SGS-THOMSON MICROELECTRONICS

ST14C04C

CMOS SERIAL ACCESS 4K (2 blocks of 256 x 8) EEPROM

BRIEF DATA

- 1,000,000 ERASE/WRITE CYCLES MINIMUM
- OVER 10 YEARS DATA RETENTION
- SINGLE 3V to 5.5V POWER SUPPLY
- TWO WIRE SERIAL INTERFACE, FULLY I^{2}C BUS COMPATIBLE
- BYTE and MULTIBYTE WRITE (UP TO 4 BYTES)
- PAGE WRITE (UP TO 8 BYTES)
- BYTE, RANDOM and SEQUENTIAL READ MODES
- SELF TIMED PROGRAMMING CYCLE
- AUTOMATIC ADDRESS INCREMENTING
- GUARANTEED 4KV ESD PROTECTION, USING HUMAN BODY MODEL
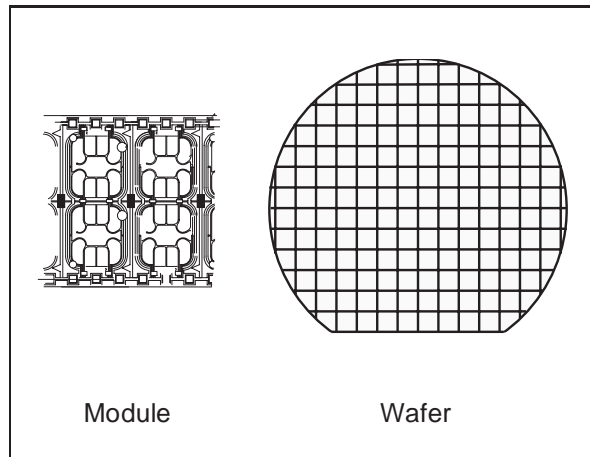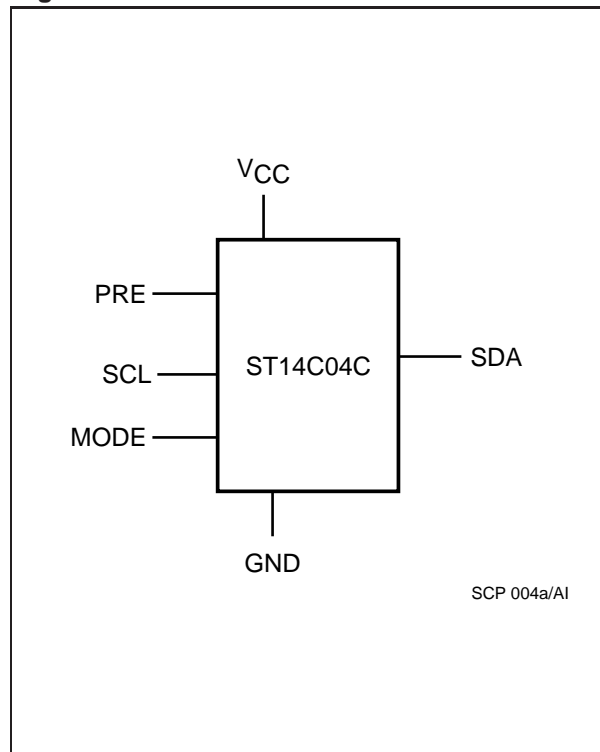
Figure 1 Delivery forms

Module   Wafer

Figure 2 Pin Connection

SCP 004a/AI

Table 1 Signal Names

PRE	Write Protect Enable
SDA	Serial Data Address Input Output
SCL	Serial Clock
MODE	Write Mode
V_{CC}	Supply Voltage
GND	Ground

DESCRIPTION

The ST14C04C is a 4K bit electrically erasable programmable memory (EEPROM), organized as 2 blocks of 256 x 8 bits. It is manufactured in SGS-THOMSON's Hi-Endurance Advanced CMOS technology which confirms an endurance of more than 1,000,000 erase/write cycles with a data retention of over 10 years. This memory operates with a supply voltage value as low as 3V.

The memory is compatible with the I^2C standard, two wire, serial interface which uses a bi-directional data bus and serial clock.

It carries a built-in 7 bit, unique device identification code (1010000) corresponding to the I^2C bus definition. Only one memory can be attached to the I^2C bus. This memory behaves as a slave device in the I^2C protocol with all memory operations synchronized by the serial clock. Read and write operations are initiated by a START condition generated by the bus master. The START condition is followed by a stream of 7 bits (identification code 1010000), plus one read/write bit and terminated by an acknowledge bit.

When writing data to the memory it responds to the 8 bits received by asserting an acknowledge bit during the 9th bit time. When data is read by the bus master, it acknowledges the receipt of the data bytes in the same way. Data transfers are terminated with a STOP condition.

Both wafers (sawn or unsawn) and micromodules (on film) are available.