

Document Title

16M x 8 Bit SmartMedia™ Card

Revision History

<u>Revision No</u>	<u>History</u>	<u>Draft Date</u>	<u>Remark</u>
0.0	Initial issue.	April 10th 1999	Advanced Information

The attached data sheets are prepared and approved by SAMSUNG Electronics. SAMSUNG Electronics CO., LTD. reserve the right to change the specifications. SAMSUNG Electronics will evaluate and reply to your requests and questions about device. If you have any questions, please contact the SAMSUNG branch office near your office.

SMFV016A

16M x 8 Bit SmartMedia™ Card

FEATURES

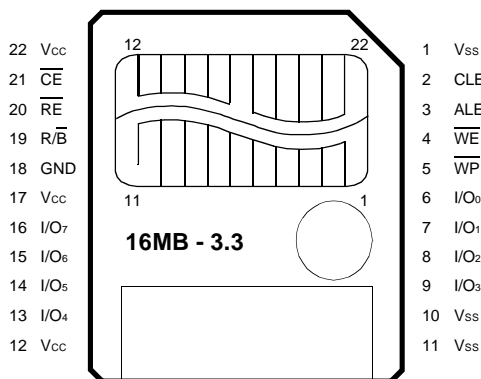
- Single 2.7V~3.6V Supply
- Organization
 - Memory Cell Array : (16M + 512K)bit x 8bit
 - Data Register : (512 + 16)bit x 8bit
- Automatic Program and Erase
 - Page Program : (512 + 16)Byte
 - Block Erase : (16K + 512)Byte
- 528-Byte Page Read Operation
 - Random Access : 10μs(Max.)
 - Serial Page Access : 50ns(Min.)
- Fast Write Cycle Time
 - Program time : 200μs(typ.)
 - Block Erase time : 2ms(typ.)
- Command/Address/Data Multiplexed I/O port
- Hardware Data Protection
 - Program/Erase Lockout During Power Transitions
- Reliable CMOS Floating-Gate Technology
 - Endurance : 1M Program/Erase Cycles
 - Data Retention : 10 years
- Command Register Operation
- 22pad SmartMedia™(SSFDC)

GENERAL DESCRIPTION

The SMFV016A is a 16M(16,777,216)x8bit NAND Flash Memory with a spare 512K(524,288)x8bit. Its NAND cell provides the most cost-effective solution for the solid state mass storage market. A program operation programs the 528-byte page in typically 200μs and an erase operation can be performed in typically 2ms on a 16K-byte block. Data in the page can be read out at 50ns cycle time per byte. The I/O pins serve as the ports for address and data input/output as well as command inputs. The on-chip write controller automates all program and erase functions including pulse repetition, where required, and internal verify and margining of data. Even the write-intensive systems can take advantage of the SMFV016A's extended reliability of 1,000,000 program/erase cycles by providing either ECC(Error Correcting Code) or real time mapping-out algorithm. These algorithms have been implemented in many mass storage applications and also the spare 16 bytes of a page combined with the other 512 bytes can be utilized by system-level ECC.

The SMFV016A is an optimum solution for large nonvolatile storage applications such as solid state file storage, digital voice recorder, digital still camera and other portable applications requiring non-volatility.

SmartMedia™ CARD(SSFDC)



22 PAD SmartMedia™

PIN DESCRIPTION

Pin Name	Pin Function
I/O0 ~ I/O7	Data Input/Outputs
CLE	Command Latch Enable
ALE	Address Latch Enable
$\overline{\text{CE}}$	Chip Enable
$\overline{\text{RE}}$	Read Enable
$\overline{\text{WE}}$	Write Enable
$\overline{\text{WP}}$	Write Protect
GND	Ground
R/B	Ready/Busy output
Vcc	Power(2.7V~3.6V)
Vss	Ground
N.C	No Connection

NOTE : Connect all Vcc and Vss pins of each device to common power supply outputs.
Do not leave Vcc or Vss disconnected.