

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

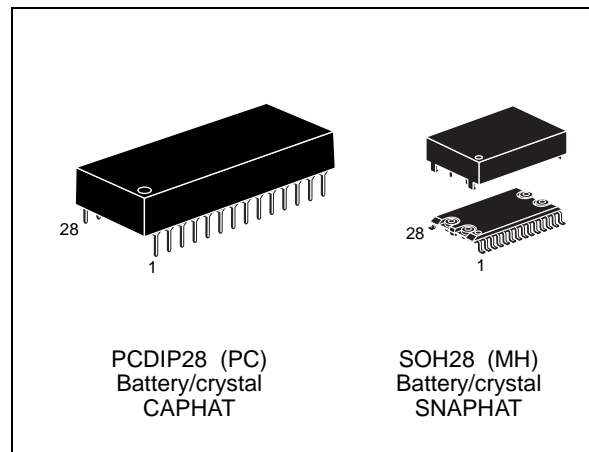
### DATA BRIEFING

- 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, @ 25°C
- SOFTWARE CONTROLLED CLOCK CALIBRATION for HIGH ACCURACY APPLICATIONS
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- TWO WRITE PROTECT VOLTAGES ( $V_{PFD}$  = Power-fail Deselect Voltage):
  - M48T08:  $4.5V \leq V_{PFD} \leq 4.75V$
  - M48T18:  $4.2V \leq V_{PFD} \leq 4.5V$
- SELF-CONTAINED BATTERY and CRYSTAL in the CAPHAT DIP PACKAGE
- SOIC PACKAGE PROVIDES DIRECT CONNECTION for a SNAPHAT HOUSING CONTAINING the BATTERY and CRYSTAL
- SNAPHAT<sup>®</sup> HOUSING (BATTERY and CRYSTAL) is REPLACEABLE
- 10 YEARS of DATA RETENTION and CLOCK OPERATION in the ABSENCE of POWER
- PIN and FUNCTION COMPATIBLE with DS1643 and JEDEC STANDARD 8K x 8 SRAMs

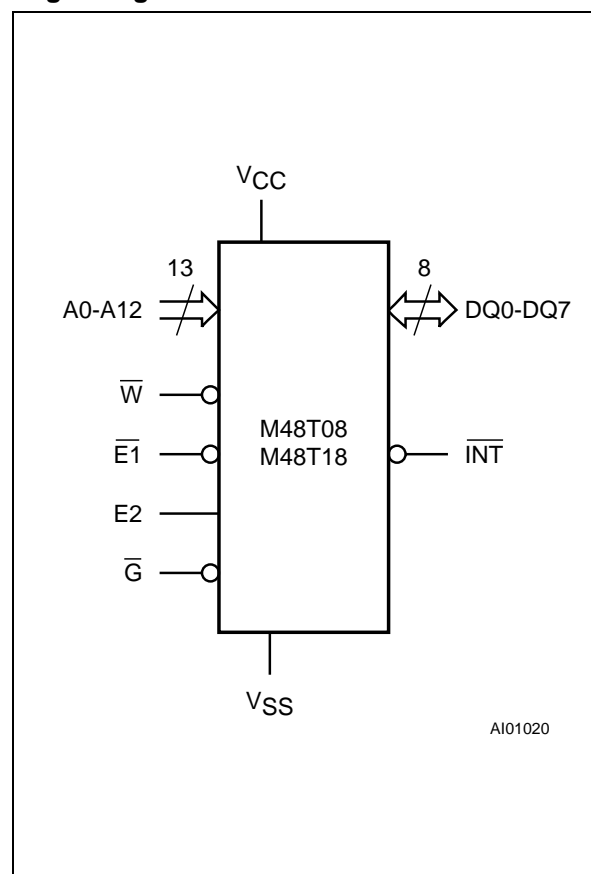
### DESCRIPTION

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.

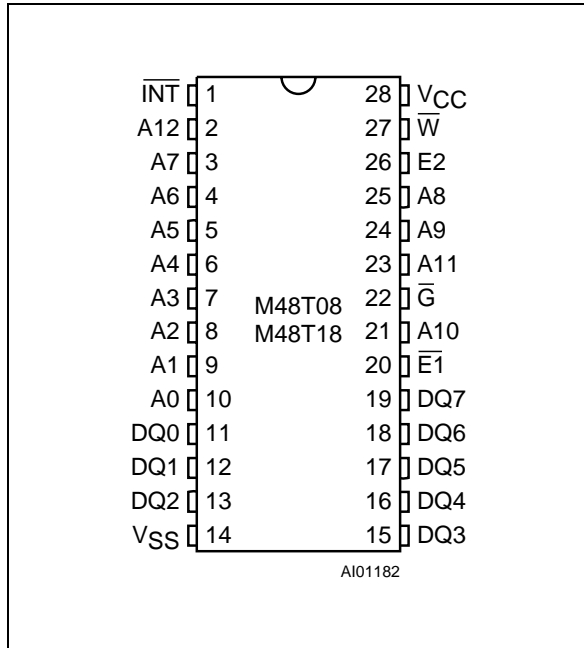


### Logic Diagram

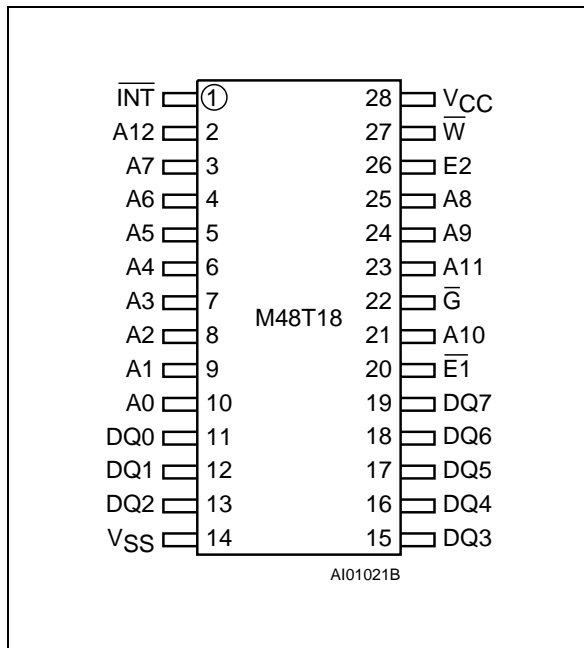


# M48T08, M48T18

## DIP Pin Connections



## SOIC Pin Connections



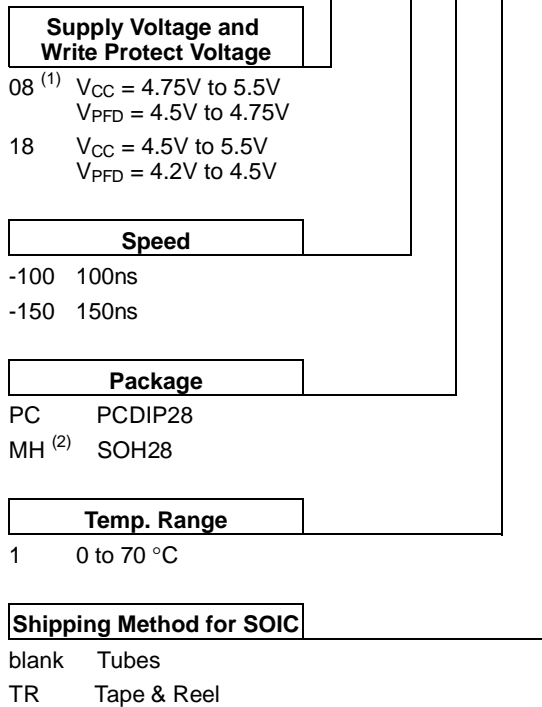
## Signal Names

A0-A12	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
INT	Power Fail Interrupt
E1	Chip Enable 1
E2	Chip Enable 2
G	Output Enable
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 "M4T28-BR12SH1" in plastic tube or "M4T28-BR12SH1TR" in Tape & Reel form.

**Caution:** Do not place the SNAPHAT battery/crystal package "M4T28-BR12SH1" in conductive foam since this will drain the lithium button-cell battery.