



# M29W116BT M29W116BB

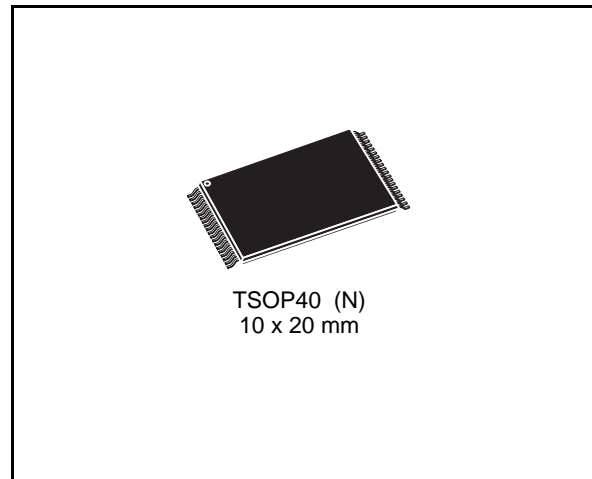
## 16 Mbit (2Mb x8, Boot Block) Low Voltage Single Supply Flash Memory

### DATA BRIEFING

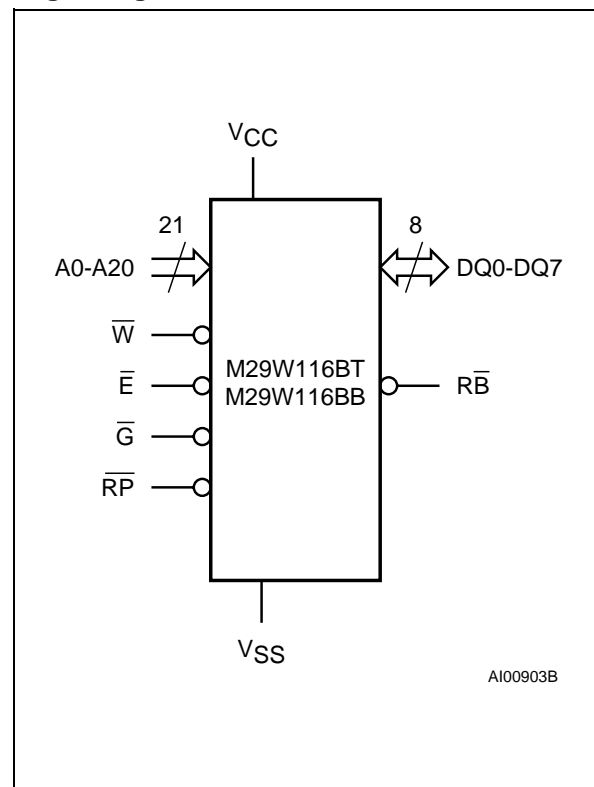
- 2.7V to 3.6V SUPPLY VOLTAGE for PROGRAM, ERASE and READ OPERATIONS
- FAST ACCESS TIME: 80ns
- FAST PROGRAMMING TIME: 13 $\mu$ s typical
- PROGRAM/ERASE CONTROLLER (P/E.C.)
  - Program Byte-by-Byte
  - Status Register bits and Ready/Busy Output
- MEMORY BLOCK for SECURITY CODE
- MEMORY BLOCKS
  - Boot 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: 20h
  - Device Code, M29W116BT: C7h
  - Device Code, M29W116BB: 4Ch

### DESCRIPTION

The M29W116B 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 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.

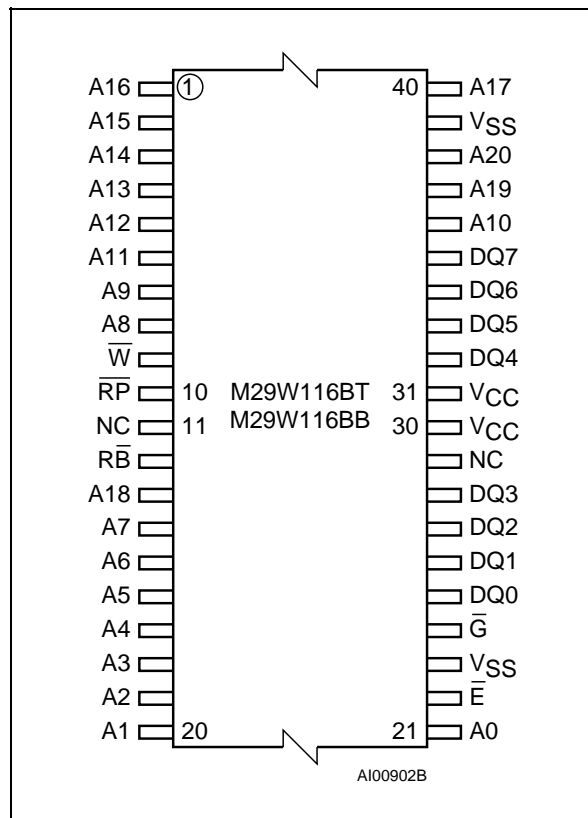


### Logic Diagram



## M29W116BT, M29W116BB

### TSOP Pin Connections



**Warning:** NC = Not Connected.

### Signal Names

A0-A20	Address Inputs
DQ0-DQ7	Data Input/Outputs, Command Inputs
E	Chip Enable
G	Output Enable
W	Write Enable
RP	Reset / Block Temporary Unprotect
RB	Ready/Busy Output
V <sub>CC</sub>	Supply Voltage
V <sub>SS</sub>	Ground

### 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: M29W116BT 90 N 1 T

#### Operating Voltage

W 2.7V to 3.6V

#### Array Matrix

T Top Boot  
B Bottom Boot

#### Speed

-80<sup>(1)</sup> 80ns  
-90 90ns  
-120 120ns  
-150 150ns

#### Package

N TSOP40  
10 x 20mm

#### Temp. Range

1 0 to 70 °C  
5 -20 to 85 °C  
6 -40 to 85 °C

#### Option

T Tape & Reel  
Packing

**Note:** 1. This speed is obtained with V<sub>CC</sub> = 3.0V to 3.6V and a load capacitor of 30pF.

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