Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Philips' Contactless Mifare® Smart Card ICs

Product Features	Mifare® Ultralight MF0 IC U1X	Mifare® Std 1k MF1 IC S50	Mifare® Std 4k MF1 IC S70	Mifare® DESFire MF3 IC D40	Mifare® DESFire SAM MF3 IC D40 SAM
Memory					
EEPROM size [byte]	64	1024	4096	4096	72k
OTP area [bit]	32	-	-	-	-
Write Endurance [cycles]	10 000	100 000	100 000	100 000	100 000
Data Retention [yrs]	5	10	10	10	10
Organization	16 pages á 4 byte	16 sectors á 64 byte	32 sectors á 64 byte 8 sectors á 256 byte	flexible file system	128 key entries
RF-Interface					
Acc. to ISO 14443A	yes - up to layer 3	yes - up to layer 3	yes - up to layer 3	yes - up to layer 4	ISO 7616, T=1
Frequency [MHz]	13.56	13.56	13.56	13.56	1 … 10
Baudrate [kbit/s]	106	106	106	106 … 424	9.6 … 1000
Anticollision	bit-wise	bit-wise	bit-wise	bit-wise	-
Operating Distance [mm]	up to 100	up to 100	up to 100	up to 100	-
Security					
Unique Serial Number [byte]	7, cascaded	4	4	7, cascaded	7
Random Number Generator	-	yes	yes	yes, according to FIPS140-2	yes
Access Keys	-	2 keys per sector	2 keys per sector	14 keys per application	128 key entries
Access Conditions	per page	per sector	per sector	per file	per key entry
Mifare® Classic Security	-	supported	supported	-	-
DES & DES3 Security	-	-	-	MACing / Encipherment	MACing / Encipherment
Anti-tear supported by chip	-	for value blocks	for value blocks	yes	-
Special Features					
Multi-application	-	supports MAD*	supports MAD2**	28 applications, MAD3***	-
Purse Functionality	-	Value block format	Value block format	Value file	-
Secure Transport Transaction	48 byte read 16 byte write	512 byte read 16 byte write	512 byte read 128 byte write	512 byte read 128 byte write	-
Transaction Time [ms]	31.4	164	140	105	-
Packaging					
Sawn Wafer	-	MF1ICS5005W/V9D	MF1ICS7001W/V9D	MF3ICD4001DW/V506	-
Sawn Wafer (Au-Bumped)	MF0ICU1X01W/V1D	MF1ICS5005W/V1D	MF1ICS7001W/V1D	MF4ICD4001DW/V406	-
MOA2 Module	-	MF1MOA2S50/D3F	-	-	-
MOA4 Module	-	MF1MOA4S50/D	MF1MOA4S70/D	MF3MOD4001DV/406	-
FCP2 Module	MF0FCP2U1X/DH	MF1FCP2S50/DH	-	-	-
PDM1.1 Module	-	-	-	-	P5CT072EV0/T0M68220

*MAD: Mifare® Application Directory   **MAD2: MAD Extension for 4 kbyte EEPROM size   ***MAD3: MAD2 Extension for DESFire