

## CMOS 2K x 8 TIMEKEEPER SRAM

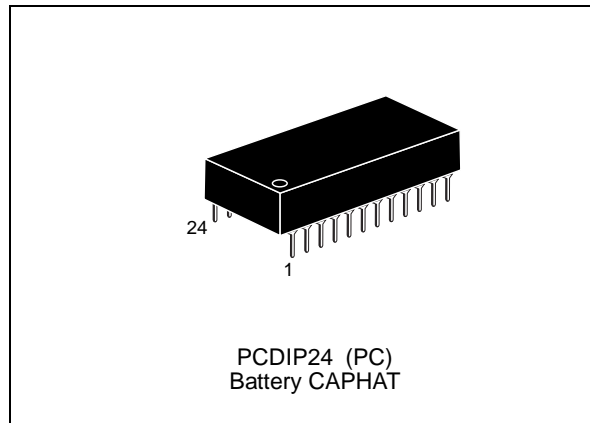
### DATA BRIEFING

- INTEGRATED ULTRA LOW POWER SRAM, REAL TIME CLOCK and POWER-FAIL CONTROL CIRCUIT
- BYTEWIDE RAM-LIKE CLOCK ACCESS
- BCD CODED YEAR, MONTH, DAY, DATE, HOURS, MINUTES and SECONDS
- 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
- CHOICE of TWO WRITE PROTECT VOLTAGES:
  - M48T02:  $4.5V \leq V_{PFD} \leq 4.75V$
  - M48T12:  $4.2V \leq V_{PFD} \leq 4.5V$
- SELF CONTAINED BATTERY and CRYSTAL in the CAPHAT DIP PACKAGE
- 10 YEARS of DATA RETENTION and CLOCK OPERATION in the ABSENCE of POWER
- PIN and FUNCTION COMPATIBLE with JEDEC STANDARD 2K x 8 SRAMs

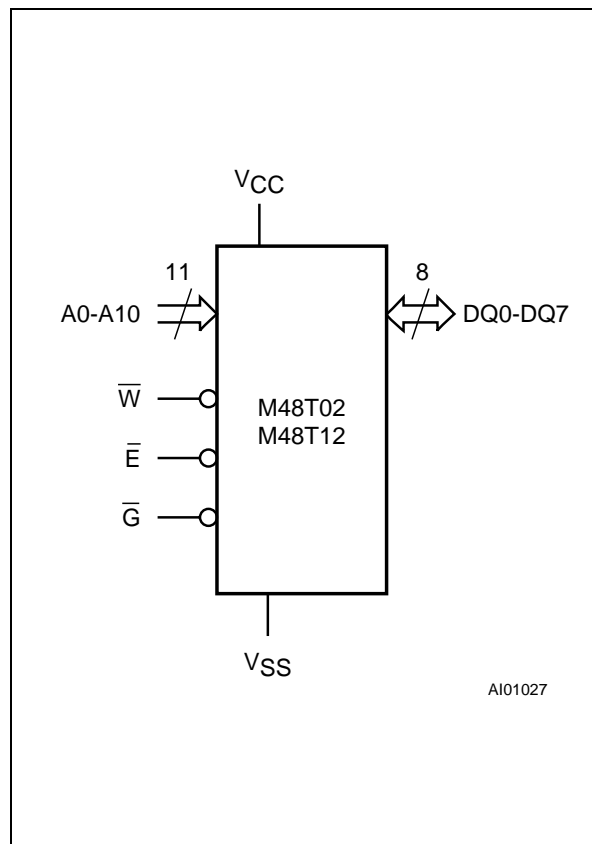
### DESCRIPTION

The M48T02,12 TIMEKEEPER™ RAM is a 2K x 8 non-volatile static RAM and real time clock which is pin and function equivalent to any JEDEC standard 2K 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 M48T02,12 is compatible with the MK48T02,12.

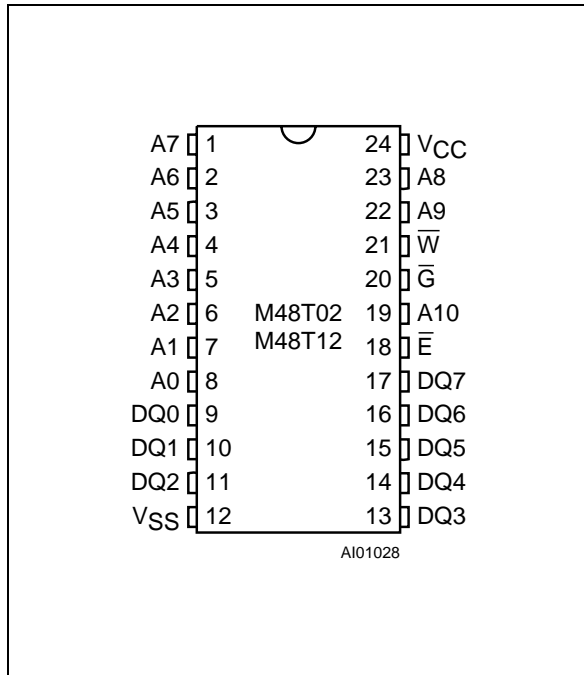
A special 24 pin 600mil DIP CAPHAT™ package houses the M48T02,12 silicon with a quartz crystal and a long life lithium button cell to form a highly integrated battery backed-up memory and real time clock solution.



### Logic Diagram



DIP Pin Connections



Signal Names

A0-A10	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
$\bar{E}$	Chip Enable
$\bar{G}$	Output Enable
$\bar{W}$	Write Enable
V <sub>CC</sub>	Supply Voltage
V <sub>SS</sub>	Ground

Ordering Information Scheme

For a list of available options refer to the current Memory Shortform catalogue. For further information on any aspect of this device, please contact the SGS-THOMSON Sales Office nearest to you.

Example: M48T02 -120 PC 1

<b>Supply Voltage and Write Protect Voltage</b>	
02	V <sub>CC</sub> = 4.75V to 5.5V V <sub>PFD</sub> = 4.5V to 4.75V
12	V <sub>CC</sub> = 4.5V to 5.5V V <sub>PFD</sub> = 4.2V to 4.5V
<b>Speed</b>	
-120	120ns
-150	150ns
-200	200ns
<b>Package</b>	
PC	PCDIP24
<b>Temp. Range</b>	
1	0 to 70 °C