

13.56MHz ENCAPSULATED STANDARD TRANSPONDER

FEATURES

- **ISO/IEC 15693-2,-3; ISO/IEC 18000-3 Compliant**
- **13.56 MHz Operating Frequency**
- **256 Bit User Memory in 8x32-bit Blocks**
- **User and Factory Lock per Block**
- **Application Family Identifier (AFI)**
- **Fast Simultaneous Identification (Anti-collision)**

APPLICATIONS

- **Laundry**
- **Process Automation**
- **Product Authentication**
- **Asset Management**

DESCRIPTION

Texas Instruments' 13.56MHz Encapsulated Standard Transponder is compliant with the ISO/IEC 15693 and ISO/IEC 18000-3 global open standards. This product offers a user accessible memory of 256 bits, organized in 8 blocks and an optimized command set.

Designed for harsh environments such as garment tracking in laundries, each transponder has a 64bit factory programmed Read Only Number which is also laser engraved on the transponder housing. Prior to delivery, transponders undergo complete functional and parametric testing, in order to provide the high quality that customers have come to expect from TI.

The 13.56MHz Encapsulated Standard Transponders are well suited for a variety of applications including *but not limited to*: Laundry garment tracking, process automation, product authentication, and asset management.

SPECIFICATIONS

PART NUMBER	RF-HDT-DVBE-N0
Supported Standard	ISO/IEC 15693-2,-3; ISO/IEC 18000-3
Resonance Frequency (at +25°C)	13.56 MHz ± 300 kHz
Typ. required activation field strength to read (at +25°C)	112 dB μ A/m
Typ. required activation field strength to write (at +25°C)	115 dB μ A/m
Factory programmed Read Only Number	64 bits
Memory (user programmable)	256 bits organized in 8 x 32-bit blocks
Typical programming cycles (at +25°C)	100,000
Data retention time (at +25°C)	> 10 years
Simultaneous Identification of Tags	Up to 50 tags per second (reader/antenna dependent)
Dimensions	Ø 22 ± 0.2 mm x 3 ± 0.2 mm
Weight	2.1 ± 0.2 grams
Case Material	PPS, black
Protection Class	IP 68
Operating temperature	-25°C to +90°C
Storage temperature	-40°C to +120°C +220°C for total 30 seconds
Vibration	ISO/IEC 68.2.6 (10g, 10..2000Hz, 3 axis, 2.5h)
Mechanical Shock	ISO/IEC 68.2.27 (100g, 6ms, 6 axis, 20 times per axis)

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RF-HDT-DVBE-N0

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Mechanical Stability	Axial compression strength: 1000N (10s, static) Radial compression strength: 500N (10s, static) Isostatic water pressure: 45 bar (10h)
Chemical Resistance	Typical chemicals used in laundry and dry-cleaning processes
Delivery	1000 units in bulk

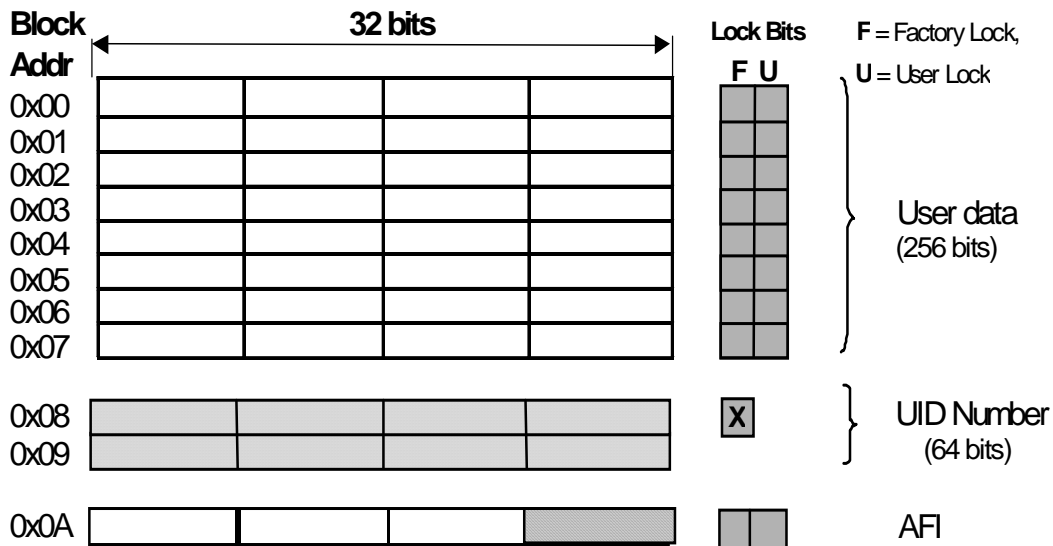
Note: For highest possible read-out coverage we recommend to operate readers at a modulation depth of 20% or higher

SUPPORTED COMMAND SET

Request	Request Mode					
	Request Code	Inventory	Addressed	Non-Addressed	AFI	Opt. Flag
ISO 15693 Mandatory and Optional Commands						
Inventory	0x01	✓	-	-	✓	0/-
Stay Quiet	0x02	-	✓	-	-	0/-
Read_Single_Block	0x20	-	✓	✓	-	-/1
Write_Single_Block	0x21	-	✓	✓	-	-/1
Lock_Block	0x22	-	✓	✓	-	-/1

1. ✓ : Implemented
2. - : Not applicable

MEMORY ORGANIZATION



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