

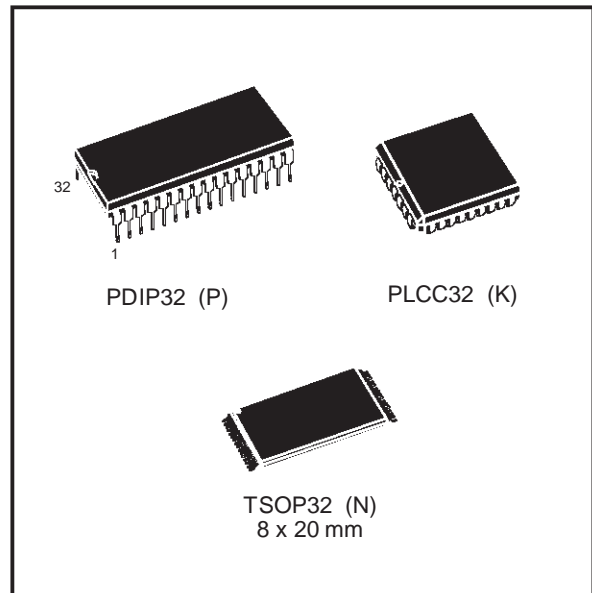


# M28F101

## 1 Mbit (128Kb x8, Bulk) Flash Memory

### DATA BRIEFING

- 5V ±10% SUPPLY VOLTAGE
- 12V PROGRAMMING VOLTAGE
- FAST ACCESS TIME: 70ns
- BYTE PROGRAMING TIME: 10µs typical
- ELECTRICAL CHIP ERASE in 1s RANGE
- LOW POWER CONSUMPTION
  - Stand-by Current: 5µA typical
- 10,000 ERASE/PROGRAM CYCLES
- INTEGRATED ERASE/PROGRAM-STOP TIMER
- OTP COMPATIBLE PACKAGES and PINOUTS
- 20 YEARS DATA RETENTION
  - Defectivity below 1ppm/year
- ELECTRONIC SIGNATURE
  - Manufacturer Code: 20h
  - Device Code: 07h



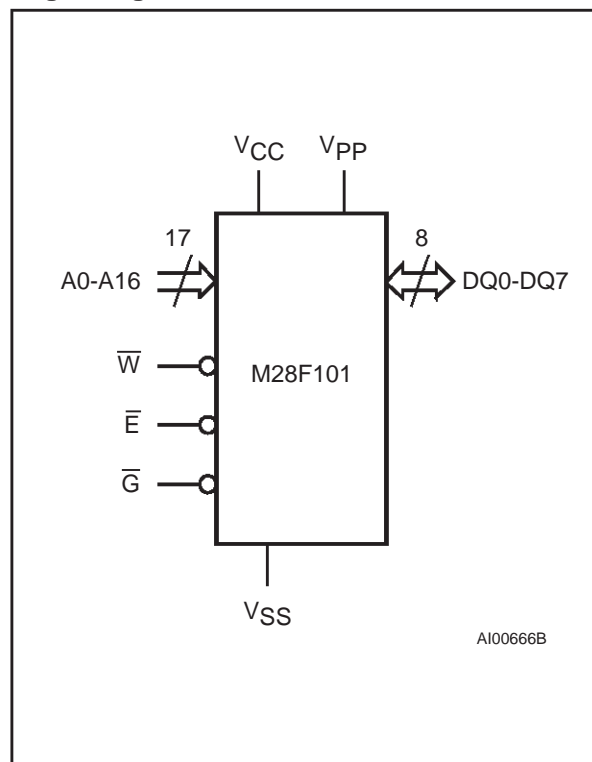
### DESCRIPTION

The M28F101 Flash memory is a non-volatile memory that may be erased electrically at the chip level and programmed by byte. It is organised as 128 Kbytes of 8 bits. It uses a command register architecture to select the operating modes and thus provides a simple microprocessor interface. The device is offered in PDIP32, PLCC32 and TSOP32 (8 x 20mm) packages. Both normal and reverse pinouts are available for the TSOP32 package.

### Signal Names

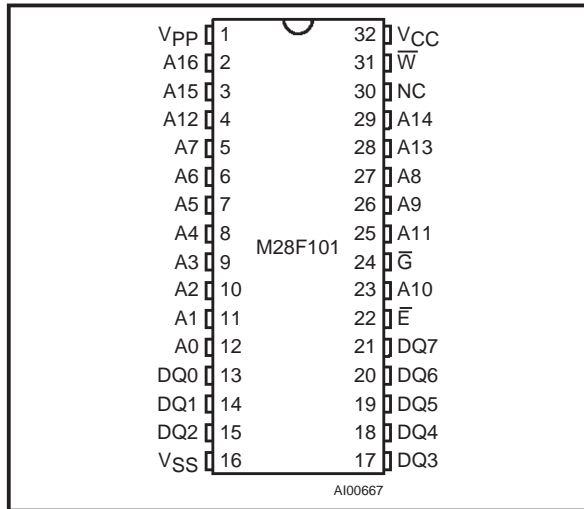
A0-A16	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
$\bar{E}$	Chip Enable
$\bar{G}$	Output Enable
$\bar{W}$	Write Enable
V <sub>PP</sub>	Program Supply
V <sub>CC</sub>	Supply Voltage
V <sub>SS</sub>	Ground

### Logic Diagram



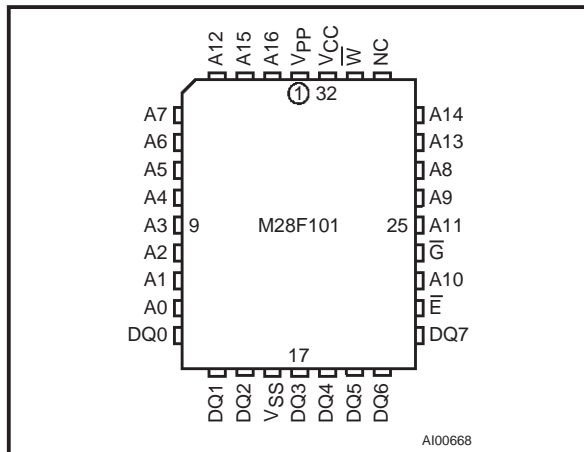
# M28F101

## DIP Pin Connections



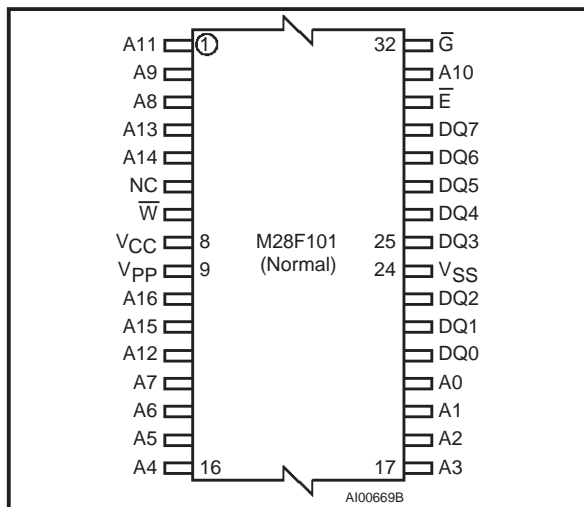
**Warning:** NC = Not Connected.

## LCC Pin Connections



**Warning:** NC = Not Connected.

## TSOP Pin Connections



**Warning:** NC = Not Connected.

## 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: M28F101 -70 X N 1 TR

### Operating Voltage

F 5V

### Speed

- 70 70ns
- 90 90ns
- 100 100ns
- 120 120ns
- 150 150ns
- 200 200ns

### Power Supplies

- blank V<sub>CC</sub> ± 10%
- X V<sub>CC</sub> ± 5%

### Package

- P PDIP32
- K PLCC32
- N TSOP32  
8 x 20mm

### Temp. Range

- 1 0 to 70 °C
- 6 -40 to 85 °C
- 3 -40 to 125 °C

### Option

- R Reverse Pinout
- TR Tape & Reel Packing

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