

# DALLAS

SEMICONDUCTOR

## DS1285/DS1285Q

### Real Time Clock

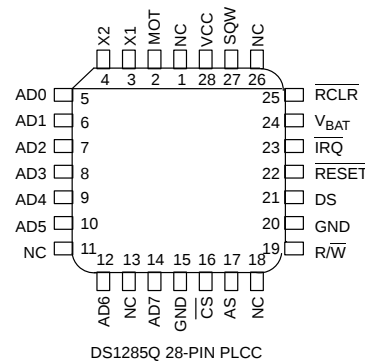
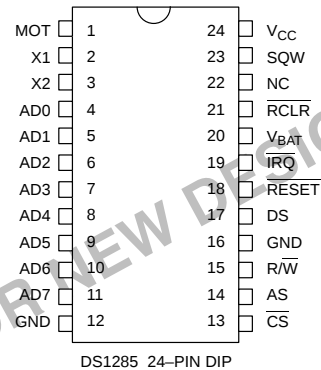
#### FEATURES

- 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  $\mu\text{s}$  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                        |
| R/W                       | – Read/Write Input                      |
| DS                        | – Data Strobe                           |
| $\overline{\text{RESET}}$ | – Reset Input                           |
| $\overline{\text{IRQ}}$   | – Interrupt Request Output (open drain) |
| SQW                       | – Square Wave Output                    |
| VCC                       | – +5 Volt Supply                        |
| GND                       | – Ground                                |
| X1,X2                     | – 32.768 KHz Crystal Connections        |
| V <sub>BAT</sub>          | – +3 Volt Battery Input                 |
| RCLR                      | – RAM Clear                             |