



M48Z129Y M48Z129V

1 Mbit (128Kb x8) ZEROPOWER® SRAM

PRELIMINARY DATA

- INTEGRATED LOW POWER SRAM, POWER-FAIL CONTROL CIRCUIT and BATTERY
- CONVENTIONAL SRAM OPERATION; UNLIMITED WRITE CYCLES
- 10 YEARS of DATA RETENTION in the ABSENCE of POWER
- MICROPROCESSOR POWER-ON RESET (Valid even during battery back-up mode)
- BATTERY LOW PIN PROVIDES EARLY WARNING of BATTERY END-OF-LIFE
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- WRITE PROTECT VOLTAGE (V_{PFD} = Power-fail Deselect Voltage):
 - M48Z129Y: $4.20V \leq V_{PFD} \leq 4.50V$
 - M48Z129V: $2.70V \leq V_{PFD} \leq 3.00V$
- BATTERY INTERNALLY ISOLATED UNTIL POWER IS APPLIED
- COMPATIBLE with STANDARD 128Kx8 SRAMs

DESCRIPTION

The M48Z129Y/129V ZEROPOWER® RAM is a non-volatile 1,048,576 bit Static RAM organized as 131,072 words by 8 bits. The device combines an internal lithium battery, a CMOS SRAM and a control circuit in a plastic 32 pin DIP Module.

A Battery Low (\overline{BL}) pin warns the user of battery end-of-life, providing true data non-volatility. The open-drain Reset (\overline{RST}) output pin is used to provide a reset pulse, insuring proper system operation. Due to the ultra-low power required by the M48Z129Y/129V, nominal battery life exceeds 10 years, thus outlasting the useful lifetime of most end-user equipment.

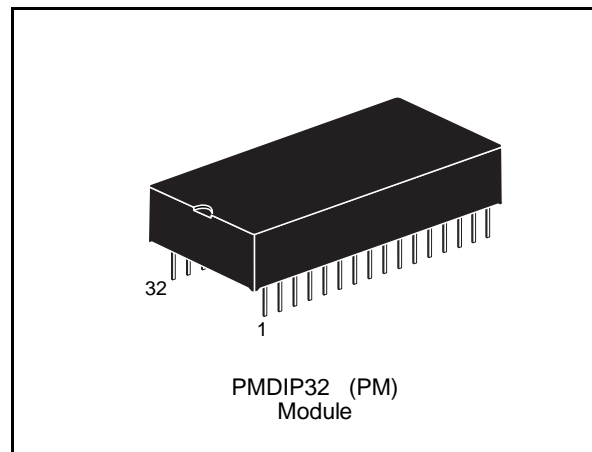
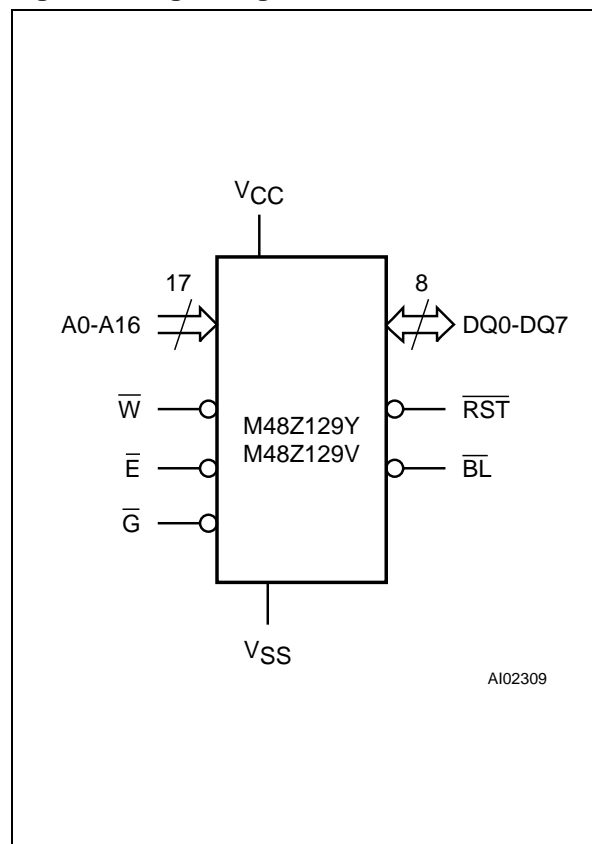
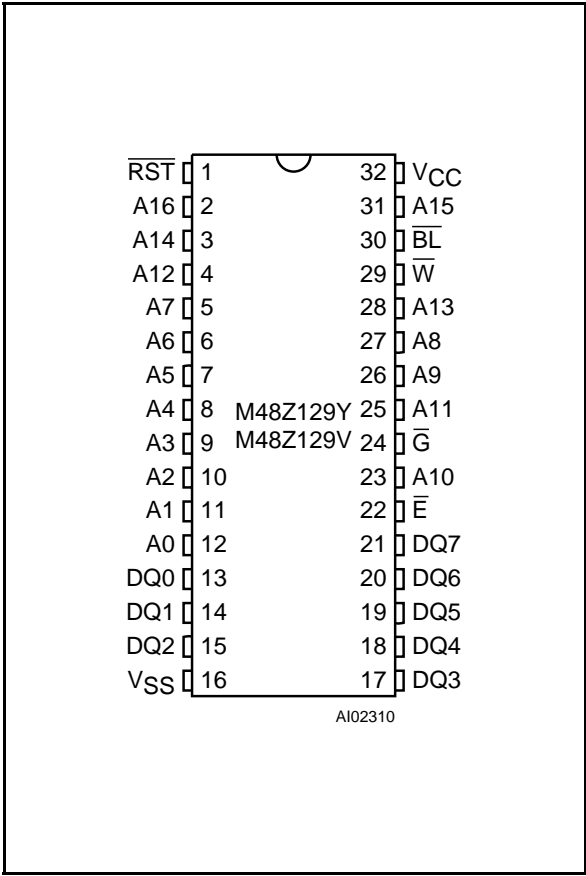


Figure 1. Logic Diagram



DIP Pin Connections



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: M48Z129Y -70 PM 1

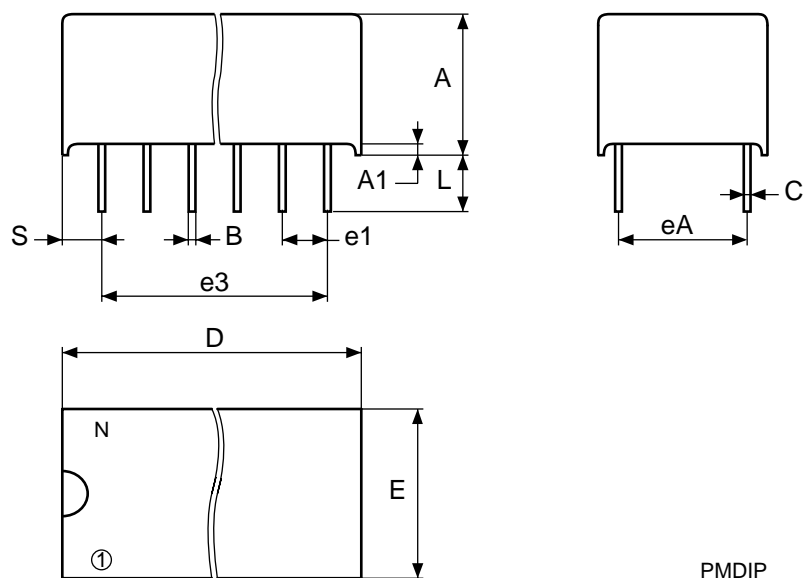
Supply Voltage and Write Protect Voltage	
129Y	$V_{CC} = 4.5V$ to $5.5V$ $V_{PFD} = 4.2V$ to $4.5V$
129V	$V_{CC} = 3.0V$ to $3.6V$ $V_{PFD} = 2.7V$ to $3.0V$
Speed	
-70	70ns
Package	
PM	PMDIP32
Temperature Range	
1	0 to 70 °C

Signal Names

A0-A16	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
\overline{E}	Chip Enable
\overline{G}	Output Enable
\overline{W}	Write Enable
\overline{RST}	Reset Output (Open Drain)
\overline{BL}	Battery Low Output
V_{CC}	Supply Voltage
V_{SS}	Ground

PMDIP32 - 32 pin Plastic DIP Module

Symb	mm			inches		
	Typ	Min	Max	Typ	Min	Max
A		9.27	9.52		0.365	0.375
A1		0.38	–		0.015	–
B		0.43	0.59		0.017	0.023
C		0.20	0.33		0.008	0.013
D		42.42	43.18		1.670	1.700
E		18.03	18.80		0.710	0.740
e1		2.29	2.79		0.090	0.110
e3		34.29	41.91		1.350	1.650
eA		14.99	16.00		0.590	0.630
L		3.05	3.81		0.120	0.150
S		1.91	2.79		0.075	0.110
N		32			32	



Drawing is not to scale.

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics

© 1999 STMicroelectronics - All Rights Reserved

All other names are the property of their respective owners

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Mexico - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.