

DALLAS

SEMICONDUCTOR

DS1285/DS1285Q

Real Time Clock

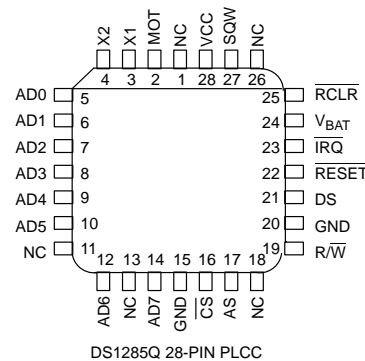
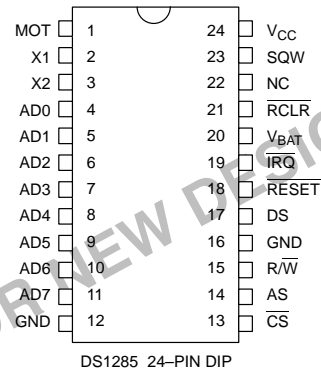
FEATURES

- Drop-in replacement for IBM AT computer clock/calendar
- Pin configuration closely matches MC146818A
- 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
- Optional 28-pin PLCC surface mount package

DESCRIPTION

The DS1285 Real Time Chip is a direct replacement for the MC146818A in IBM AT computer clock/calendar and other applications. For a complete description of operating conditions, electrical and mechanical characteristics, bus timing, and pin descriptions see the DS12885 data sheet.

PIN ASSIGNMENT



PIN DESCRIPTION

- | | |
|--------------------------------|---|
| AD0-AD7 | – Multiplexed Address/Data Bus |
| NC | – No Connection |
| MOT | – Bus Type Selection |
| $\overline{\text{CS}}$ | – Chip Select |
| AS | – Address Strobe |
| $\text{R}/\overline{\text{W}}$ | – 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 |
| X1,X2 | – 32.768 KHz Crystal Connections |
| V_{BAT} | – +3 Volt Battery Input |
| RCLR | – RAM Clear |