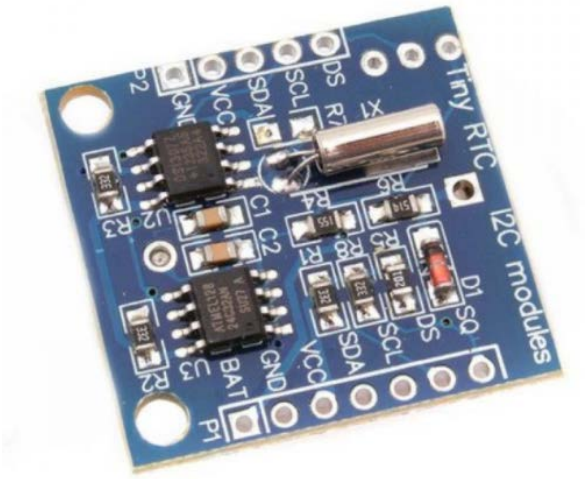
DS1307 RTC Module for Arduino



What are Real-Time Clocks?

Real-time clocks (RTC), as the name recommends are clock modules. The DS1307 real-time clock (RTC) IC is an 8 pin device using an I2C interface. The DS1307 is a low-power clock/calendar with 56 bytes of battery backup SRAM. The clock/calendar provides seconds, minutes, hours, day, date, month and year qualified data. The end date of each month is automatically adjusted, especially for months with less than 31 days.

They are available as integrated circuits (ICs) and supervise timing like a clock and also operate date like a calendar. The main advantage of RTC is that they have an arrangement of battery back up which keeps the clock/calendar running even if there is a power failure. An exceptionally little current is required for keeping the RTC animated. We can find these RTCs in many applications like embedded systems and computer motherboards, etc. In this article, we are going to see one of the real-time clock (RTC), i.e. DS1307.

Features :

1. This is the DS1307 Real Time Clock developed by one of our designers.
2. Two-wire I2C interface.
3. Hour: Minutes: Seconds AM/PM.
4. Day Month, Date – Year.
5. DS1307 based RTC with LIR2032 battery.

6. 1Hz output pin.
7. Consumes less than 500nA in battery backup mode with oscillator running
8. Available in 8-pin DIP or SOIC
9. Underwriters Laboratory (UL) recognized
10. Real-time clock (RTC) counts seconds, minutes, hours, date of the month, month, day of the week, and year with leap-year compensation valid up to 2100
11. 56-byte non-volatile RAM for data storage
12. 56 Bytes of Non-volatile memory available to the user.
13. The DS1307 is accessed via the I2C protocol.
14. The module comes fully assembled and pre-programmed with the current time.