

## 64Kb (8K x 8) ZEROPOWER<sup>®</sup> 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<sup>®</sup> 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

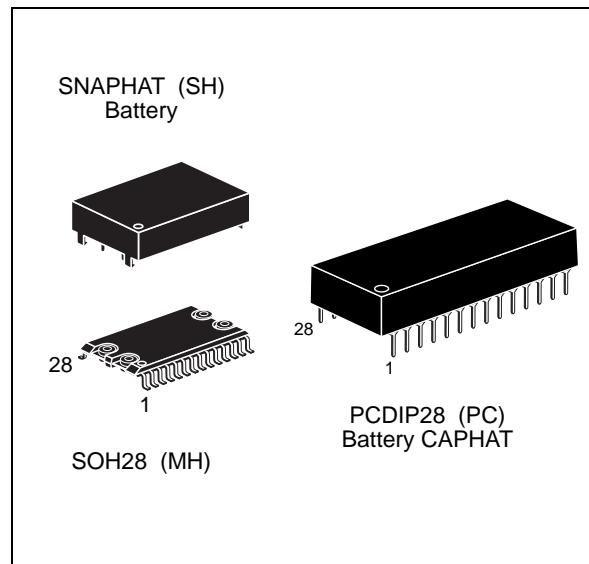
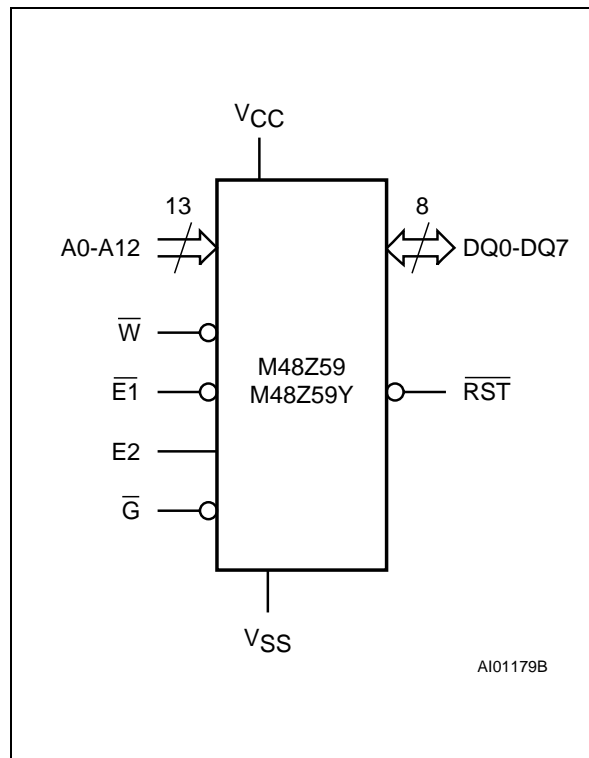


Figure 1. Logic Diagram



### DESCRIPTION

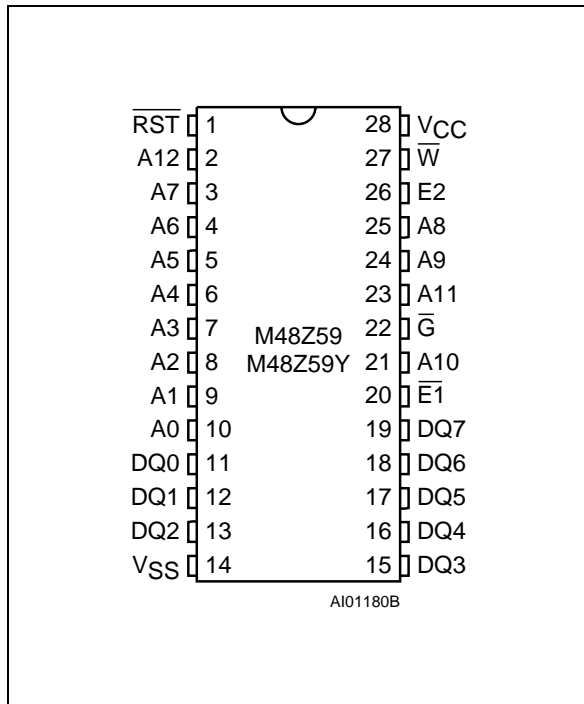
The M48Z59/59Y ZEROPOWER<sup>®</sup> RAM is an 8K x 8 non-volatile static RAM that integrates power-fail deselect circuitry and battery control logic on a single die. The monolithic chip is available in two special packages to provide a highly integrated battery backed-up memory solution.

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.

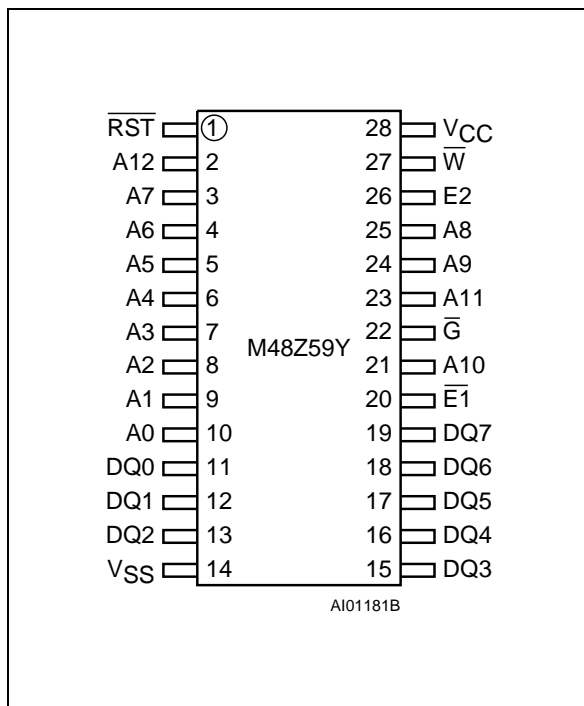
The 28 pin 600mil DIP CAPHAT<sup>™</sup> houses the M48Z59/59Y silicon with a long life lithium button cell in a single package. The 28 pin 330mil SOIC provides sockets with gold plated contacts at both ends for direct connection to a separate SNAPHAT housing containing the battery.

# 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

<b>Supply Voltage and Write Protect Voltage</b>	
59 <sup>(1)</sup>	V <sub>CC</sub> = 4.75V to 5.5V V <sub>PFD</sub> = 4.5V to 4.75V
59Y	V <sub>CC</sub> = 4.5V to 5.5V V <sub>PFD</sub> = 4.2V to 4.5V
<b>Speed</b>	
-70	70 ns
<b>Package</b>	
PC	PCDIP28
MH <sup>(2)</sup>	SOH28
<b>Temperature Range</b>	
1	0 to 70 °C
<b>Shipping Method for SOIC</b>	
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.