

Series CS1307

I²C SERIAL REAL TIME CLOCK WITH 56 x 8 RAM

Applications:

Cash Registers

Security Access Controllers, Door Controllers

Public Phone Bill Meters

Smart Card Payphones

Time Recorders

Mobile Telephones

IC Water-Flow Meters

IC Gas Meters



Part Numbering Example: CS1307 – Z3C

CT1307-	Z	3	C
SERIES	ADDED FEATURES	PACKAGE	OPERATING TEMP
CT1307	Z = Tapes & Reels	3 = 8DIP 9 = 8SOIC	C = 0°C to +70°C

Specifications

- Provides year, month, day, weekday, hours, minutes, and seconds based 32.768 kHz quartz crystal
- 56 X 8 NVSRAM for scratchpad data storage
- I²C-bus interface
- Dual power supply pins
- Programmable clock output for peripheral devices (32.768 kHz, 8.192 kHz, 4.096 kHz, 1Hz)
- Consumes less than 550nA in battery backup mode with oscillator running
- I²C-bus slave address: read D1H and write D0H
- Available in 8-pin DIP or SOIC

General Description

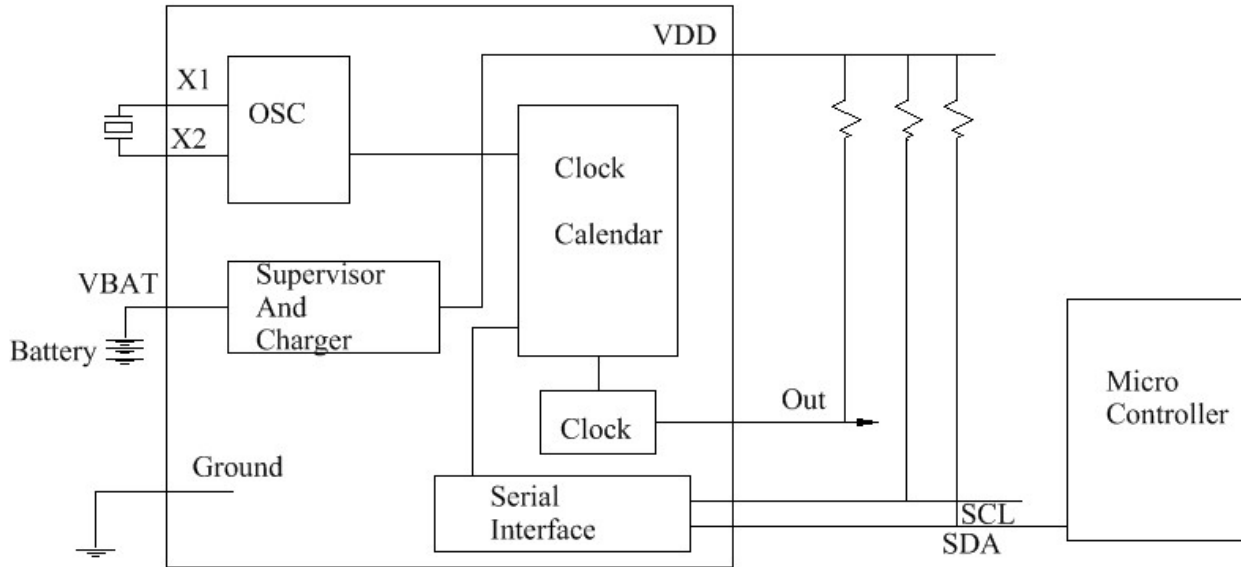
The CS1307 is a CMOS real time clock/calendar, which provides seconds, minutes, hours, day, date, month, and year information. The number of days in each month and leap years are automatically adjusted. The clock can operate in two modes: one is the 12-hour mode with an AM/PM indicator , the other is the 24-hour mode. The clock/calendar is full binary-coded decimal (BCD). A programmable clock output, 56 bytes of NVSRAM for scratchpad data storage, and dual power supply pins are also provided. All address and data are transferred serially via I²C bus, and the CS1307 operates as a slave device on the serial bus. The built-in word address register is incremented automatically after each written or read data byte. The CS1307 is designed to operate on very low power consumption.



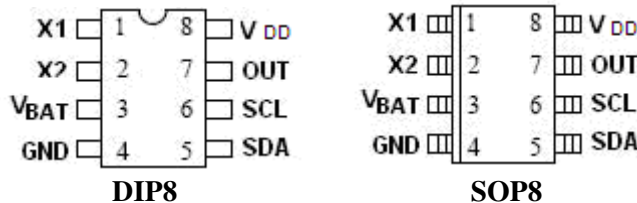
I²C SERIAL REAL TIME CLOCK WITH 56 x 8 RAM

Block Diagram and Pin Description

Block Diagram



Pin Assignment



Pin Description

Pin No.	Symbol	Description
1	X1	32.768kHz Crystal Connection
2	X2	32.768kHz Crystal Connection
3	VBAT	+3V Battery Input
4	GND	Ground
5	SDA	Serial Data Input/Output, SDA is the input/output pin for the 2-wire serial interface. The SDA pin is open drain.
6	SCL	Serial Clock Input, SCL is used to synchronize data movement on the serial interface. The SCL pin is open drain.
7	OUT	Clock Output, Open-drain
8	VDD	Power Supply

