

## 64Kb (8K x 8) TIMEKEEPER<sup>®</sup> SRAM

### DATA BRIEFING

- INTEGRATED ULTRA LOW POWER SRAM, REAL TIME CLOCK, POWER-FAIL CONTROL CIRCUIT and BATTERY
- BYTEWIDE™ RAM-LIKE CLOCK ACCESS
- BCD CODED YEAR, MONTH, DAY, DATE, HOURS, MINUTES and SECONDS
- TYPICAL CLOCK ACCURACY of  $\pm 1$  MINUTE a MONTH, at 25°C
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- WRITE PROTECT VOLTAGES ( $V_{\text{PFD}}$  = Power-fail Deselect Voltage):
  - M48T08:  $4.5\text{V} \leq V_{\text{PFD}} \leq 4.75\text{V}$
  - M48T18:  $4.2\text{V} \leq V_{\text{PFD}} \leq 4.5\text{V}$
- SOFTWARE CONTROLLED CLOCK CALIBRATION for HIGH ACCURACY APPLICATIONS
- SELF-CONTAINED BATTERY and CRYSTAL in the CAPHAT DIP PACKAGE
- PACKAGING INCLUDES a 28-LEAD SOIC and SNAPHAT<sup>®</sup> TOP (to be Ordered Separately)
- SOIC PACKAGE PROVIDES DIRECT CONNECTION for a SNAPHAT TOP which CONTAINS the BATTERY and CRYSTAL
- PIN and FUNCTION COMPATIBLE with DS1643 and JEDEC STANDARD 8K x 8 SRAMs

### DESCRIPTION

The M48T08/18 TIMEKEEPER<sup>®</sup> RAM is an 8K x 8 non-volatile static RAM and real time clock which is pin and functional compatible with the DS1643. The monolithic chip is available in two special packages to provide a highly integrated battery backed-up memory and real time clock solution.

The M48T08/18 is a non-volatile pin and function equivalent to any JEDEC standard 8K x 8 SRAM. It also easily fits into many ROM, EPROM, and EEPROM sockets, providing the non-volatility of PROMs without any requirement for special write timing or limitations on the number of writes that can be performed.

The 28 pin 600mil DIP CAPHAT™ houses the M48T08/18 silicon with a quartz crystal and a long life lithium button cell in a single package.

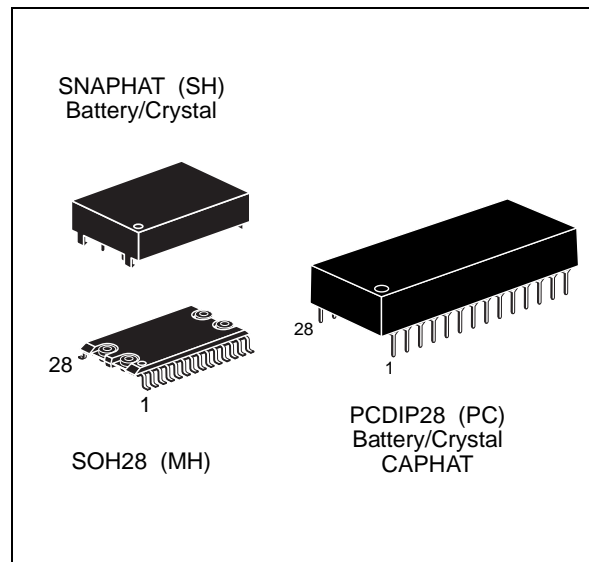
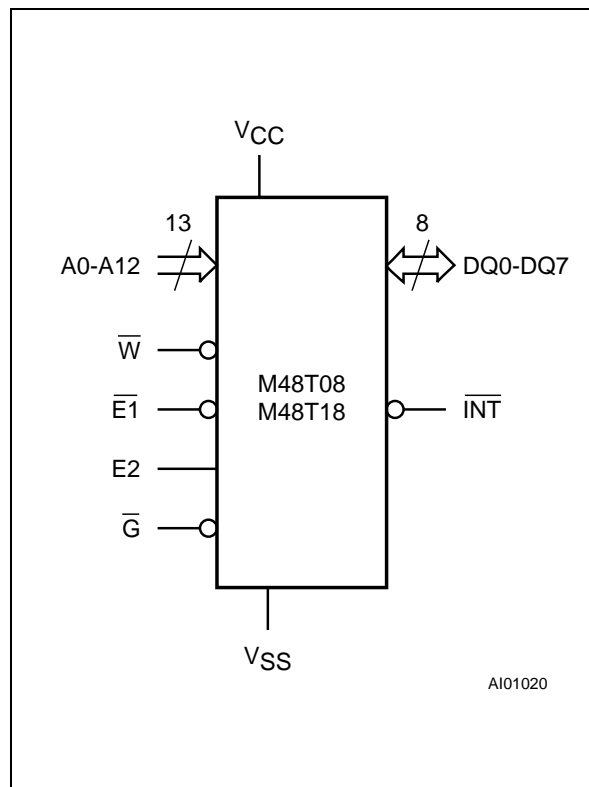
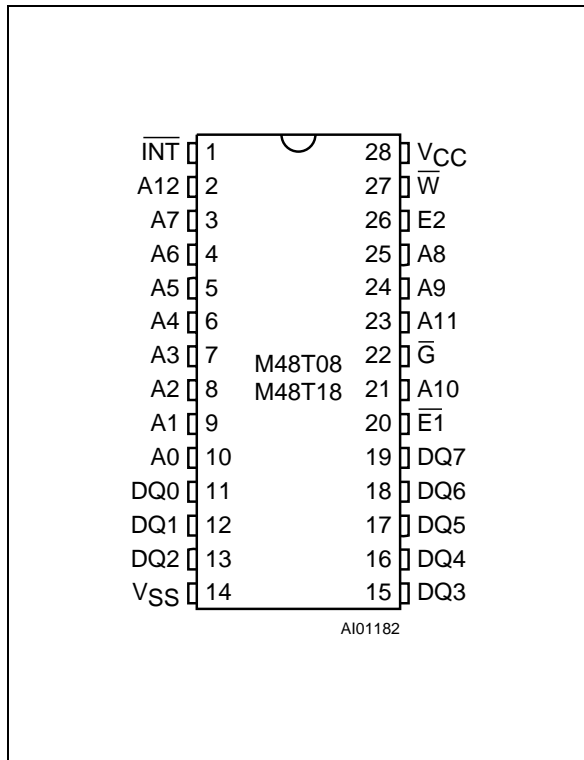


Figure 1. Logic Diagram

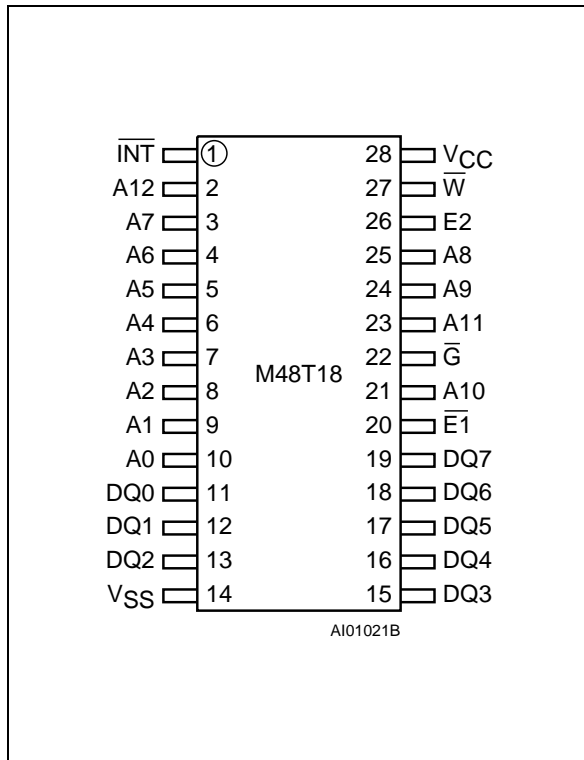


# M48T08, M48T18

## DIP Pin Connections



## SOIC Pin Connections



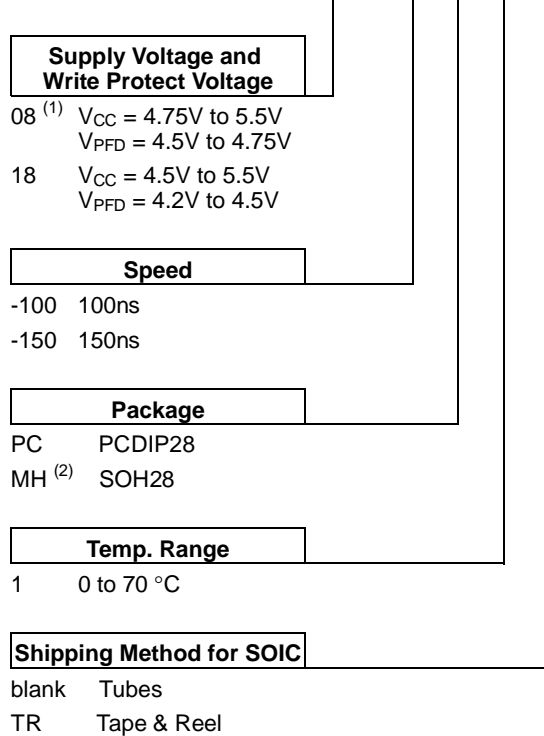
## Signal Names

A0-A12	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
$\overline{\text{INT}}$	Power Fail Interrupt
$\overline{\text{E1}}$	Chip Enable 1
E2	Chip Enable 2
$\overline{\text{G}}$	Output Enable
$\overline{\text{W}}$	Write Enable
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 SGS-THOMSON Sales Office nearest to you.

Example: M48T18 -100 MH 1 TR



- Notes:**
- The M48T08 part is offered with the PCDIP28 (i.e. CAPHAT) package only.
  - The SOIC package (SOH28) requires the battery/crystal package (SNAPHAT) which is ordered separately under the part number "M4T18-BR12SH1" in plastic tube or "M4T18-BR12SH1TR" in Tape & Reel form.

**Caution:** Do not place the SNAPHAT battery/crystal package "M4T18-BR12SH1" in conductive foam since this will drain the lithium button-cell battery.