

## FlexSmart® Series Credentials MIFARE® Adhesive Tag • 1435, 1445

- ▶ **Cost Effective** - The benefits of contactless smart cards without the cost of rebadging.
- ▶ **Convenient** - Easy attachment to ID card or other non-metallic device.
- ▶ **Quality** - Tag is protected with a lifetime warranty.



### ACCESS interoperability.

HID's innovative FlexSmart MIFARE Adhesive Tag can turn a plastic ID badge into a MIFARE credential. Effortlessly upgrade from prox, magstripe or barium ferrite technology by simply attaching the small, circular MIFARE Tag to your existing card. The MIFARE Adhesive Tag will also adhere to any non-metallic device, such as a cell phone or PDA, to instantly create a contactless smartcard.

HID FlexSmart MIFARE Adhesive Tag is ideal for diverse applications such as access control, cashless vending, public transportation, corporate and campus applications, event ticketing, customer loyalty and photo ID cards.

Manufactured to the highest quality standards, HID FlexSmart MIFARE products have the memory structure and capacity to store multiple applications on a single credential. Securely separated sectors, each protected by a set of two keys and programmable access conditions, allow complex applications and provide for future expansion. The data on the tag is protected with encryption keys used in the mutual authentication process. Therefore, no important data will be shared until the tag and reader have been authenticated to each other.

#### Key Features

- ▶ **High Security** - MIFARE technology ensures mutual authentication, data encryption and unique 32-bit serial number.
- ▶ **Proven, Reliable Technology** - Offers extremely consistent read range. Use is unaffected by body shielding or variable environmental conditions, even when close to keys and coins.
- ▶ **Fast Processing and Data Communication** - Transaction times are less than 100 milliseconds for a typical secure ticketing transaction.
- ▶ **Multiple Memory Types** - Available in MIFARE 1K and 4K.

# Features

- Long Life** The passive, no-battery design allows for 100,000 read/write operations and carries a lifetime warranty.
- Durability** Strong, flexible and resistant to damage.

**Read/Write Functionality**  
Perfect for multi-functional memory applications.

- Memory Specification**  
1K Byte (8,192 bits) or 4K Bytes (32,768 bits)  
Memory Sector 0 is used as the MIFARE® Application Directory (MAD)
- Unique 4 Byte (32 bit) ID per card (CSN)
  - Each sector uses two encryption keys
    - Key "A" to read only
    - Key "B" to read/write
  - Each encryption key is 6 Bytes (48 bits)

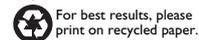
|                                    |  |
|------------------------------------|--|
| <b>Dimensions</b>                  | 1.285" dia x .07" (3.26 cm dia x .18 cm)   |
| <b>Weight</b>                      | 0.04 oz. ( 1.2 g )   |
| <b>Typical Maximum Read Range*</b> | Up to 2" (5.0 cm)  |
| <b>Operating Temperature</b>       | -40 to 149°F (-40 to 65°C)   |
| <b>Operating Humidity</b>          | 5%-95% Non-condensing  |
| <b>Operating Frequency</b>         | 13.56 MHz  |
| <b>RF Interface</b>                | ISO 14443 A, Parts 1-3   |
| <b>Transaction Time</b>            | < 100 ms   |
| <b>Baud Rate</b>                   | 106 kbps   |
| <b>Memory Type</b>                 | EEPROM, 1Kbyte (8,192 bits) or 4 Kbytes (32,768 bits)  |
| <b>Multi-Application Memory</b>    | MIFARE 1K: memory arranged in 16 64-byte Sectors<br>MIFARE 4K: memory arranged in 40 Sectors: 32 sectors of 64 bytes, 8 sectors of 256 bytes |
| <b>Write Endurance</b>             | 100,000 cycles min.  |
| <b>Data Retention</b>              | 10 years min.  |
| <b>Material and Finish</b>         | Matte White Lexan with Adhesive Back   |
| <b>Card Marking</b>                | Inkjet Standard  |
| <b>Custom Graphics</b>             | Optional   |
| <b>Slot Punch</b>                  | Not Applicable   |
| <b>Programming</b>                 | Factory or Field Programmable  |
| <b>Part Number</b>                 | Model 1435 MIFARE 1K FlexTag<br>Model 1445 MIFARE 4K FlexTag   |
| <b>Description</b>                 | Self-Adhesive MIFARE Tag   |
| <b>Warranty</b>                    | Lifetime - see Sales Policy for complete details   |

\*Dependent on local installation conditions.



**ACCESS** experience.

© 2007 HID Global Corporation. All rights reserved. HID, the HID logo, and FlexSmart are trademarks or registered trademarks of HID Global in the U.S. and/or other countries. All other trademarks, service marks, and product or service names are trademarks or registered trademarks of their respective owners. Rev. 4/2007



MKT-MIFARE-TAG-DS-EN

# Microtron®

Flexible electronic solutions

Microtron n.v. | Generaal De Wittelaan 7 | B-2800 Mechelen | T +32 (0) 15 29 29 29 | info@microtron.be | www.microtron.be  
Microtron b.v. | Hoevestein 11 | NL-4903 SE Oosterhout | T +31 (0) 162 44 72 72 | info@microtron.nl | www.microtron.nl