



# PRODUCT DATASHEET

## Mifare® DESFire

### ISO 14443A

# PAV Card

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**Chip manufacturer:** NXP (Philips)  
**Product:** Mifare® DESFire

#### Memory:

**EEPROM size:** 4096 bytes  
**Write endurance:** 100,000 cycles  
**Data retention:** 10 years  
**Organisation:** flexible file system

#### RF-Interface:

**Accordinging:** ISO 14443A  
**Frequency:** 13.56 MHz  
**Baudrate:** 106 ... 424 (kbit/s)  
**Anticollision:** yes, bit-wise  
**Operating Distance:** up to 10 cm

**Please note:** Max. reading range depends on used RF standard, the requirements of national spectrum management authorities, reader application, antenna, transponder and

#### Security:

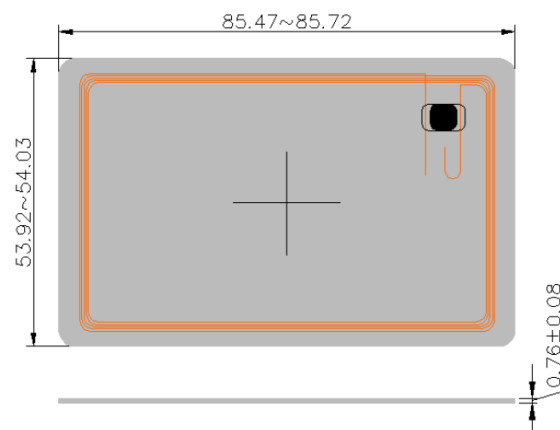
Unique Serial Number: 7, cascaded  
Random Number Generator: yes, acc. FIPS 140-2  
Access Keys: 14 keys per application  
Access Conditions: per file  
mifare® Classic Security: -  
DES & DES3 Security: MACing / Encipherment  
Anti-tear supported by chip: yes

#### Special Features:

- Multi-application: 28 applications, MAD3  
- Purse Functionality: value file  
- Secure Transportation Transaction: 512 bytes read, 128 bytes write

**subject to change without notice, errors excepted**

Contactless cards in standard ISO format.  
Produced according ISO 7810 / ISO 7816 - with advanced antenna and assembly technologies.



This picture shows a MOA4 module and its copper wire antenna. The contacting is realized by thermo compression-welding.

PVC is the standard material for contactless cards. Generally we can produce cards with other materials like PET, PEC, PC or composite. These alternative materials are on request.

We provide PVC cards with glossy or matt surface. The glossy surface allows the customer to personalise the cards by printing.

Additionally a microcontroller (contact chip) and/or magnetic strip (HiCo, LoCo) can be used for multiusage cards.

#### Additional Services:

##### Security:

- hologram
- signature panel
- magnetic stripe (incl. encoding)
- barcode
- UV printing

##### Chip encoding:

- encoding of contactless chip

##### Personalisation:

- thermo transfer / dye sublimation
- laser lettering
- embossing
- digital printing

##### Printing technologies:

- (UV-)offset printing
- silk-screen printing
- digital printing

##### Thermo rewrite function:

- thermo rewrite foil (optional one side covered or as stripe)