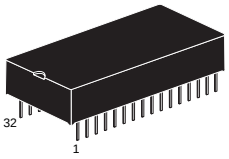
M48T39Y

256 Kb (32K x8) TIMEKEEPER® SRAM

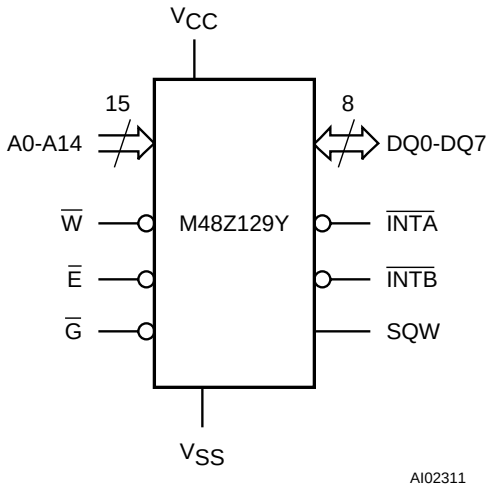
PRELIMINARY DATA

- INTEGRATED ULTRA LOW POWER SRAM, REAL TIME CLOCK, POWER-FAIL CONTROL CIRCUIT, BATTERY and CRYSTAL
- BCD CODED YEAR, MONTH, DAY, DATE, HOURS, MINUTES and SECONDS
- AUTOMATIC POWER-FAIL CHIP DESELECT and WRITE PROTECTION
- WRITE PROTECT VOLTAGE (V_{PFD} = Power-fail Deselect Voltage):
  - M48T39Y: 4.20V ≤ V_{PFD} ≤ 4.50V
- PROGRAMMABLE INTERRUPTS and SQUARE WAVE OUTPUT
- WATCHDOG TIMER RESTARTS on OUT-OF-CONTROL PROCESSOR
- CLOCK ACCURACY IS BETTER THAN ±1 MINUTE per MONTH at 25°C
- 10 YEARS of DATA RETENTION and CLOCK OPERATION in the ABSENCE of POWER
- SELF-CONTAINED BATTERY and CRYSTAL in DIP PACKAGE
- PROGRAMMABLE ALARM OUTPUT ACTIVE in the BATTERY BACK-UP MODE
- PIN and FUNCTION COMPATIBLE with DS1386



PMDIP32 (PM)
Module

Figure 1. Logic Diagram



DESCRIPTION

The M48T39Y TIMEKEEPER® RAM is a non-volatile 262,144 bit static RAM and real time clock organized as 32,768 words by 8 bits. System integration features include Programmable Alarms, Watchdog Timer and Interval Timer. The special 32-pin DIP package provides a highly integrated battery back-up memory and real time clock solution.

Figure 2. DIP Connections

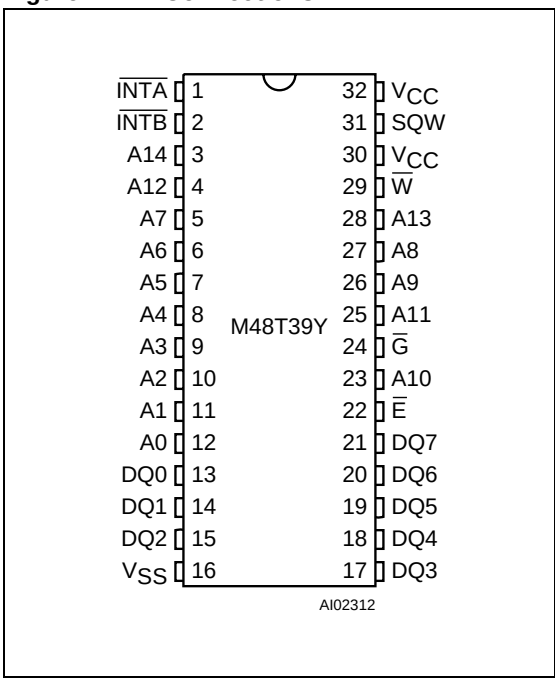


Table 1. Signal Names

A0-A14	Address Inputs
DQ0-DQ7	Data Inputs / Outputs
$\overline{E}$	Chip Enable Input
$\overline{G}$	Output Enable Input
$\overline{W}$	Write Enable Input
$\overline{INTA}$	Interrupt Output A (Open Drain)
$\overline{INTB}$	Interrupt Output B (Open Drain)
SQW	Square Wave Output
V_{CC}	Supply Voltage
V_{SS}	Ground

Table 2. Ordering Information Scheme

Example: M48T39Y -100 PM 1

Device Type
M48T

Supply Voltage and Write Protect Voltage
39Y = V_{CC} = 4.5V to 5.5V; V_{PFD} = 4.2V to 4.5V

Speed
-100 = 100ns
-150 = 150ns

Package
PM = PMDIP32

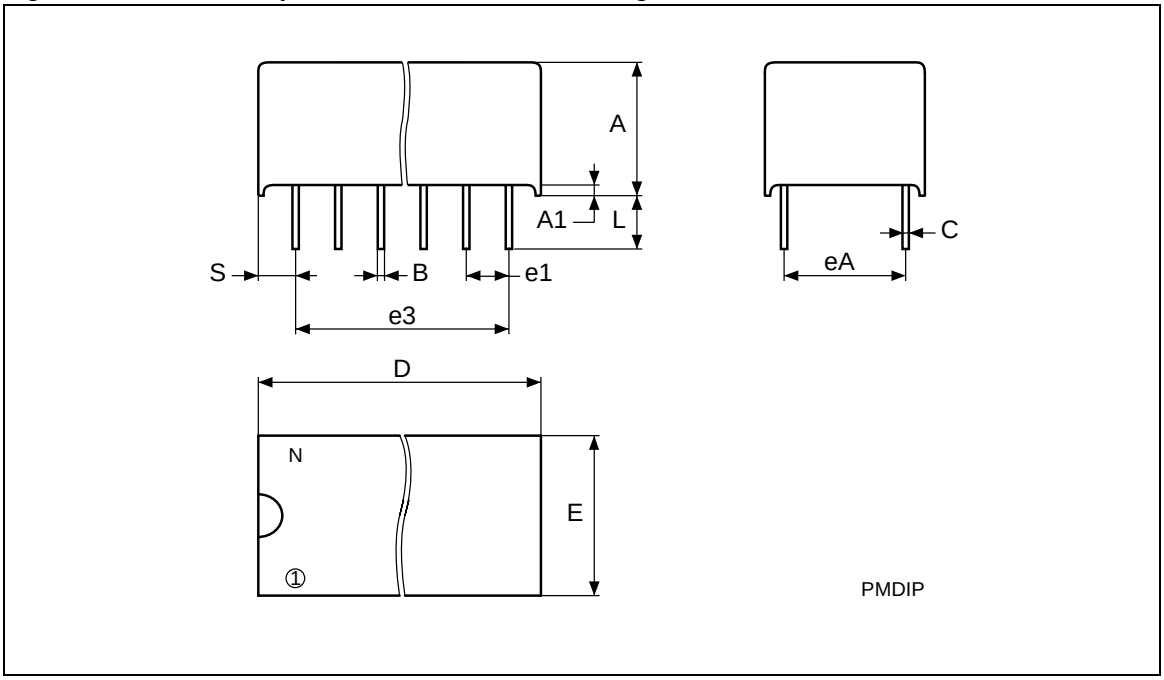
Temperature Range
1 = 0 to 70 °C

For a list of available options (Speed, Package, etc...) or for further information on any aspect of this device, please contact the ST Sales Office nearest to you.

Table 3. PMDIP32 - 32 pin Plastic Module DIP, Package Mechanical Data

Symb	mm			inches		
	Typ	Min	Max	Typ	Min	Max
A		9.27	9.52		0.3650	0.3748
A1		0.38	–		0.0150	–
B		0.43	0.59		0.0169	0.0232
C		0.20	0.33		0.0079	0.0130
D		42.42	43.18		1.6701	1.7000
E		18.03	18.80		0.7098	0.7402
e1		2.29	2.79		0.0902	0.1098
e3		34.29	41.91		1.3500	1.6500
eA		14.99	16.00		0.5902	0.6299
L		3.05	3.81		0.1201	0.1500
S		1.91	2.79		0.0752	0.1098
N	32			32		

Figure 3. PMDIP32 - 32 pin Plastic Module DIP, Package Outline



Drawing is not to scale.