



M29W160BT M29W160BB

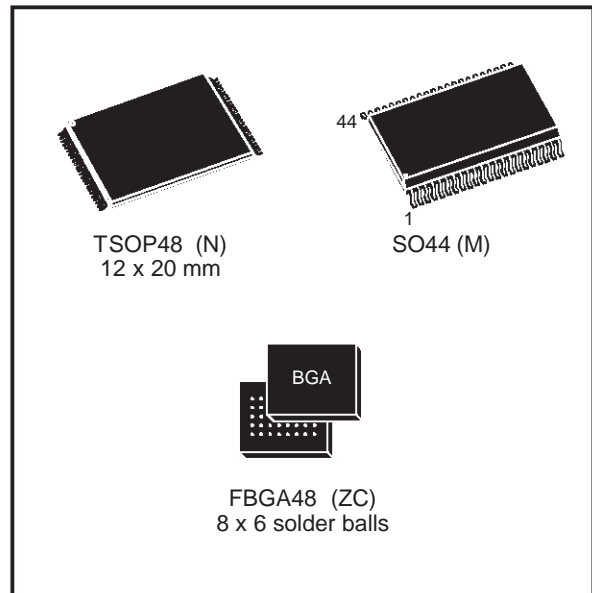
16 Mbit (2Mb x8 or 1Mb x16, Boot Block) Low Voltage Single Supply Flash Memory

DATA BRIEFING

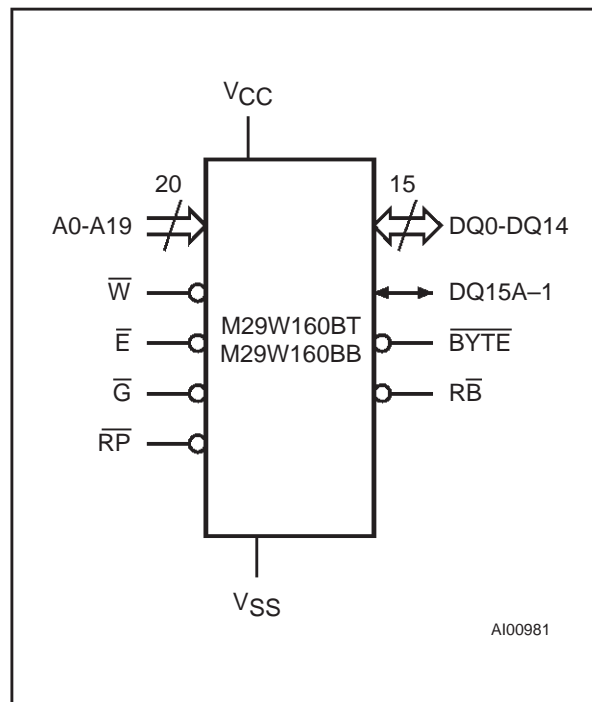
- 2.7V to 3.6V SUPPLY VOLTAGE for PROGRAM, ERASE and READ OPERATIONS
- FAST ACCESS TIME: 80ns
- FAST PROGRAMMING TIME
 - 13µs by Byte/Word typical
- PROGRAM/ERASE CONTROLLER (P/E.C.)
 - Program Byte-by-Byte or Word-by-Word
 - Status Register bits and Ready/Busy Output
- MEMORY BLOCK for SECURITY CODE
- MEMORY BLOCKS
 - Boot Block (Top or Bottom location)
 - Parameter and Main blocks
- BLOCK, MULTI-BLOCK and CHIP ERASE
- MULTI BLOCK PROTECTION/TEMPORARY UNPROTECTION MODES
- BLOCK PROTECTION ACCESS COMMAND
- ERASE SUSPEND and RESUME MODES
 - Read and Program another Block during Erase Suspend
- BYPASS MODE
 - Faster Programming Sequences
- LOW POWER CONSUMPTION
 - Stand-by and Automatic Stand-by
- 100,000 PROGRAM/ERASE CYCLES per BLOCK
- 20 YEARS DATA RETENTION
 - Defectivity below 1ppm/year
- ELECTRONIC SIGNATURE
 - Manufacturer Code: 0020h
 - Device Code, M29W160BT: 22C4h
 - Device Code, M29W160BB: 2249h

DESCRIPTION

The M29W160B is a non-volatile memory that may be erased electrically at the block or chip level and programmed in-system on a Byte-by-Byte or Word-by-Word basis using only a single 2.7V to 3.6V V_{CC} supply. For Program and Erase operations the necessary high voltages are generated internally. The device can also be programmed in standard programmers.

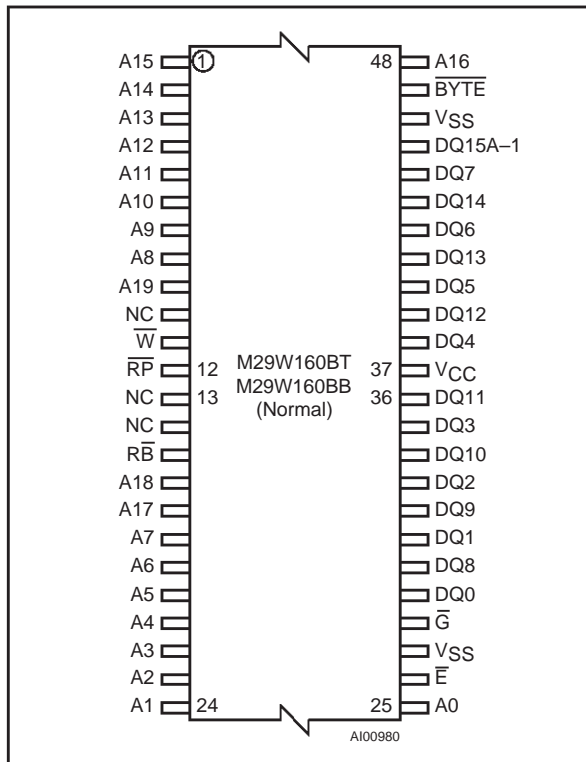


Logic Diagram



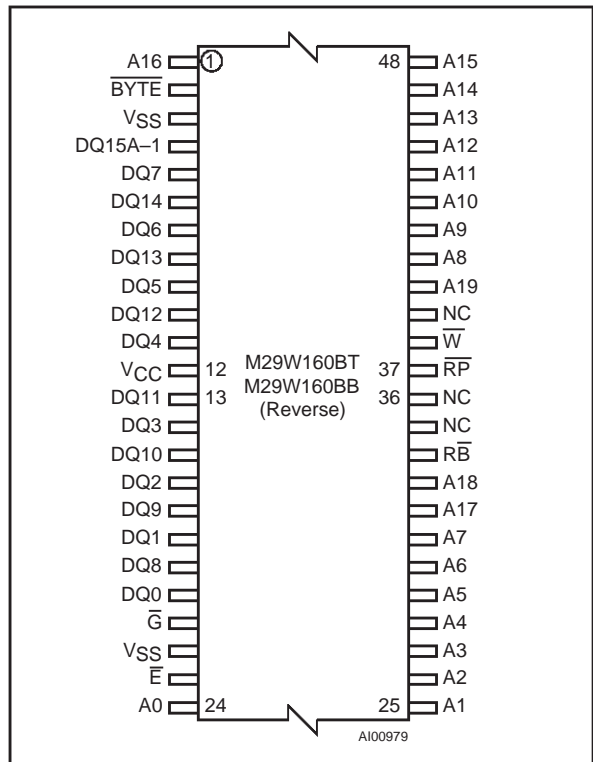
M29W160BT, M29W160BB

TSOP Pin Connections



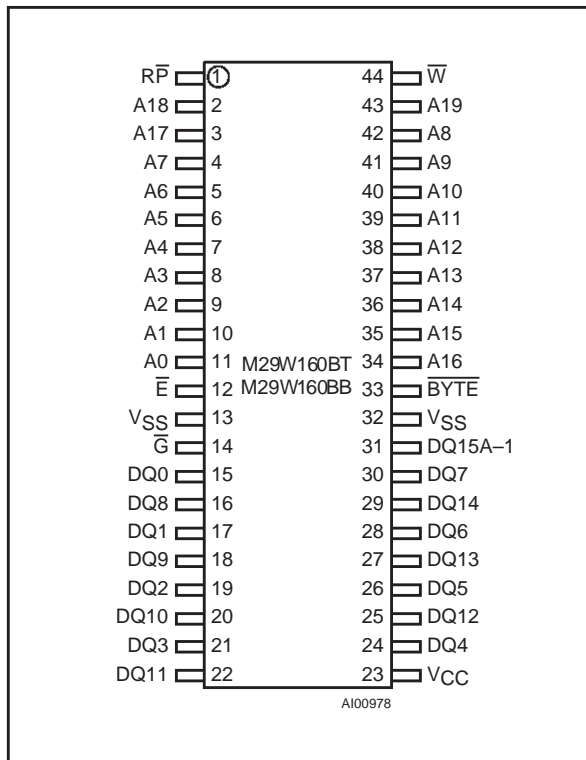
Warning: NC = Not Connected.

TSOP Reverse Pin Connections



Warning: NC = Not Connected.

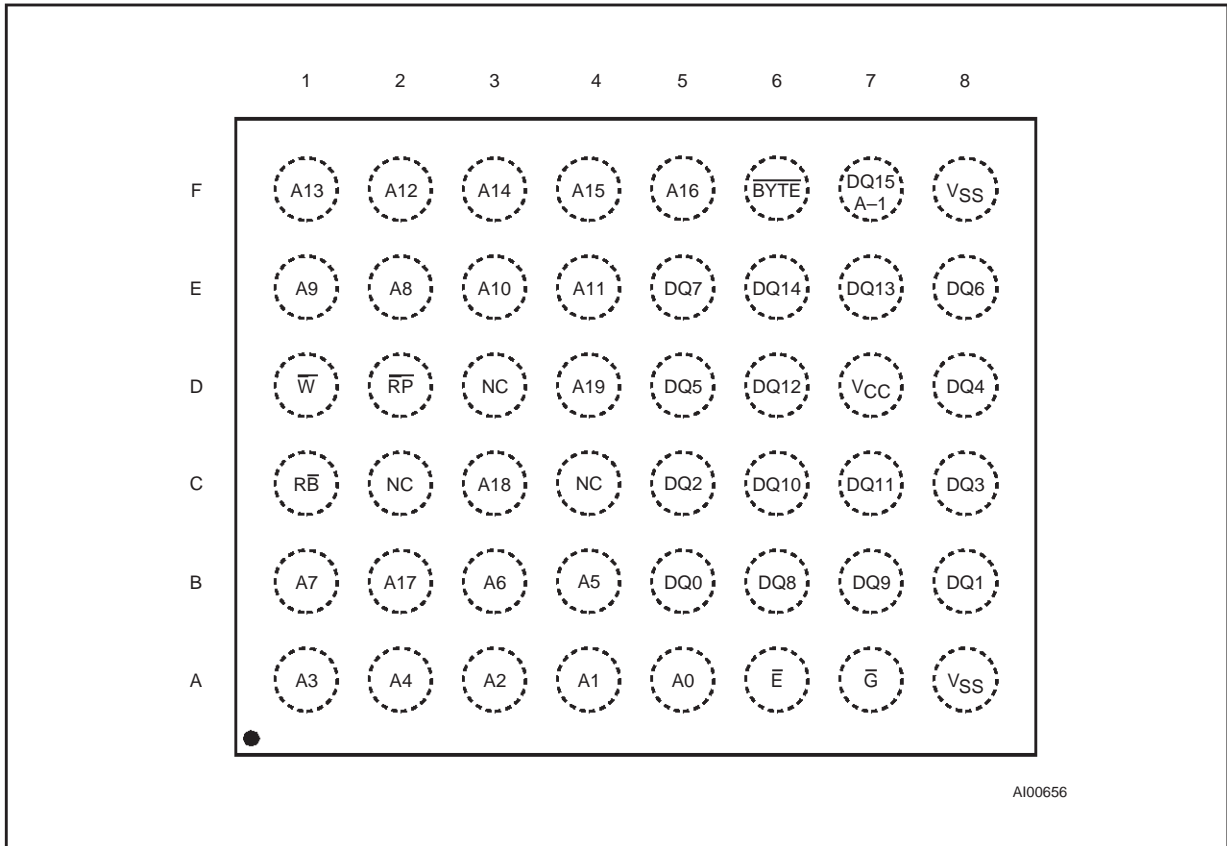
SO Pin Connections



Signal Names

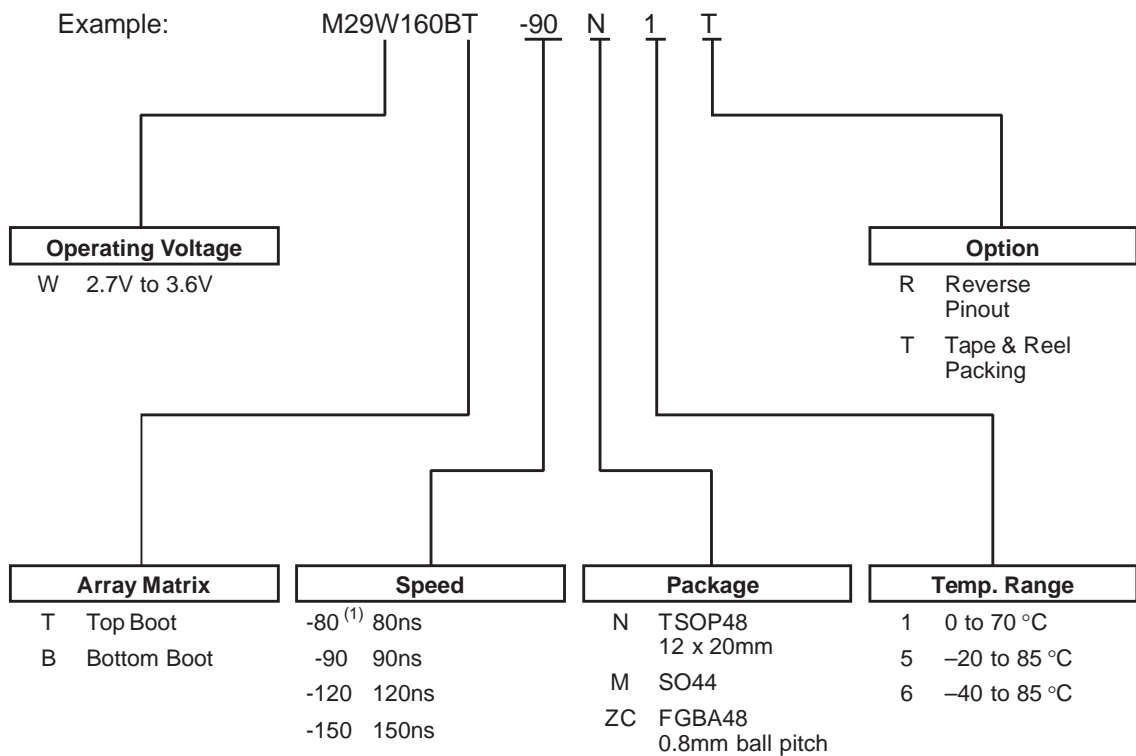
| | |
|-----------------|------------------------------------|
| A0-A19 | Address Inputs |
| DQ0-DQ7 | Data Input/Outputs, Command Inputs |
| DQ8-DQ14 | Data Input/Outputs |
| DQ15A-1 | Data Input/Output or Address Input |
| E | Chip Enable |
| G | Output Enable |
| W | Write Enable |
| RP | Reset / Block Temporary Unprotect |
| R \bar{B} | Ready/Busy Output |
| BYTE | Byte/Word Organisation |
| V _{cc} | Supply Voltage |
| V _{ss} | Ground |

FBGA Package Ball Out (Top View)



Warning: NC = Not Connected.

ORDERING INFORMATION SCHEME



Note: 1. This speed is obtained with V_{CC} = 3.0V to 3.6V and a load capacitor of 30pF.

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

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