![Texas Instruments logo]

RADIO FREQUENCY IDENTIFICATION SYSTEMS

Data Sheet

Tag-it™ HF-I
Transponder Inlay Rectangle - Miniature
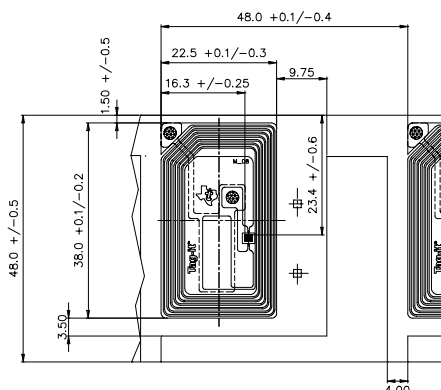
Specifications:

Part Number	RI-I03-112A
Supported Standard	ISO 15693-2,-3
Recommended Operating frequency	13.56 MHz
Passive Resonance Frequency (at +25°C)	13.86 MHz ± 300kHz (includes frequency offset to compensate further integration into paper or PVC)
Max. required activation field strength read (at +25°C)	109 dBμA/m (preliminary value)
Typ. required activation field strength write (at +25°C)	111 dBμA/m (preliminary value)
Factory programmed Read Only Number	64 bits
Memory (user programmable)	2k bits organized in 64 x 32-bit blocks
Typical programming cycles (at +25°C)	100,000
Data retention time (at +55°C)	> 10 years
Simultaneous Identification of Tags	Up to 50 tags per second (reader/antenna dependant)
Antenna size	22.5 mm x 38 mm (~0.89 x ~1.5 in)
Foil width	48 mm ± 0.5 mm (1.89 in ± 0.02 in)
Foil pitch	48 mm +0.1mm/-0.4mm (~1.89 in)
Thickness	Chip: 0.355mm (~0.014 in) Antenna: 0.085mm (~0.0033 in)
Base material	Substrate: PET (Polyethylenetherephtalate) Antenna: Aluminum
Smallest bending radius allowed	18 mm (~0.71 in)
Operating temperature	-25°C to +70°C
Storage temperature (single inlay)	-40°C to +85°C (warpage may occur with increasing temperature)
Storage temperature (on reel)	-40°C to +40°C
Delivery	Single row tape wound on cardboard reel with 500 mm diameter Reel width: approx. 60 mm (~2.36 in); inside 50 mm (~1.97 in) Hub diameter: 76.2 mm (3 in)
Typical quantity per reel	5,000

Note: For highest possible read-out coverage we recommend to operate readers at a modulation depth of 20% or higher

For more information, contact the sales office or distributor nearest you. This contact information can be found on our web site at: **http://www.ti-rfid.com**

Supported Command Set

Request	Request Code	Request Mode				
		Inventory.	Addressed.	Non-Addressed.	Select	AFI
ISO 15693 Mandatory and Optional Commands						
Inventory	0x01	✔	-	-	-	✔
Stay Quiet	0x02	-	✔	-	-	-
Read_Single_Block	0x20	✔	✔	✔	✔	✔
Write_Single_Block	0x21	-	✔	✔	✔	-
Lock_Block	0x22	-	✔	✔	✔	-
Read_Multi_Blocks	0x23	✔	✔	✔	✔	✔
Write_Multi_Blocks	0x24	-	-	-	-	-
Select Tag	0x25	-	✔	-	-	-
Reset to Ready	0x26	-	✔	-	✔	-
Write_AFI	0x27	-	✔	✔	✔	-
Lock_AFI	0x28	-	✔	✔	✔	-
Write DSFID	0x29	-	✔	✔	✔	-
Lock DSFID	0x2A	-	✔	✔	✔	-
Get_System_info	0x2B	✔	✔	✔	✔	✔
Get_M_Blk_Sec_St	0x2C	✔	✔	✔	✔	✔
TI Custom Commands						
Write_2_Blocks	0xA2	-	✔	✔	✔	-
Lock_2_Blocks	0xA3	-	✔	✔	✔	-

✔ : Implemented
- : Not applicable

Memory Organization
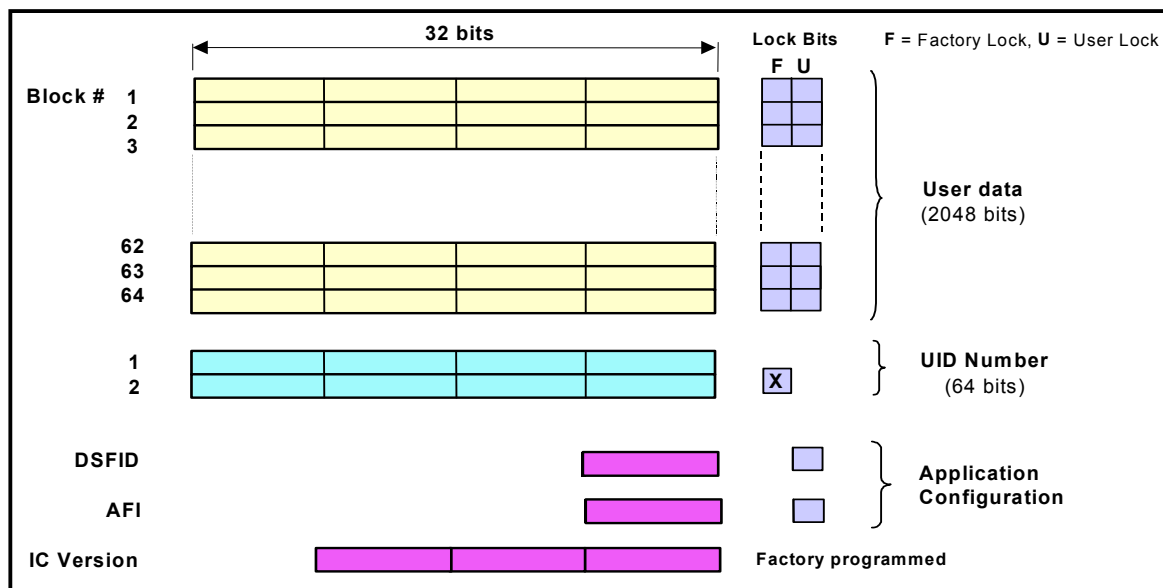
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