# SGS-THOMSON MICROELECTRONICS

# M95256
# M95128

## 256K/128K SERIAL SPI EEPROM with POSITIVE CLOCK STROBE

**DATA BRIEFING**

- 100,000 ERASE/WRITE CYCLES
- 40 YEARS DATA RETENTION
- SINGLE SUPPLY VOLTAGE
  - 4.5V to 5.5V for M95xxx
  - 2.5V to 5.5V for M95xxx-W
  - 1.8V to 3.6V for M95xxx-R
- SPI BUS COMPATIBLE SERIAL INTERFACE
- 5 MHz CLOCK RATE MAX
- STATUS REGISTER
- HARDWARE PROTECTION of the STATUS REGISTER
- 64 BYTE PAGE MODE
- SIZEABLE READ ONLY EEPROM AREA
- SELF-TIMED PROGRAMMING CYCLE
- E.S.D.PROTECTION GREATER than 4000V
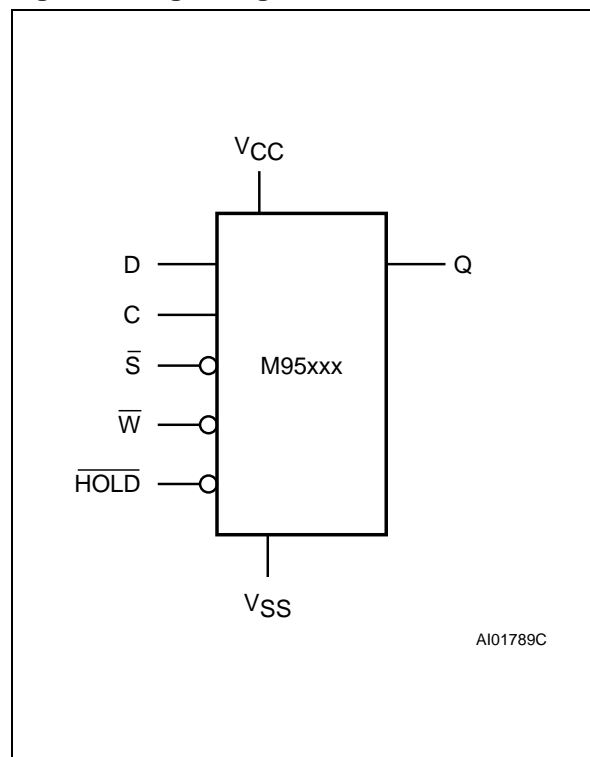- SUPPORTS POSITIVE CLOCK SPI MODES



PSDIP8 (BN)
0.25mm Frame

TSSOP14 (DL)
169mil Width

SO8 (MN)
150mil Width

SO8 (MW)
200mil Width
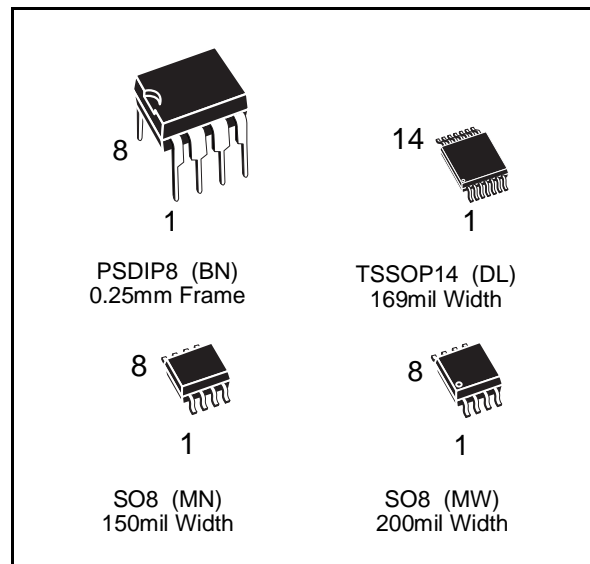
## DESCRIPTION

The M95xxx is a family of Electrically Erasable Programmable Memories (EEPROM) fabricated with SGS-THOMSON's High Endurance Double Polysilicon CMOS technology. Each Memory is accessed by a simple SPI bus compatible serial interface. The bus signals are a serial clock input (C), a serial data input (D) and a serial data output (Q).

The device connected to the bus is selected when the chip select input ($\overline{S}$) goes low. Communications with the chip can be interrupted with a hold input ($\overline{HOLD}$).
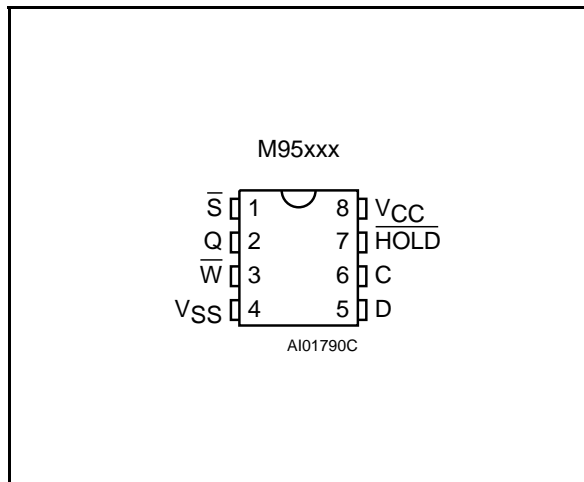
## Signal Names

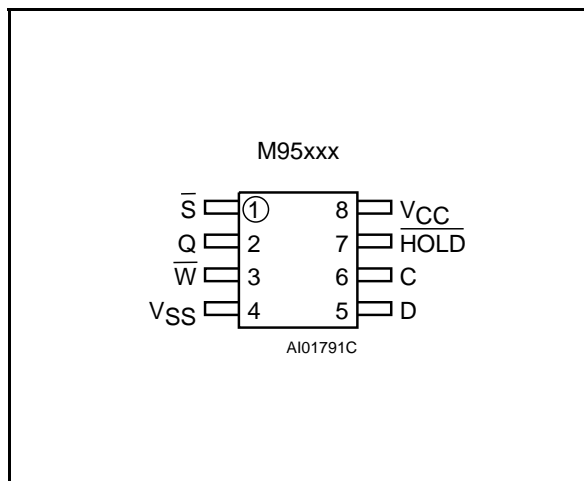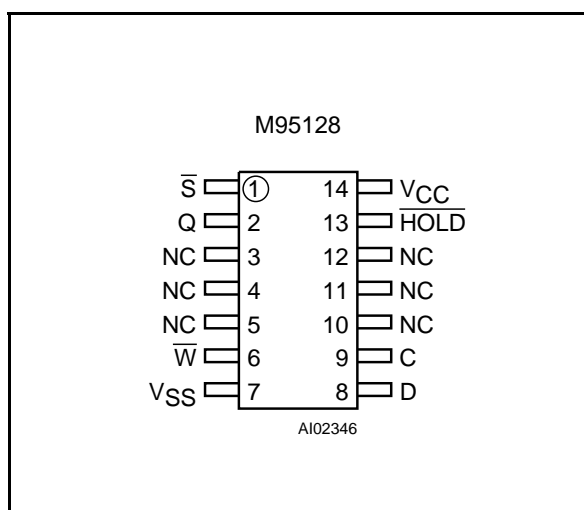| | |
|---|---|
| C | Serial Clock |
| D | Serial Data Input |
| Q | Serial Data Output |
| S | Chip Select |
| W | Write Protect |
| HOLD | Hold |
| $V_{CC}$ | Supply Voltage |
| $V_{SS}$ | Ground |

**Figure 1. Logic Diagram**



AI01789C

## DIP Pin Connections

M95xxx

$\overline{S}$ 1    8 $V_{CC}$
Q 2    7 $\overline{HOLD}$
$\overline{W}$ 3    6 C
$V_{SS}$ 4    5 D

AI01790C

## SO Pin Connections

M95xxx

$\overline{S}$ ① 8 $V_{CC}$
Q 2    7 $\overline{HOLD}$
$\overline{W}$ 3    6 C
$V_{SS}$ 4    5 D

AI01791C

## TSSOP Pin Connections

M95128

$\overline{S}$ ① 14 $V_{CC}$
Q 2    13 $\overline{HOLD}$
NC 3    12 NC
NC 4    11 NC
NC 5    10 NC
$\overline{W}$ 6    9 C
$V_{SS}$ 7    8 D

AI02346

## Ordering Information Scheme

For a list of available options or for further information on any aspect of this device, please contact the SGS-THOMSON Sales Office nearest to you.

Example:       M95256 – R MW  5   T

| Density | |
| --- | --- |
| 256 | 256K (32K x 8) |
| 128 | 128K (16K x 8) |

| Operating Voltage | |
| --- | --- |
| blank | 4.5V to 5.5V |
| W | 2.5V to 5.5V |
| R [3] | 1.8V to 3.6V |

| Package | |
| --- | --- |
| BN | PSDIP8 0.25mm Frame |
| MW | SO8 200mil Width |
| MN [4] | SO8 150mil Width |
| DL [5] | TSSOP14 169mil Width |

| Temp. Range | |
| --- | --- |
| 1 [1] | 0 to 70 °C |
| 5 | −20 to 85 °C |
| 6 | −40 to 85 °C |
| 3 [2] | −40 to 125 °C |

| Option | |
| --- | --- |
| T | Tape & Reel Packing |

**Notes:** 1. Temperature range on request only.
2. Produced with High Reliability Certified Flow (HRCF), in $V_{CC}$ range 4.5V to 5.5V only
3. -R version (1.8V to 3.6V) are only available in temperature ranges 5 or 1.
4. SO8, 150mil Width, package is available for M95128 series only
5. TSSOP14, 169mil Width, pakage is available for M95128 series only.

Devices are shipped from the factory with the memory content set at all "1's" (FFh).