

## 13.56MHz Encapsulated Transponder

The 13.56MHz Encapsulated Transponder from Texas Instruments is compliant with the ISO/IEC 15693 standard, a global open standard that allows interoperability of products from multiple manufacturers. With a user memory of 2k bits, organized in 64 blocks, the rugged 13.56MHz Encapsulated Transponder allows for advanced solutions in demanding supply chain management applications such as laundry tracking. It is especially designed and tested for applications that require a ruggedized transponder that can withstand harsh environments.



### Specifications:

| <b>Part Number</b>  | <b>RF-HDT-DVBB-N0</b>   |
|---|---|
| Supported Standard  | ISO 15693-2,-3  |
| Operating frequency (at +25°C)                              | 13.56 MHz ± 250kHz  |
| Typ. required activation field strength to read (at +25°C)  | 112 dBμA/m  |
| Typ. required activation field strength to write (at +25°C) | 115 dBμA/m  |
| 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 dependent)                         |
| Dimensions  | Ø 22 ± 0.2 mm x 3 ± 0.2 mm  |
| Weight  | 1.6 ± 0.3 grams   |
| Case Material   | PPS, black  |
| Protection Class  | IP 68 (condition: water pressure 45bar, 10h)                                |
| Operating temperature                                       | -25°C to +90°C  |
| Storage temperature   | -25°C to +120°C<br>+160°C for total 50 hours<br>+220°C for total 30 seconds |
| Mechanical Stability  | Axial compression strength: 1000N<br>Radial compression strength: 500N      |
| Chemical Resistance   | Typical chemicals used in laundry and dry-cleaning processes                |
| Delivery  | 1000 units in bulk  |

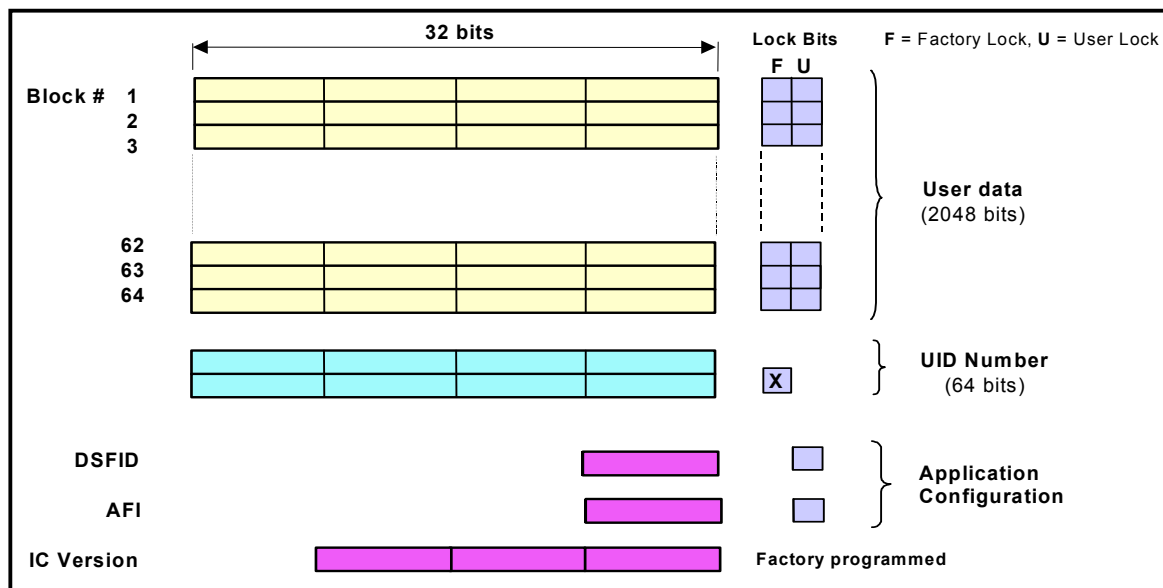
For more information, contact the sales office or distributor nearest you. This contact information can be found on our web site at: <http://www.ti-rfid.com>

## Supported Command Set

| Request  | Request Code | Request Mode |           |               |        |     |
|--|--------------|--------------|-----------|---------------|--------|-----|
|  |              | Inventory    | Addressed | Non-Addressed | Select | AFI |
| <b>ISO 15693 Mandatory and Optional Commands</b> |              |              |           |               |        |     |
| 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_Blkc_Sec_St                                | 0x2C         | ✓            | ✓         | ✓             | ✓      | ✓   |
| <b>TI Custom Commands</b>                        |              |              |           |               |        |     |
| Write_2_Blocks                                   | 0xA2         | -            | ✓         | ✓             | ✓      | -   |
| Lock_2_Blocks                                    | 0xA3         | -            | ✓         | ✓             | ✓      | -   |

✓: Implemented  
 -: Not applicable

## Memory Organization



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