VLSI TECHNOLOGY, INC.

PREVIEW

VL82C018

REAL TIME CLOCK WITH RAM

FEATURES

- Direct replacement for IBM PC/AT-compatible clock
- Calculates year (with leap year compensation), month, date, day of the week, days, hours, minutes, and seconds
- Calendar, time and alarm are represented as binary or BCD
- 24- or 12-hour clock (AM and PM in 12-hour mode)
- Programmable daylight savings time feature
- Compatible with Motorola and Intel bus timing
- Multiplex bus for lower pin count
- Appears as 64 RAM locations to microprocessor
  - 14 bytes of RAM for control and clock registers
  - 50 bytes of general purpose RAM
- CMOS technology for low power dissipation
- On chip oscillator
- Power sense input sets register bit in case of power failure
- Square wave output signal is programmable
- (–IRQ) bus compatible interrupt signals
- Three software-maskable and testable interrupts
  - Once/second to once/day time-of-day alarm
  - End of clock update cycle
- In-circuit test mode

DESCRIPTION

The VL82C018 is a CMOS Real Time Clock with RAM that directly replaces the MC146818 and DS1287A in the IBM AT computer clock/calendar application and elsewhere. Components required to maintain time-of-day and memory status in the absence of power are an external crystal and battery.

Connections are for a standard 32.768 KHz quartz crystal or equivalent. For extremely high precision timekeeping applications, a variable timing capacitor may be required. The internal oscillator circuitry is operated with a crystal having a specified load capacitance of 6 pF.

The battery that is required is any standard three volt lithium cell or other energy source. For proper operation, the voltage must be held between two and four volts.

The –RCLR function is designed so that it can be shorted to ground manually or by switch and is not driven with external buffers. By setting the –RCLR pin to logic 1, the 50 bytes of general purpose RAM can be cleared without effecting the RAM associated with the Real Time Clock. –RCLR must be forced to an input logic 0 during battery back up mode when VCC is not applied in order to clear the RAM.

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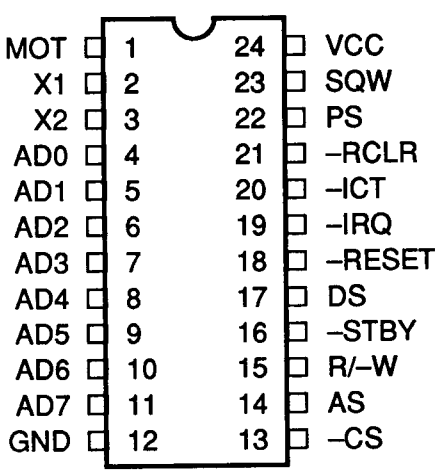
PIN DIAGRAM

VL82C018



ORDER INFORMATION

Part Number	Package
VL82C018-PC	Plastic DIP

Note: Operating temperature range is 0°C to +70°C.