

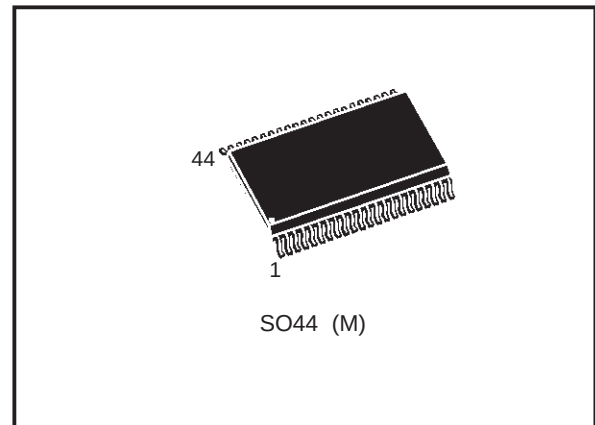


M28F410

4 Mbit (512Kb x8 or 256Kb x16, Boot Block) Flash Memory

DATA BRIEFING

- 5V $\pm$ 10% SUPPLY VOLTAGE
- 12V $\pm$ 5% or $\pm$ 10% PROGRAMMING VOLTAGE
- FAST ACCESS TIME: 60ns
- PROGRAM/ERASE CONTROLLER (P/E.C.)
- AUTOMATIC STATIC MODE
- MEMORY ERASE in BLOCKS
 - Boot Block (Top location) with hardware write and erase protection
 - Parameter and Main Blocks
- 100,000 PROGRAM/ERASE CYCLES
- LOW POWER CONSUMPTION
- 20 YEARS DATA RETENTION
 - Defectivity below 1ppm/year
- ELECTRONIC SIGNATURE
 - Manufacturer Code: 0020h
 - Device Code: 00F2h



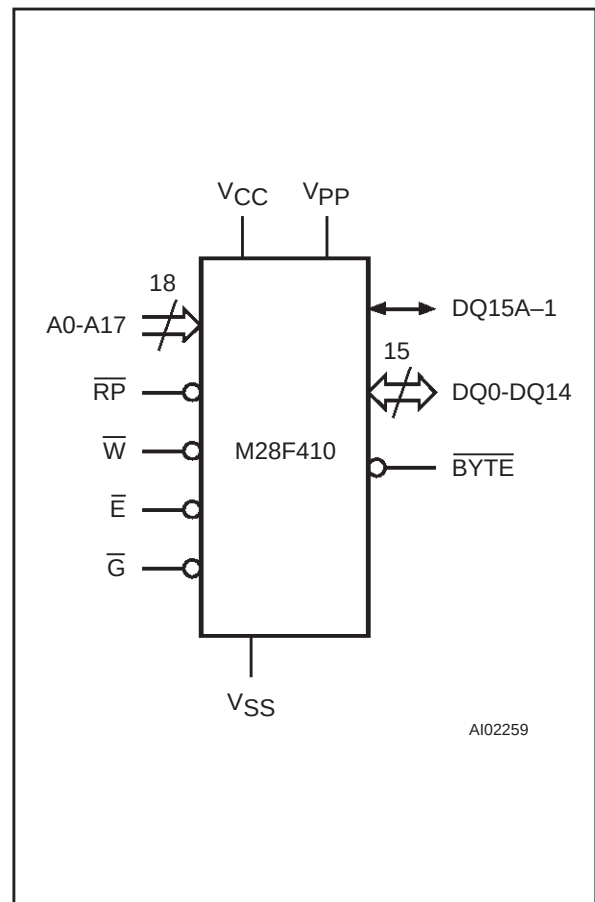
DESCRIPTION

The M28F410 Flash memory is a non-volatile memory that may be erased electrically at the block level and programmed by byte or by word. The interface is directly compatible with most micro-processors. It is offered in SO44 package.

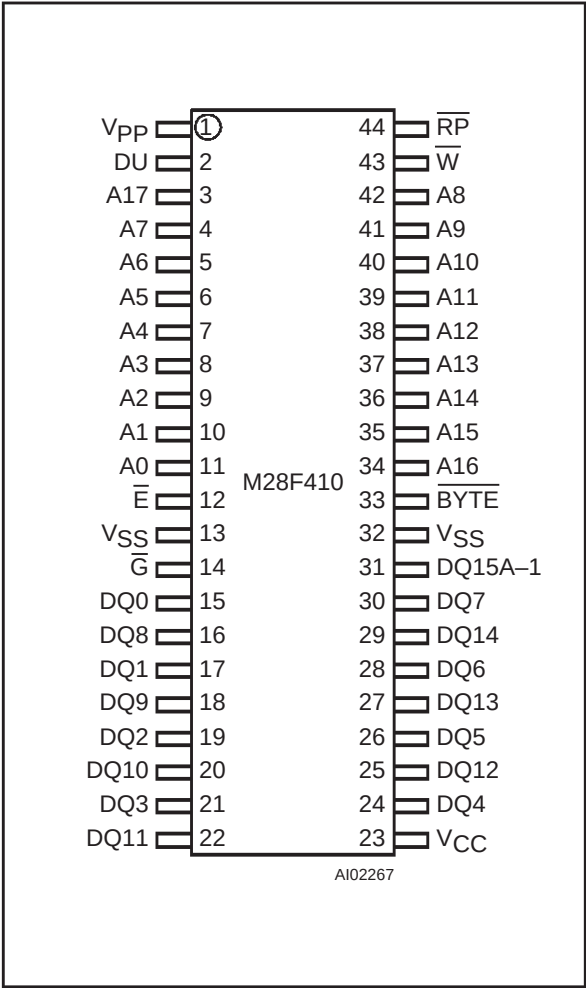
Signal Names

A0-A16	Address Inputs
DQ0-DQ7	Data Input / Outputs
DQ8-DQ14	Data Input / Outputs
DQ15A-1	Data Input/Output or Address Input
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
$\overline{BYTE}$	Byte/Word Organization
$\overline{RP}$	Reset/Power Down/Boot Block Unlock
V _{PP}	Program & Erase Supply Voltage
V _{CC}	Supply Voltage
V _{SS}	Ground

Figure 1. Logic Diagram



SO Pin Connections



Ordering Information Scheme

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

Example: M28F410 -80 X N 1 TR

Operating Voltage

F 5V

Array Matrix

1 Top Boot

Speed

-60 60ns

-70 70ns

-80 80ns

-90 90ns

Power Supplies

blank V_{CC} ± 10%
V_{PP} ± 5%

X V_{CC} ± 5%
V_{PP} ± 5%

Y V_{CC} ± 10%
V_{PP} ± 10%

Package

M SO44

Temp. Range

1 0 to 70 °C

6 -40 to 85 °C

3 -40 to 125 °C

Option

TR Tape & Reel
Packing

Note: Devices are shipped from the factory with the memory content erased (to FFh).