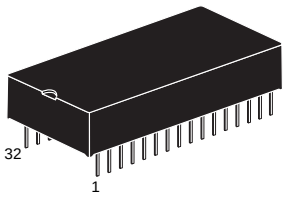
M48T512Y
M48T512V

3.3V-5V 4 Mbit (512Kb x 8) TIMEKEEPER® SRAM

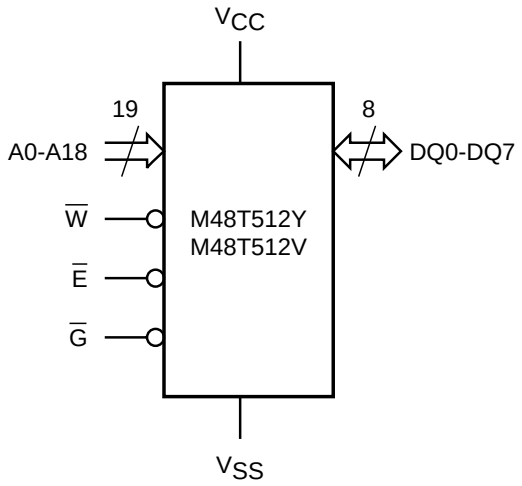
DATA BRIEFING

- INTEGRATED ULTRA LOW POWER SRAM, REAL TIME CLOCK, POWER-FAIL CONTROL CIR CUIT, BATTERY, AND CRYSTAL
- BCD CODED YEAR, MONTH, DAY, DATE, HOURS, MINUTES, and SECONDS
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- WRITE PROTECT VOLTAGES: (V_{PFD} = Power-fail Deselect Voltage)
  - M48T512Y: 4.10V ≤ V_{PFD} ≤ 4.5V
  - M48T512V: 2.7V ≤ V_{PFD} ≤ 3.0V
- CONVENTIONAL SRAM OPERATION; UNLIMITED WRITE CYCLES
- SOFTWARE CONTROLLED CLOCK CALIBRATION FOR HIGH ACCURACY APPLICATIONS
- 10 YEARS of DATA RETENTION and CLOCK OPERATION in the ABSENCE OF POWER
- PIN and FUNCTION COMPATIBLE with INDUSTRY STANDARD 512K X 8 SRAMS
- SELF-CONTAINED BATTERY and CRYSTAL in DIP PACKAGE



PMDIP32 (PM)
Module

Figure 1. Logic Diagram



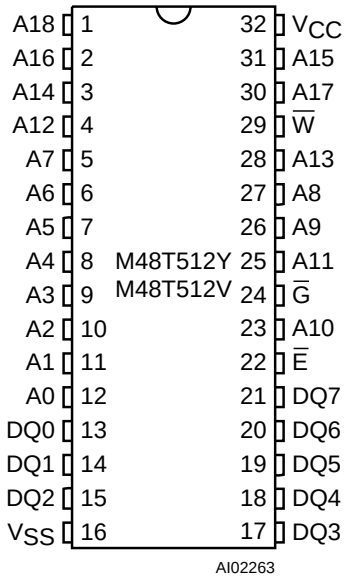
DESCRIPTION

The M48T512Y/V TIMEKEEPER® RAM is a 512Kb x 8 non-volatile static RAM and real time clock organized as 524,288 words by 8 bits. The special DIP package provides a fully integrated battery back-up memory and real time clock solution.

The M48T512Y/V directly replaces industry standard 512Kb x 8 SRAMs. It also provides the non-volatility of Flash without any requirement for special write timing or limitations on the number of writes that can be performed.

Complete data available on *DATA-on-DISC CD-ROM* or at *www.st.com*

DIP Pin Connections



Note: NC = Not Connected.

Signal Names

A0-A18	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
$\overline{E}$	Chip Enable Input
$\overline{G}$	Output Enable Input
$\overline{W}$	Write Enable Input
V_{CC}	Supply Voltage
V_{SS}	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: M48T512 -70 PM 1

Supply Voltage and Write Protect Voltage

512Y V_{CC} = 4.5V to 5.5V
V_{PFD} = 4.1V to 4.5V

512V V_{CC} = 3.0V to 3.6V
V_{PFD} = 2.7V to 3.0V

Speed

-70 70ns

-85 85ns

Package

PM PMDIP32

Temperature Range

1 0 to 70 °C