p)						
		V _{CC} = 3.3 V	-	-58	-	-	-	dB
		V _{CC} = 2.5 V	-	-58	-	-	-	dB
		V _{CC} = 1.8 V	-	-58	-	-	-	dB
		between any two analog pins; $R_L = 50 \Omega$; $C_L = 5 pF$; $f = 10 \text{ MHz}$; $V_{I(DC)} = 0.35 \text{ V}$; $V_{I(AC)} = 632 \text{ mV(p-p)}$						
		V _{CC} = 3.3 V	-	-65	-	-	-	dB
		V _{CC} = 2.5 V	-	-65	-	-	-	dB
		V _{CC} = 1.8 V	-	-65	-	-	-	dB
BW	bandwidth	$R_L = 50 \Omega$; $C_L = 5 pF$; $V_{I(DC)} = 0.35 V$; $V_{I(AC)} = 632 mV(p-p)$						
		V _{CC} = 3.3 V	-	240	-	-	-	MHz
		V _{CC} = 2.5 V	-	240	-	-	-	MHz
		V _{CC} = 1.8 V	-	240	-	-	-	MHz
C _{S(OFF)}	OFF-state	nYn OFF; V _I = 0.5 × V _{CC} ; f = 1 MHz						
	capacitance	V _{CC} = 3.3 V	-	8	-	-	-	pF
		V _{CC} = 2.5 V	-	8	-	-	-	pF
		V _{CC} = 1.8 V	-	8	-	-	-	pF
C _{D(OFF)}	OFF-state	nZ OFF; V _I = 0.5 × V _{CC} ; f = 1 MHz						
	capacitance	V _{CC} = 3.3 V	-	13	-	-	-	pF
		V _{CC} = 2.5 V	-	13	-	-	-	pF
		V _{CC} = 1.8 V	-	14	-	-	-	pF
C _{S(ON)}	ON-state	nYn ON; V _I = 0.5 × V _{CC} ; f = 1 MHz						
	capacitance	V _{CC} = 3.3 V	-	22	-	-	-	pF
		V _{CC} = 2.5 V	-	22	-	-	-	pF
		V _{CC} = 1.8 V	-	23	-	-	-	pF
C _{D(ON)}	ON-state	nZ ON; V _I = 0.5 × V _{CC} ; f = 1 MHz						
	capacitance	V _{CC} = 3.3 V	-	22	-	-	-	pF
		V _{CC} = 2.5 V	-	22	-	-	-	pF
		V _{CC} = 1.8 V	-	23	-	-	-	pF
THD	total harmonic	$R_L = 600 \Omega$; $C_L = 50 pF$; $f = 20 Hz - 20 kHz$						
	distortion	V _{CC} = 3.3 V	-	0.46	-	-	-	%
		V _{CC} = 2.5 V	-	0.29	-	-	-	%
		V _{CC} = 1.8 V	-	0.28	-	-	_	%

6-channel, 1-of-2 multiplexer and demultiplexer

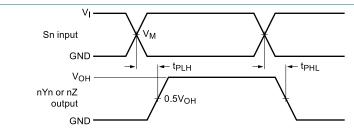
14.1. Waveforms and test circuit



Measurement points are given in Table 11.

Logic levels: V_{OL} and V_{OH} are typical output voltage levels that occur with the output load.

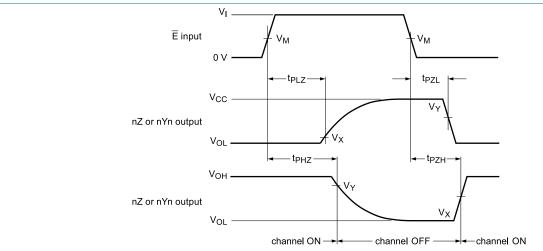
Fig. 2. Input (nZ, nYn) to output (nYn, nZ) propagation delays



Measurement points are given in Table 11.

Logic levels: V_{OL} and V_{OH} are typical output voltage levels that occur with the output load.

Fig. 3. Input (Sn) to output (nYn, nZ) propagation delays



Measurement points are given in Table 11.

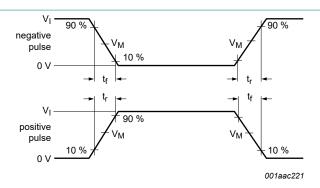
Logic levels: V_{OL} and V_{OH} are typical output voltage levels that occur with the output load.

Fig. 4. Enable and disable times

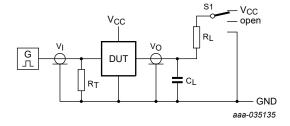
Table 11. Measurement points

Input		Output			
V_{M}	V _I	V_X	V _Y		
0.5 × V _{CC}	V _{CC}	V _{OL} + 0.1(V _{CC} - V _{OL})	0.9 × V _{OH}		

6-channel, 1-of-2 multiplexer and demultiplexer



a. Input pulse definition



b. Test circuit

Test data is given in Table 12.

Definitions for test circuit:

R_L = load resistance;

 C_L = load capacitance including jig and probe capacitance;

R_T = termination resistance should be equal to the output impedance Z_O of the pulse generator.

Fig. 5. Test circuit for measuring switching times

Table 12. Test data

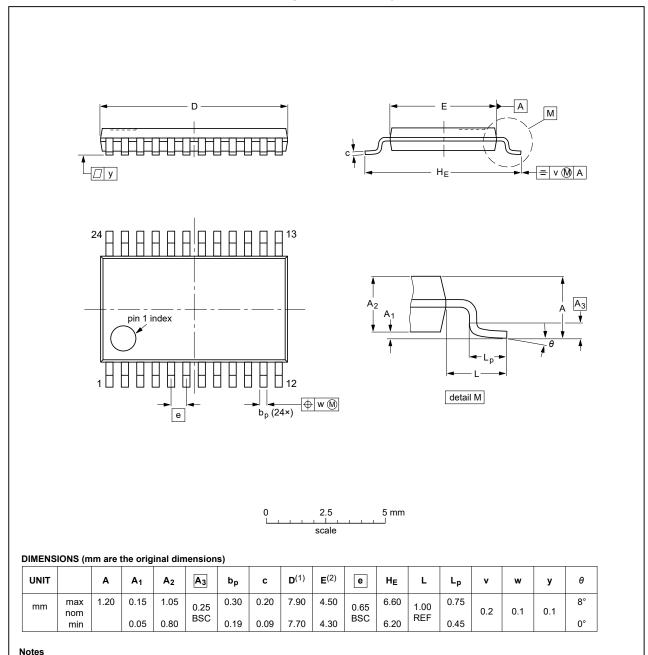
Test	Input			Output		S1 position	
	Control E, Sn Switch nYn (nZ)		t _r , t _f	Switch nZ (nYn)			
	VI	V _I		C _L	R _L		
t _{PHL} , t _{PLH}	V _{CC}	V _{CC}	< 5 ns	50 pF	-	open	
t_{PHZ},t_{PZH}	V _{CC}	V _{CC}	< 5 ns	50 pF	10 kΩ	GND	
t_{PLZ} , t_{PZL}	V _{CC}	V _{CC}	< 5 ns	50 pF	10 kΩ	V _{CC}	

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15. Package outline

TSSOP24: plastic thin shrink small outline package; 24 leads; body width 4.4 mm

SOT355-1



- 1. Plastic or metal protrusions of 0.15 mm maximum per side are not included.
- $2. \ Plastic \ interlead \ protrusions \ of \ 0.25 \ mm \ maximum \ per \ side \ are \ not \ included.$

sot355-1_po

OUTLINE	REFERENCES				EUROPEAN	ISSUE DATE	
VERSION	IEC	JEDEC	EIAJ		PROJECTION	ISSUE DATE	
SOT355-1		MO-153				-03-02-19 24-11-07	

Fig. 6. Package outline SOT355-1 (TSSOP24)

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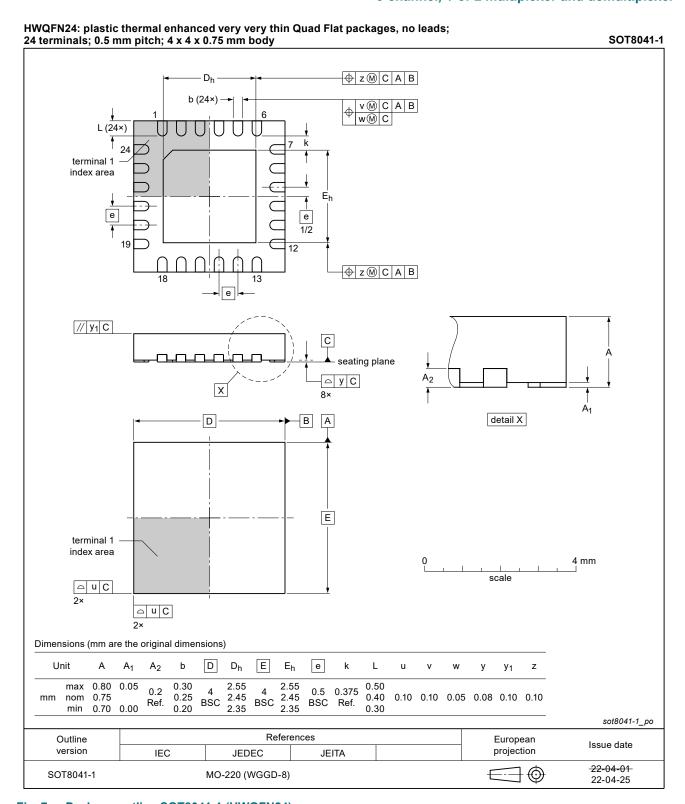


Fig. 7. Package outline SOT8041-1 (HWQFN24)

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16. Abbreviations

Table 13. Abbreviations

Acronym	Description
CDM	Charged Device Model
CMOS	Complementary Metal-Oxide Semiconductor
DUT	Device Under Test
ESD	ElectroStatic Discharge
НВМ	Human Body Model
qSPI	Quad Serial Peripheral Interface

17. Revision history

Table 14. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
NMUX27518E v. 1	20250725	Product data sheet	-	-

18. Legal information

Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

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- [2] The term 'short data sheet' is explained in section "Definitions".
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6-channel, 1-of-2 multiplexer and demultiplexer

Contents

1. General description	1
2. Features and benefits	1
3. Applications	1
4. Ordering information	2
5. Marking	2
6. Functional diagram	2
7. Pinning information	3
7.1. Pinning	3
7.2. Pin description	3
8. Functional description	4
8.1. Overview	4
8.2. Key features	4
9. Limiting values	5
10. ESD ratings	5
11. Recommended operating conditions	6
12. Thermal characteristics	6
13. Static characteristics	6
14. Dynamic characteristics	8
14.1. Waveforms and test circuit	
15. Package outline	12
16. Abbreviations	
17. Revision history	14
18. Legal information	

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