IS23SC4418
IS23SC4428

ISSI®

1-KBYTE EEPROM
WITH WRITE PROTECT FUNCTION AND
PROGRAMMABLE SECURITY CODE (PSC)

ADVANCE INFORMATION
APRIL 1998

FEATURES

- Standard CMOS process
- 1024 x 8 bits EEPROM organization
- Byte-wise addressing
- Byte-wise erase/write
- Irreversible byte-wise write protection
- Single 5V power supply for read and write/erase
- Low power operation:
  - 3 mA typical active current
- 5 ms programming time
- 3-wire serial interface
- 20 KHz serial clock rate
- Contact configuration and serial interface, ISO standard 7816 (Synchronous Transmission) compatible.
- High ESD protection: > 4 KV
- High reliability:
  - 10,000 erase/write cycles guaranteed
  - 10 years data retention
- Wide operating temperature range
  - 0 to +70°C Commcial; –40 to +85°C Industrial

Additional feature of IS23SC4428:
- 2-byte Programmable Security Code (PSC) for memory write/erase protection

DESCRIPTION

IS23SC4418

IS23SC4418 contains 1024 x 8 bits of EEPROM with programmable write protection for each byte. Random read access to any byte in the memory is always possible. The memory can also be erased and written byte by byte. Erasing old data in the byte location must be performed before new data can be written to the location. Each byte in the memory has a corresponding protect bit. The protect bits are only one-time programmable and cannot be erased. After the protect bits are enabled (logic 0), the corresponding bytes can never be changed again. A write-protect bit with data-compare function is available for user to verify the data in the memory before enabling the protect bit.

IS23SC4428

IS23SC4428 offers all the features in IS23SC4418. In addition, it offers two bytes of Programmable Security Code (PSC) against unauthorized memory write/erase operations. All the memory, except for the PSC can always be read, but the memory can be written or erased only after PSC verification. If the user fails to enter the correct PSC in eight consecutive attempts, the device will block any further PSC entry attempts and the memory can never be erased or written again.

The PSC bytes are pre-programmed by the manufacturer with a code, which is specified for the customer for device transport security purposes, before the devices are shipped to the customer. The Error Counter will be pre-erased by the manufacturer to allow maximum attempts (maximum of eight) for PSC entry.

Integrated Silicon Solution, Inc.

ORDERING INFORMATION

Commercial Range: 0°C to +70°C

Order Part Number	Package
IS23SC4418-X	Die
IS23SC4428-X	Die

Industrial Range: –40°C to +85°C

Order Part Number	Package
IS23SC4418-XI	Die
IS23SC4428-XI	Die

ISSI®

Integrated Silicon Solution, Inc.

2231 Lawson Lane
Santa Clara, CA 95054
Tel: 1-800-379-4774
Fax: (408) 588-0806
e-mail: sales@issi.com
http://www.issi.com