

64Kb (8K x 8) TIMEKEEPER[®] 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 ± 1 MINUTE a MONTH, at 25°C
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- WRITE PROTECT VOLTAGES (V_{PFD} = Power-fail Deselect Voltage):
 - M48T08: $4.5V \leq V_{PFD} \leq 4.75V$
 - M48T18: $4.2V \leq V_{PFD} \leq 4.5V$
- 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[®] 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[®] 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.

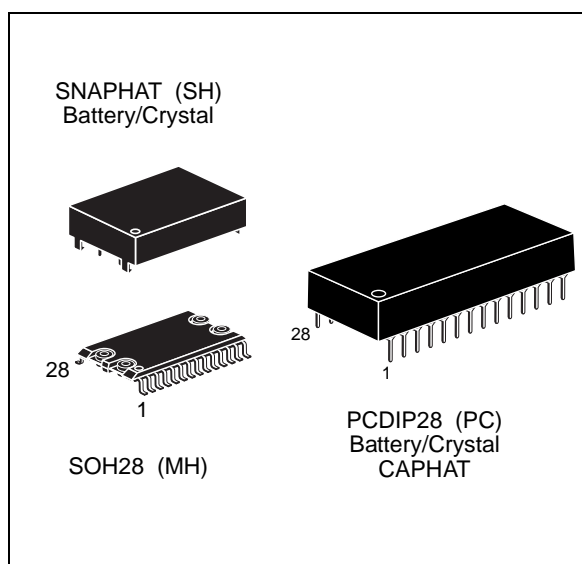
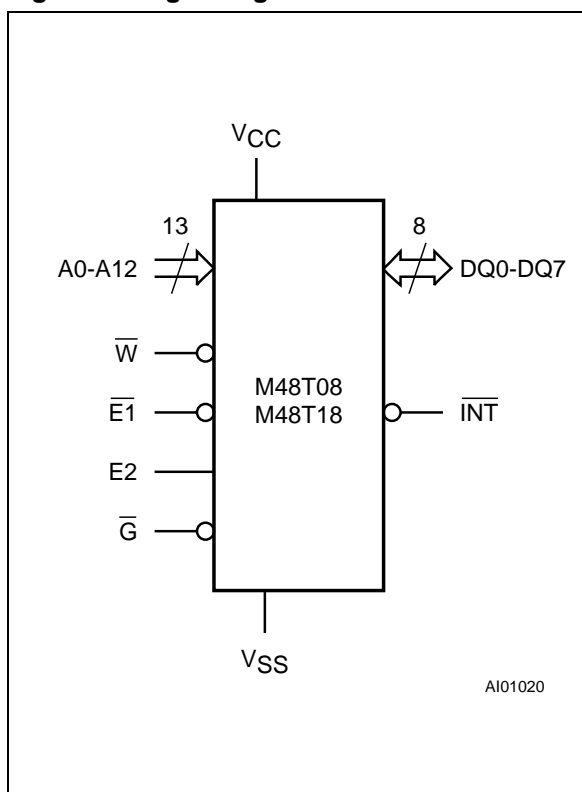
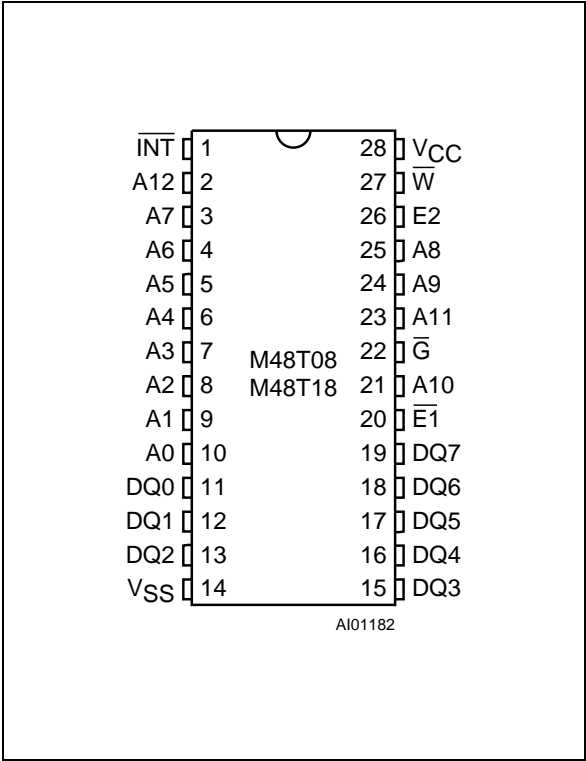


Figure 1. Logic Diagram

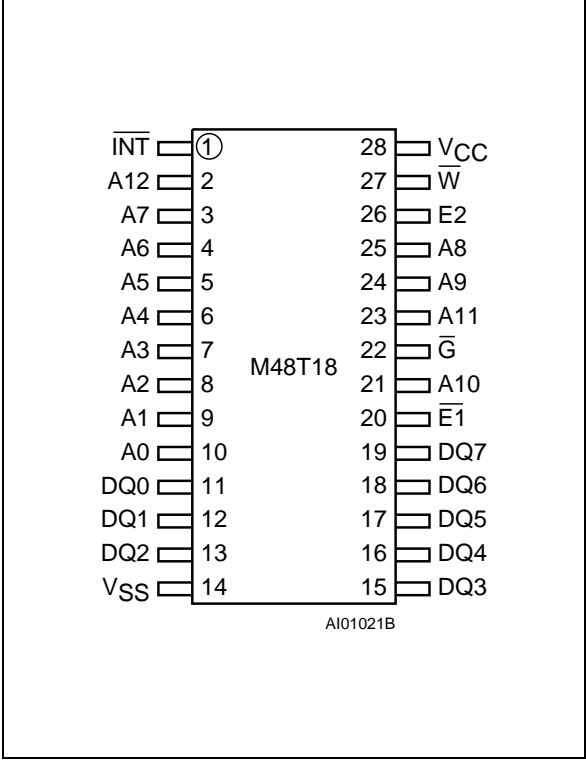


M48T08, M48T18

DIP Pin Connections



SOIC Pin Connections



Signal Names

A0-A12	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
INT	Power Fail Interrupt
E1	Chip Enable 1
E2	Chip Enable 2
G	Output Enable
W	Write Enable
VCC	Supply Voltage
VSS	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

Supply Voltage and Write Protect Voltage	
08 ⁽¹⁾ VCC = 4.75V to 5.5V V _{PFD} = 4.5V to 4.75V	
18 VCC = 4.5V to 5.5V V _{PFD} = 4.2V to 4.5V	
Speed	
-100 100ns	
-150 150ns	
Package	
PC PCDIP28	
MH ⁽²⁾ SOH28	
Temp. Range	
1 0 to 70 °C	
Shipping Method for SOIC	
blank Tubes	
TR Tape & Reel	

Notes: 1. The M48T08 part is offered with the PCDIP28 (i.e. CAPHAT) package only.
2. 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.