

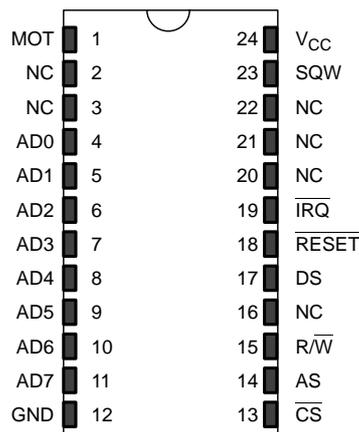
FEATURES

- Drop-in replacement for IBM AT computer clock/calendar
- Pin compatible with the MC146818A
- Totally nonvolatile with over 10 years of operation in the absence of power
- Self-contained subsystem includes lithium, quartz, and support circuitry
- Counts seconds, minutes, hours, day of the week, date, month, and year with leap year compensation
- Binary or BCD representation of time, calendar, and alarm
- 12- or 24-hour clock with AM and PM in 12-hour mode
- Daylight Savings Time option
- Selectable between Motorola and Intel bus timing
- Multiplex bus for pin efficiency
- Interfaced with software as 64 RAM locations
 - 14 bytes of clock and control registers
 - 50 bytes of general purpose RAM
- Programmable square wave output signal
- Bus-compatible interrupt signals ($\overline{\text{IRQ}}$)
- Three interrupts are separately software-maskable and testable
 - Time-of-day alarm once/second to once/day
 - Periodic rates from 122 μs to 500 ms
 - End of clock update cycle

DESCRIPTION

The DS1287 Real Time Clock is designed to be a direct replacement for the MC146818A. For a complete description of operating conditions, electrical and

PIN ASSIGNMENT



24 PIN ENCAPSULATED PACKAGE

PIN DESCRIPTION

- | | | |
|---------------------------|---|---------------------------------------|
| AD0–AD7 | - | Multiplexed address/data bus |
| NC | - | No connection |
| MOT | - | Bus type selection |
| $\overline{\text{CS}}$ | - | Chip select |
| AS | - | Address strobe |
| R/ $\overline{\text{W}}$ | - | Read/write input |
| DS | - | Data strobe |
| $\overline{\text{RESET}}$ | - | Reset input |
| $\overline{\text{IRQ}}$ | - | Interrupt request output (open drain) |
| SQW | - | Square wave output |
| V _{CC} | - | +5 volt supply |
| GND | - | Ground |

mechanical characteristics, bus timing, and pin descriptions see the DS12887 data sheet.