DALLAS
SEMICONDUCTOR

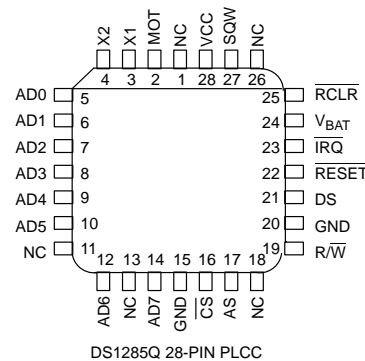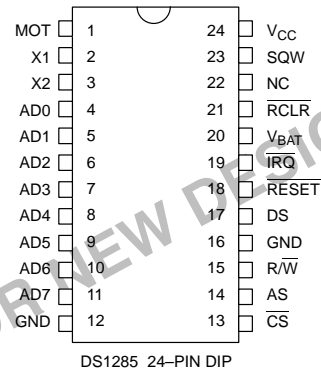# DS1285/DS1285Q
Real Time Clock

FEATURES

- Drop-in replacement for IBM AT computer clock/ca-lendar

- 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 charac-teristics, 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
$\overline{AS}$	–	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