SMART
Modular Technologies

FLASH
'SECURE' MEMORY CARD

68-pin, Type I, PCMCIA Memory Card (2 or 4MBytes) with Security and Counter Features

Features

- PCMCIA Rel. 2.01 conformity
- 5V or 12V operation available as option
- Microprocessor-based implementation for customization
- Software-based Read and/or Write protect
- Four separate 'Usage' Counters ('Postage-Meter' type of applications) stored in NVRAM
- Access to decrementing of Counters through level 1 password
- Reset of Counters through level 2 password
- Single byte commands for different features
- Syntax and checksum checked on commands
- Simple host commands for communicating with the microprocessor
- Communication registers located in Attribute Memory space
- Simple Pseudo Random Sequence (PRS) for 'Security-key' applications
- Programmable initial condition of PRS generator for uniqueness like a combination lock
- Watchdog reset for error recovery
- Data retention without battery
- Ideal for OEM security applications
- DOS interface software provided for setting up security and counter functions
- FLASH software drivers provided

Functionality

The FLASH functions of the card work like a generic PCMCIA FLASH card.

The special functions are accessed through memory locations in the card's attribute memory space beyond 8KB addressing. Simple command set is used to communicate with the microprocessor. The card can be programmed to secure data from read and/or write on power-up.

Two levels of passwords can be programmed for first level of security. Unique pseudo random sequence can also be generated for each card as second level of security thus providing authenticity to the uniqueness of the card.

The card draws very low power in standby mode and data can be retained almost indefinitely without any battery due to the nonvolatility of FLASH devices.

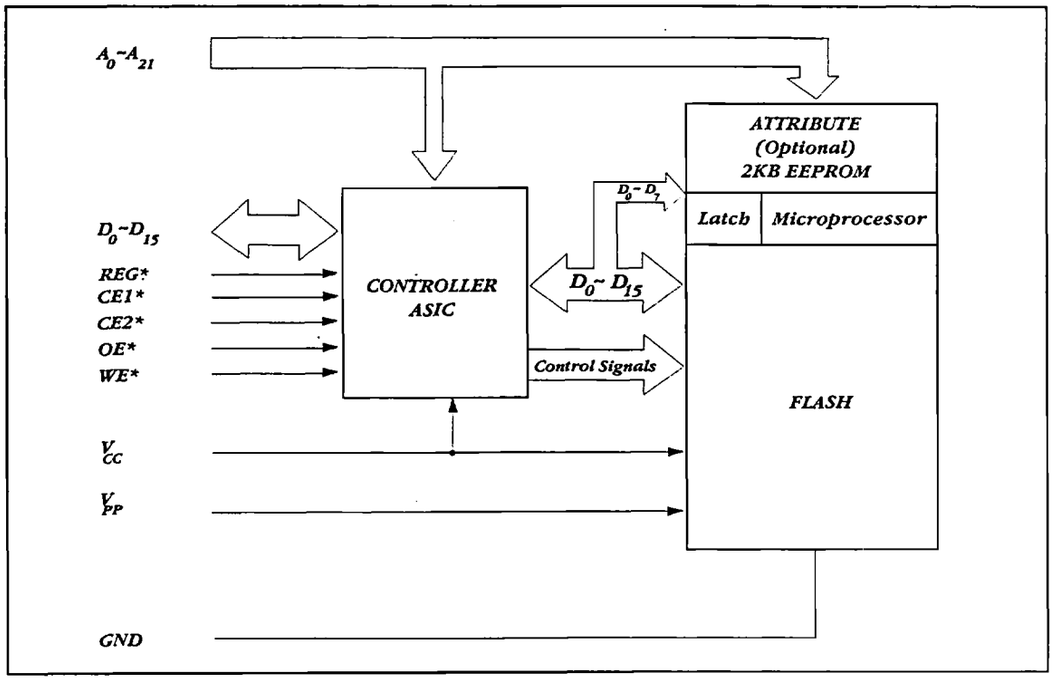
Primary Specifications

Operating Voltage	5V ± 5%
Write/Erase Voltage	12V or 5V ± 5% (depending on option)
Current Consumption	Active : 60 mA (x 16), 30 mA (x 8) / Standby : 0.3 mA
Interface	Parallel I/O 68-pin PCMCIA
Operating Temperature Range	0 to 55°C
Outer Dimensions	3.37" (L) x 2.126" (W) x 0.130" (T)
Weight	35 gms

SMRTS002

45531 Northport Loop West, Fremont, CA 94538 Tel (510) 623-1231 Fax (510) 623-1434

Block Diagram



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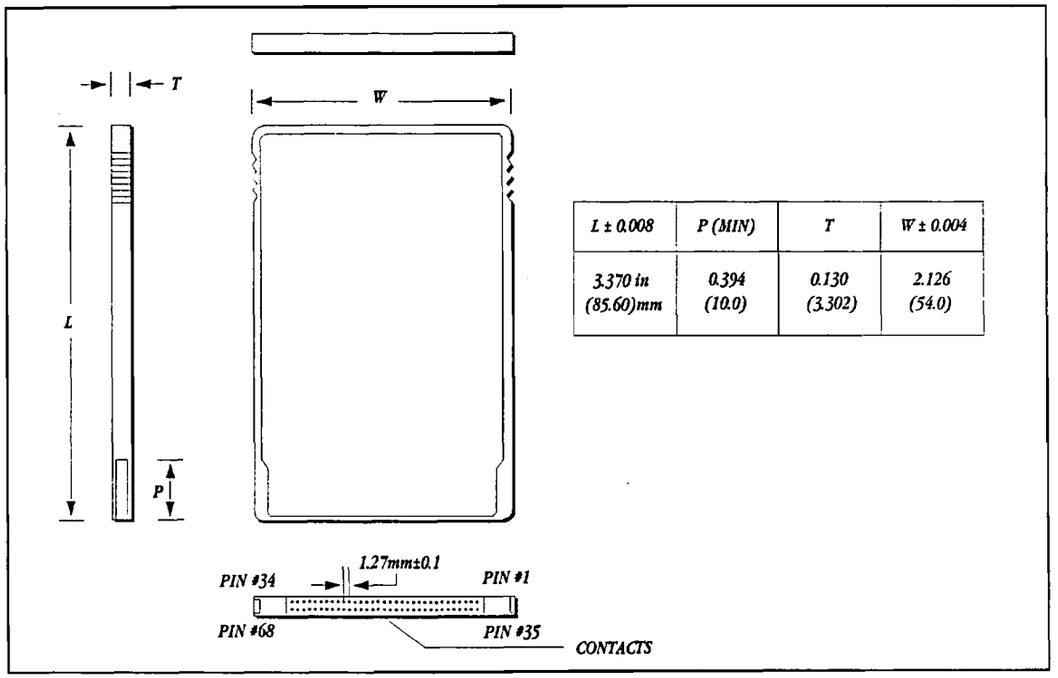

L ± 0.008	P (MIN)	T	W ± 0.004
3.370 in (85.60)mm	0.394 (10.0)	0.130 (3.302)	2.126 (54.0)

Ordering Information

Example : **SM9SF A 2M P 3 20 5V**

- **SM** — Smart Modular Memory Card
- **9** — Secure FLASH
- **SF** — Secure FLASH
- **Options:** — **A** : With 2KB EEPROM Attribute
- **2M** — **Density**: 2M : 2MByte; 4M : 4MByte
- **P** — 68-pin PCMCIA pinout
- **3** — **Data Width**: x8/x16
- **20** — **Speed**: 15 : 150 ns; 20 : 200 ns; 25 : 250 ns
- **5V** — **Other Options**: 5V : 5V-only operation

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