

M48T86

5V PC REAL TIME CLOCK

DATA BRIEFING

- DROP-IN REPLACEMENT for PC COMPUTER CLOCK/CALENDAR
- COUNTS SECONDS, MINUTES, HOURS, DAYS, DAY of the WEEK, DATE, MONTH and YEAR with LEAP YEAR COMPENSATION
- INTERFACED WITH SOFTWARE AS 128 RAM LOCATIONS:
 - 14 Bytes of Clock and Control Registers
 - 114 Bytes of General Purpose RAM
- SELECTABLE BUS TIMING (Intel/Motorola)
- THREE INTERRUPTS are SEPARATELY SOFTWARE-MASKABLE and TESTABLE
 - Time-of-Day Alarm (Once/Second to Once/Day)
 - Periodic Rates from 122 μ s to 500ms
 - End-of-Clock Update Cycle
- PROGRAMMABLE SQUARE WAVE OUTPUT
- 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 CONTAINS the BATTERY and CRYSTAL
- PIN and FUNCTION COMPATIBLE with bq3285/7A and DS12887

DESCRIPTION

The M48T86 is an industry standard real time clock (RTC). The M48T86 is composed of a lithium energy source, quartz crystal, write-protection circuitry, and a 128 byte RAM array. This provides the user with a complete subsystem packaged in either a 24-pin DIP CAPHAT or 28-pin SNAPHAT SOIC. Functions available to the user include a non-volatile time-of-day clock, alarm interrupts, a one-hundred-year clock with programmable interrupts, square wave output, and 128 bytes of non-volatile static RAM.

The 24 pin 600mil DIP CAPHAT[™] houses the M48T86 silicon with a quartz crystal and a long life lithium button cell in a single package.

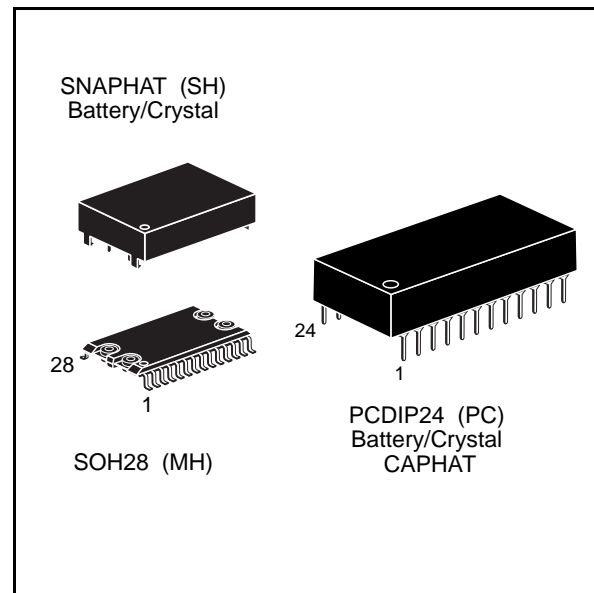
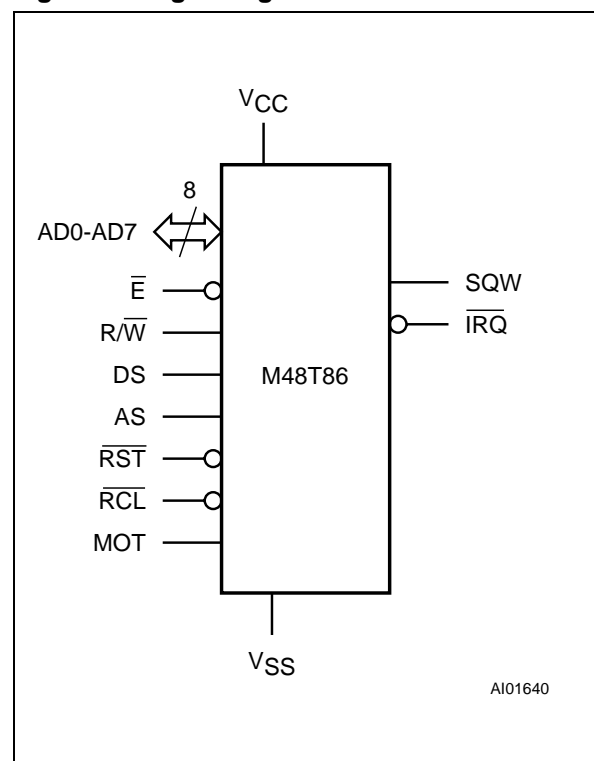
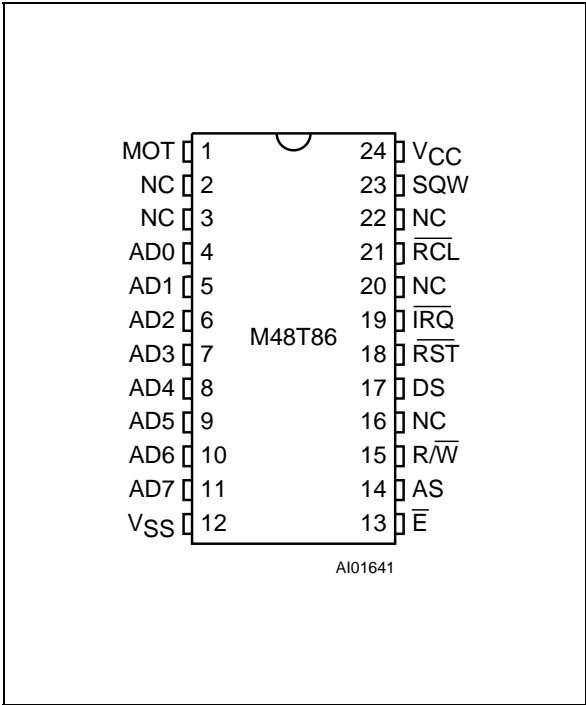


Figure 1. Logic Diagram



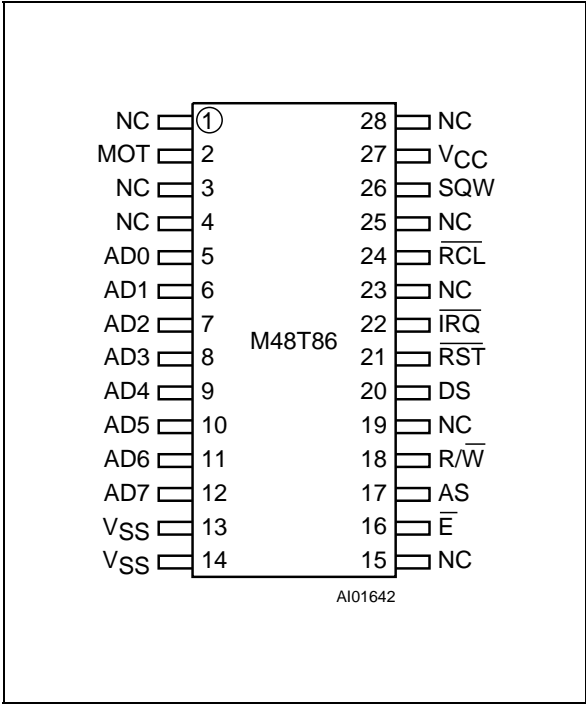
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DIP Pin Connections



Warning: NC = Not Connected.

SOIC Pin Connections



Warning: NC = Not Connected.

Signal Names

AD0-AD7	Multiplexed Address/Data Bus
E-bar	Chip Enable Input
R/W	Write Enable Input
DS	Data Strobe Input
AS	Address Strobe Input
RST	Reset Input
RCL	RAM Clear Input
MOT	Bus Type Select Input
SQW	Square Wave Output
IRQ	Interrupt Request Output
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: M48T86 MH 1 TR

Package	
PC	PCDIP24
MH ⁽²⁾	SOH28
Temp. Range	
1	0 to 70 °C
Shipping Method for SOIC	

blank Tubes
TR Tape & Reel

Note: 1. The SOIC package (SOH28) requires the battery/crystal package (SNAPHAT) which is ordered separately under the part number "M4T28-BR12SH1" in plastic tube or "M4T28-BR12SH1TR" in Tape & Reel form.

Caution: Do not place the SNAPHAT battery/crystal package "M4T28-BR12SH1" in conductive foam since this will drain the lithium button-cell battery.