

SHARP

ID340 Series

Flash Memory Miniature Card

■ Description

Sharp's Flash Memory Miniature Card is a super compact and low cost recording media which does not require any data back up power supply.

This memory card is suitable for digital still cameras, personal information tools (PDA), digital voice recorders and mobile phones.

It is based on the Miniature Card release 1.1 specification, which is managed by Miniature Card Implementers Forum (MCIF), an industry association of leading electronic systems and component suppliers.

The ID340 series uses Sharp's Smart Voltage Flash Memory devices (ex. LH28F004SC/LH28F008SC/LH28F016SC) and can operate on either 3.3 V or 5.0 V power supplies.

In addition, Sharp is developing Mask ROM Miniature Cards (ID350XXX series).

■ Features

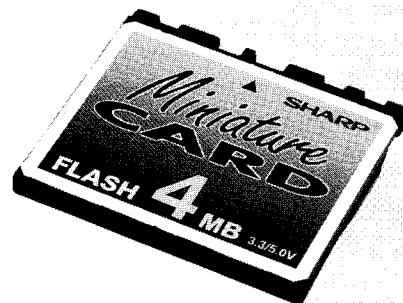
- Based on the Miniature Card release 1.1 specification
- Low cost NOR type flash card
- Super compact : 33 mm (L) × 38 mm (W) × 3.5 mm (H)
(It is 1/4 in size of PC Card)
- Smart Voltage technology
Smart Voltage technology provides a choice of V_{CC} at 3.3 V or 5.0 V. Internal device detection circuitry automatically configures the device.
- Connection with equipment by conductive rubber connector and metal connector.
- Data compatibility with personal computer by using PC Card adapter.
FTL^{*}, FAT/FTL-Lite can be used as Flash control soft.
(※ FTL: Flash Translation Layer)

■ Applications

- Digital still cameras
- Personal information tools (PDA)
- Digital voice recorders
- Mobile phones/PHS etc.

Notice:

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any of SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.



■ Specifications

- Supply voltage : 3.3 V $\pm$ 0.3 V or 5 V $\pm$ 5 %
- Memory capacity : 1-, 2-, 4- and 8-Mbyte
- Interface : $\times$ 16-bit Data Interface
- Access time : 100 ns ($V_{CC}=5.0$ V:1/2/4-Mbytes)
: 120 ns ($V_{CC}=5.0$ V:8-Mbyte)
: 150 ns ($V_{CC}=3.3$ V)
- Supply read current : 70 mA ($V_{CC}=5.0$ V)
: 25 mA ($V_{CC}=3.3$ V)
- Connection : Interface signal
(60-pin : Conductive rubber connector and metal connector)
 V_{CC} , GND, CINS # signal
(3-pin : Metal connector)
- Operating temperature : 0 to 60 $^{\circ}$ C
- Write protect function
- Erase block size : 64k word blocks
- Automated write and erase algorithms
LH28F004SC, LH28F008SC, LH28F016SC command set

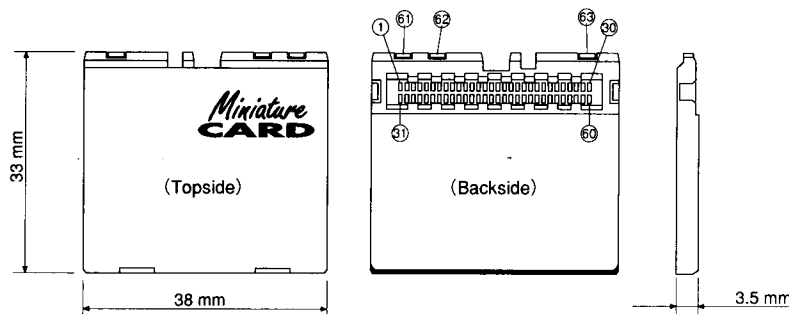
ID340 Series

Flash Memory Miniature Card

Electrical Characteristics

Model	ID340CXX	ID340DXX	ID340EXX	ID340GXX
Capacity	1-Mbyte	2-Mbyte	4-Mbyte	8-Mbyte
Supply voltage	3.3 V $\pm$ 0.3 V or 5 V $\pm$ 5 %			
Access time (MAX.)	100 ns (5 V), 150 ns (3.3 V)			120 ns (5 V) 150 ns (3.3 V)
Supply current (MAX.)				
Read current	70 mA (5 V), 25 mA (3.3 V)			
Write current	150 mA (5 V), 115 mA (3.3 V)			
Erase current	100 mA (5 V), 75 mA (3.3 V)			
Standby	240 μ A		480 μ A	
Write time (TYP.)	8 μ s / byte or word (5 V) 17 μ s / byte or word (3.3 V)			
Block erase time	1.1 s (5 V), 1.8 s (3.3 V)			
Block size	64k Word Blocks			
Operating temperature	0 to 60 $^{\circ}$ C			

Dimensions



SHARP

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FLASH MEMORY FLASH NON-VOLATILE MEMORY FLASH E2ROM FLASH ROM
READ ONLY MEMORY ETOX ID340 Series Flash Memory Card