



M48T59 M48T59Y

64 Kbit (8Kb x8) TIMEKEEPER® SRAM

DATA BRIEFING

- INTEGRATED ULTRA LOW POWER SRAM, REAL TIME CLOCK, POWER-FAIL CONTROL CIRCUIT and BATTERY
- FREQUENCY TEST OUTPUT for REAL TIME CLOCK
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- WRITE PROTECT VOLTAGES (V_{PFD} = Power-fail Deselect Voltage):
 - M48T59: $4.5V \leq V_{PFD} \leq 4.75V$
 - M48T59Y: $4.2V \leq V_{PFD} \leq 4.5V$
- 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
- MICROPROCESSOR POWER-ON RESET (Valid even during battery back-up mode)
- PROGRAMMABLE ALARM OUTPUT ACTIVE in the BATTERY BACK-UP MODE

DESCRIPTION

The M48T59/59Y TIMEKEEPER® RAM is an 8Kb x8 non-volatile static RAM and real time clock. The monolithic chip is available in two special packages to provide a highly integrated battery backed-up memory and real time clock solution.

The M48T59/59Y is a non-volatile pin and function equivalent to any JEDEC standard 8Kb x8 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 M48T59/59Y silicon with a quartz crystal and a long life lithium button cell in a single package.

The 28 pin 330mil SOIC provides sockets with gold plated contacts at both ends for direct connection to a separate SNAPHAT housing containing the battery and crystal.

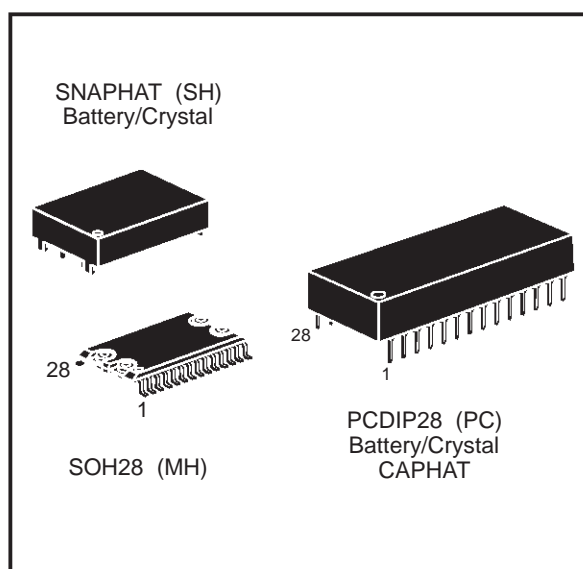
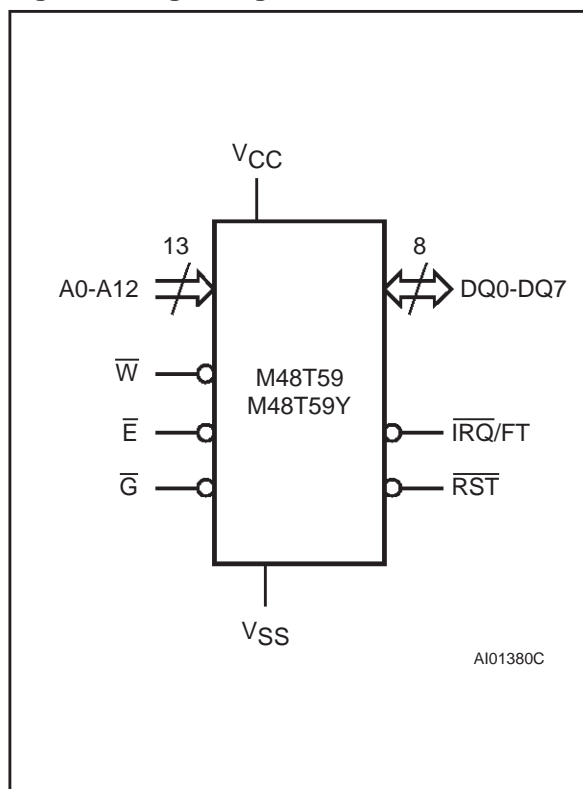
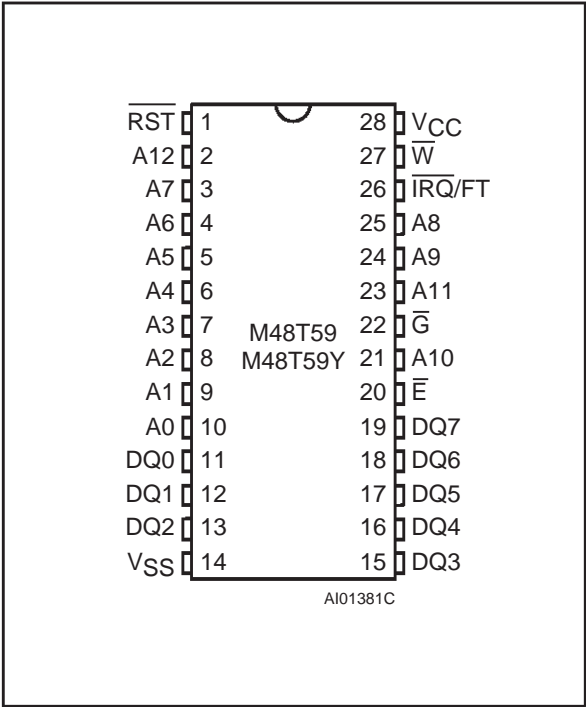


Figure 1. Logic Diagram

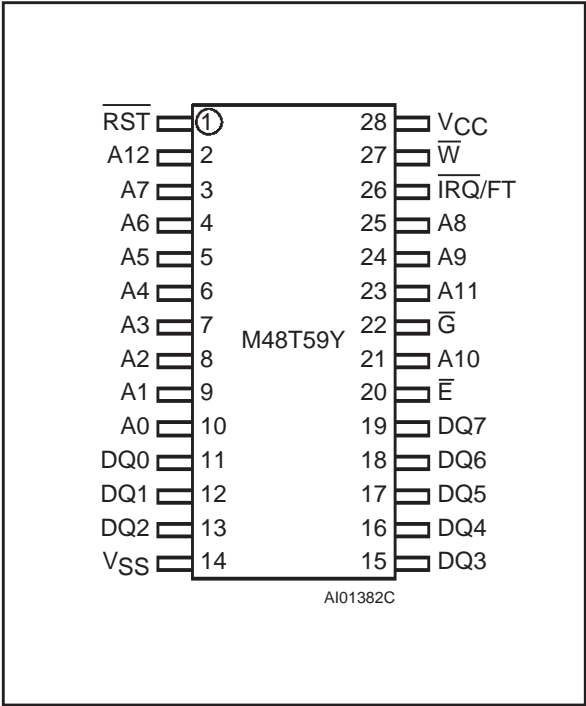


M48T59, M48T59Y

DIP Pin Connections



SOIC Pin Connections



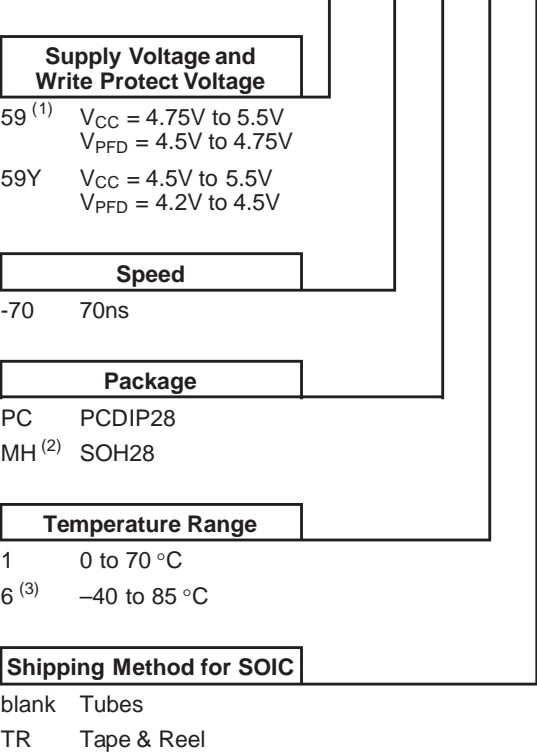
Signal Names

A0-A12	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
IRQ/FT	Interrupt / Frequency Test Output (Open Drain)
RST	Power Fail Reset Output (Open Drain)
E	Chip Enable
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 STMicroelectronics Sales Office nearest to you.

Example: M48T59Y -70 MH 1 TR



- Notes: 1. The M48T59 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 "M4TXX-BR12SH1" in plastic tube or "M4TXX-BR12SH1TR" in Tape & Reel form.
3. Available in SOIC package only.

Caution: Do not place the SNAPHAT battery/crystal package "M4TXX-BR12SH1" in conductive foam since this will drain the lithium button-cell battery.