DALLAS SEMICONDUCTOR

DS1285/DS1285Q
Real Time Clock

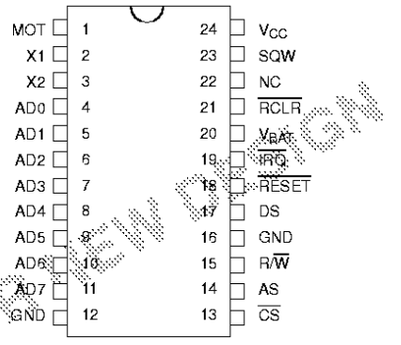
FEATURES

- 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 ($\overline{IRQ}$)
- 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

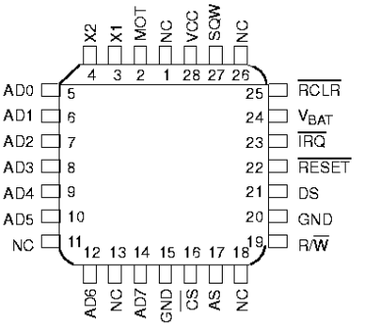
DESCRIPTION

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



DS1285 24–PIN DIP



DS1285Q 28-PIN PLCC

PIN DESCRIPTION

AD0-AD7	–	Multiplexed Address/Data Bus
NC	–	No Connection
MOT	–	Bus Type Selection
$\overline{CS}$	–	Chip Select
AS	–	Address Strobe
R/$\overline{W}$	–	Read/Write Input
DS	–	Data Strobe
$\overline{RESET}$	–	Reset Input
$\overline{IRQ}$	–	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
$\overline{RCLR}$	–	RAM Clear