

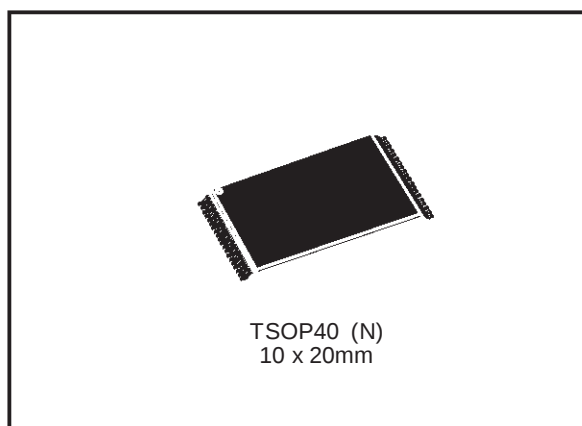


M28W231

2 Mbit (256Kb x8, Boot Block) Low Voltage Flash Memory

DATA BRIEFING

- 2.7V to 3.6V SUPPLY VOLTAGE
- 12V $\pm$ 5% PROGRAMMING VOLTAGE
- FAST ACCESS TIME: 100ns
- 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: 20h
 - Device Code: E5h



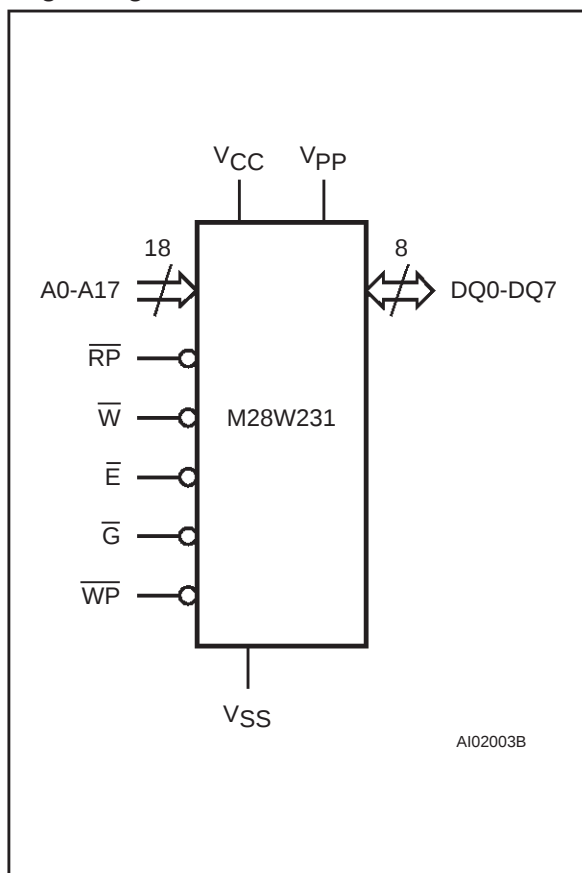
DESCRIPTION

The M28W231 Flash memory is a non-volatile memory that may be erased electrically at the block level and programmed by byte. The interface is directly compatible with most microprocessors. TSOP40 (10 x 20mm) package is used.

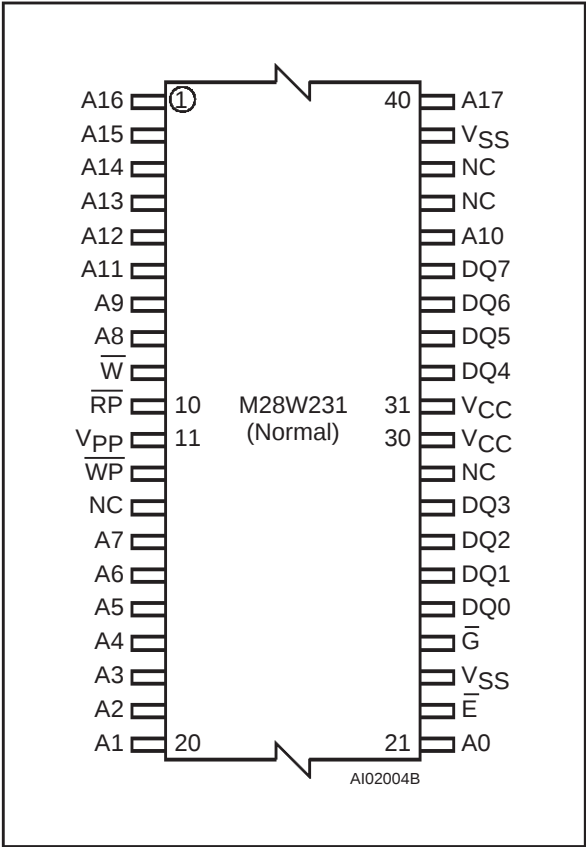
Signal Names

A0-A17	Address Inputs
DQ0-DQ7	Data Input / Outputs
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
$\overline{WP}$	Write Protect
$\overline{RP}$	Reset/Power Down/Boot Block Unlock
V _{PP}	Program & Erase Supply Voltage
V _{CC}	Supply Voltage
V _{SS}	Ground

Logic Diagram



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:	M28W231	-100	N	1	TR
Operating Voltage	W	2.7V to 3.6V			
Array Matrix	3	Top Boot			
Speed	-90 ⁽¹⁾	90ns			
	-120	120ns			
	-150	150ns			
	-180	180ns			
Package	N	TSOP40 10 x 20mm			
Temp. Range	1	0 to 70°C			
	5	-20 to 85°C			
	6	-40 to 85°C			
Option	TR	Tape & Reel Packing			

Notes: 1. This speed is obtained with a power supply of $V_{CC} = 3.3V \pm 0.3V$ and a load capacitance at 30pF.

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