

64Kb (8K x 8) ZEROPOWER[®] SRAM

DATA BRIEFING

- INTEGRATED ULTRA LOW POWER SRAM, POWER-FAIL CONTROL CIRCUIT and BATTERY
- MICROPROCESSOR POWER-ON RESET (Valid even during battery back-up mode)
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- WRITE PROTECT VOLTAGES (V_{PFD} = Power-fail Deselect Voltage):
 - M48Z59: $4.50V \leq V_{PFD} \leq 4.75V$
 - M48Z59Y: $4.20V \leq V_{PFD} \leq 4.50V$
- SELF-CONTAINED BATTERY 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 JEDEC STANDARD 8K x 8 SRAMs

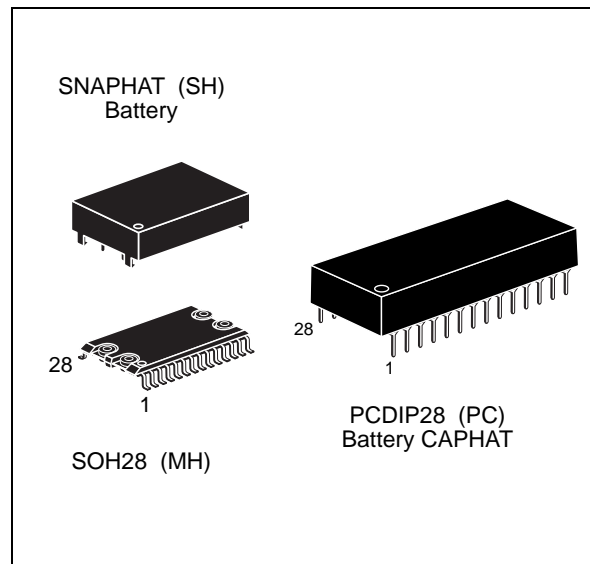
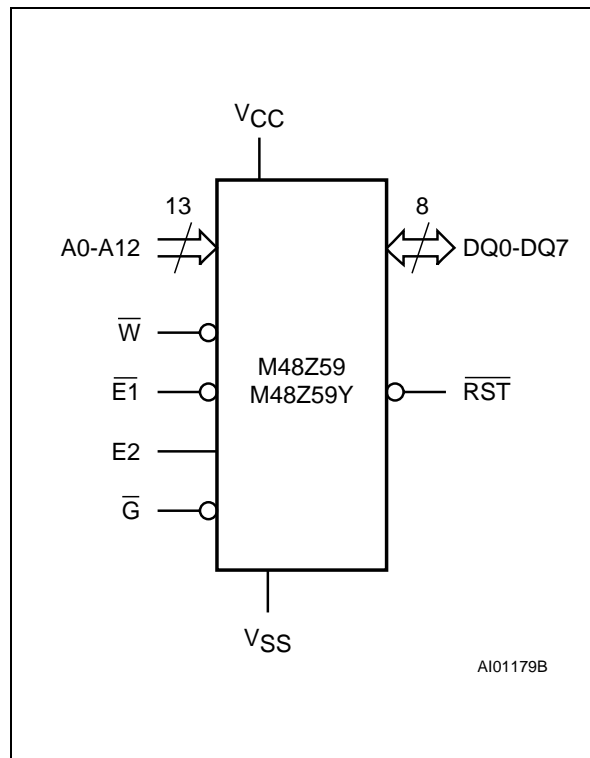


Figure 1. Logic Diagram



DESCRIPTION

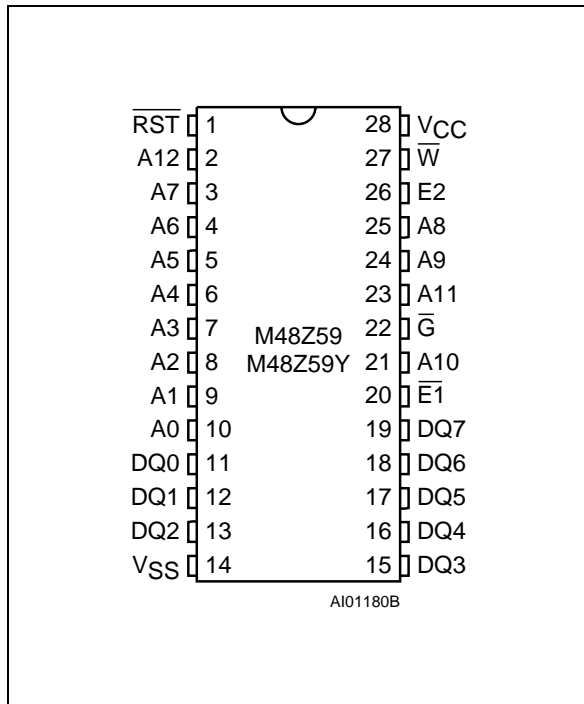
The M48Z59/59Y ZEROPOWER[®] RAM is an 8K x 8 non-volatile static RAM that integrates power-fail deselect circuitry and battery control logic on a single die. The monolithic chip is available in two special packages to provide a highly integrated battery backed-up memory solution.

The M48Z59/59Y 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.

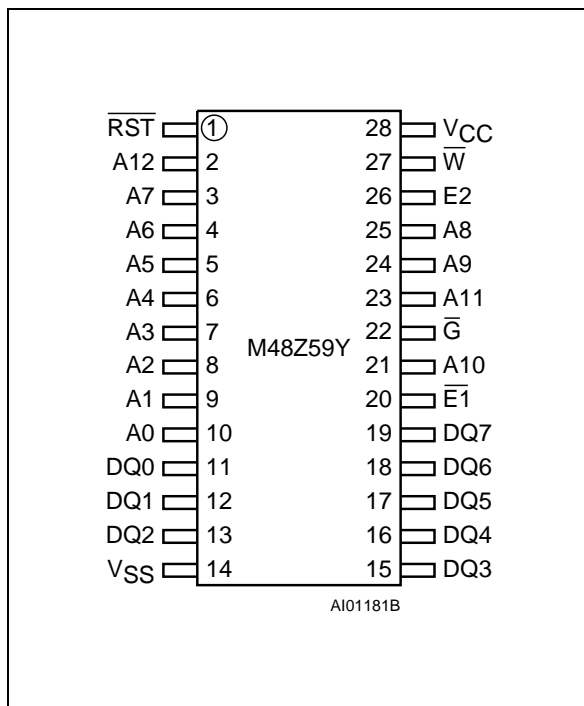
The 28 pin 600mil DIP CAPHAT[™] houses the M48Z59/59Y silicon with a long life lithium button cell in a single package. The 28 pin 330mil SOIC provides sockets with gold plated contacts at both ends for direct connection to a separate SNAPHAT housing containing the battery.

M48Z59, M48Z59Y

DIP Pin Connections



SOIC Pin Connections



Signal Names

A0-A12	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
RST	Power Fail Reset Output (Open Drain)
E1	Chip Enable 1
E2	Chip Enable 2
G-bar	Output Enable
W-bar	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: M48Z59Y -70 MH 1 TR

Supply Voltage and Write Protect Voltage	
59 ⁽¹⁾	V _{CC} = 4.75V to 5.5V V _{PFD} = 4.5V to 4.75V
59Y	V _{CC} = 4.5V to 5.5V V _{PFD} = 4.2V to 4.5V
Speed	
-70	70 ns
Package	
PC	PCDIP28
MH ⁽²⁾	SOH28
Temperature Range	
1	0 to 70 °C
Shipping Method for SOIC	
blank	Tubes
TR	Tape & Reel

- Notes:**
- The M48Z59 part is offered with the PCDIP28 (i.e. CAPHAT) package only.
 - The SOIC package (SOH28) requires the battery package (SNAPHAT) which is ordered separately under the part number "M4Z28-BR00SH1" in plastic tube or "M4Z28-BR00SH1TR" in Tape & Reel form.

Caution: Do not place the SNAPHAT battery package "M4Z28-BR00SH1" in conductive foam since this will drain the lithium button-cell battery.