



DS1307 Real Time Clock Breakout User Guide

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Introduction

Numato Lab's RTC Breakout is tiny breakout board which can easily be interfaced with arduino/any microcontroller which supports I2C interface. It has a DS1307 serial RTC with low power, full binary-coded decimal (BCD) clock/calendar chip which Counts Seconds, Minutes, Hours, Date of the Month, Month, Day of the week, and Year even with Leap-Year. It works with any 5V logic controllers such as arduino. It can be used for timers, alarms, data logging & real time switching applications with relays etc..

Features

- Arduino/any 5V I2C microcontroller compatible
- Clock Battery Backup
- I2C Interface
- Real Time Clock(Which counts Seconds, Minutes, Hours, Date of the Month, Month, Day of the week, and Year).
- With Leap Year
- User 56 bytes of NV SRAM
- Small Size and Less in weight.

How to use the module

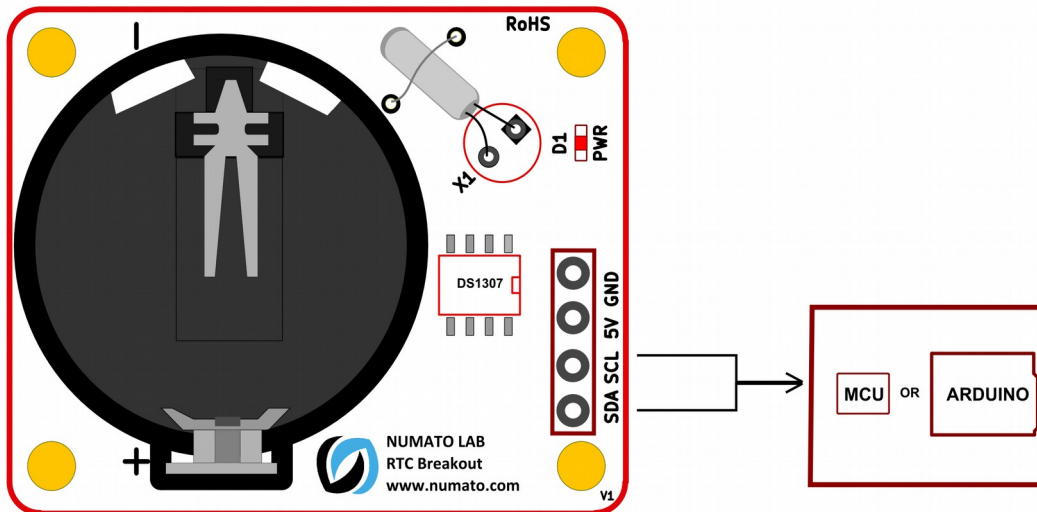
The following section describes how to use this module.

Components/Tools required

Along with the module, you may need the items in the list below for easy and fast installation.

1. Arduino/any microcontroller board having I2C communication.

Connection Diagram



Above image shows basic connection diagram that can be used in most of the situations.

Connection Details

Header P1

| Header Pin No. | Pin Details |
|----------------|-------------|
| 1 | SDA |
| 2 | SCL |
| 3 | 5V |
| 4 | GND |

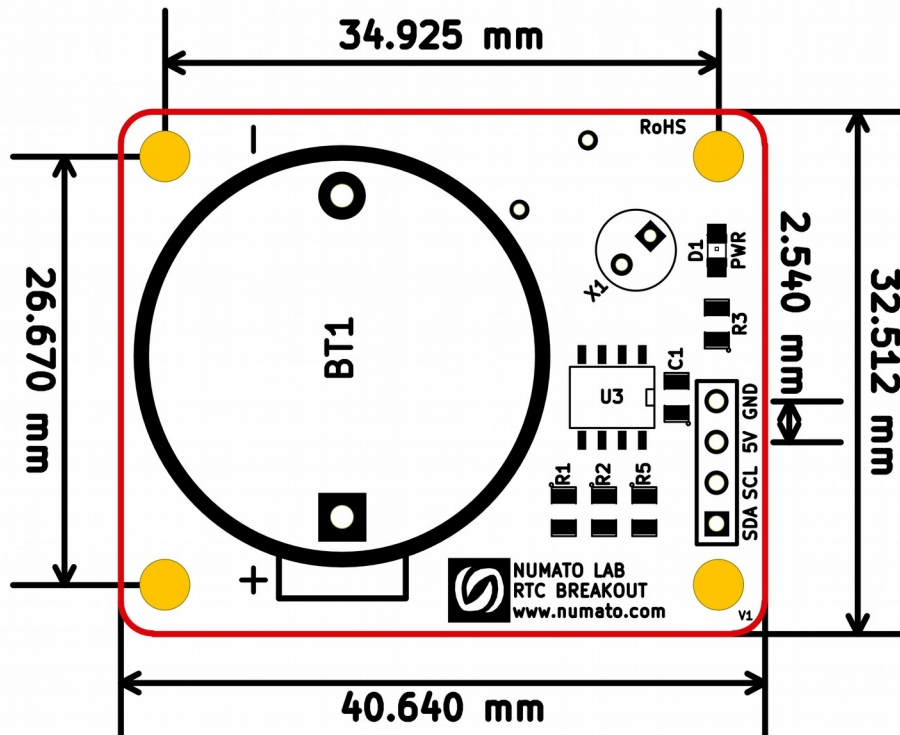
For more information, refer the schematics below.

Technical Specifications

| Parameter * | Value | Unit |
|--|--------|------|
| Real Time Clock(RTC) Specifications | | |
| Real Time Clock Chip | DS1307 | |
| Supply Voltage | 5 | V |
| V-BAT Battery Voltage | 3 | V |
| Battery Back-up current | 500 | nA |
| Oscillator frequency | 32 | KHz |
| Communication Interface | I2C | |

*All parameters considered nominal. Numato Systems Pvt Ltd reserve the right to modify products without notice.

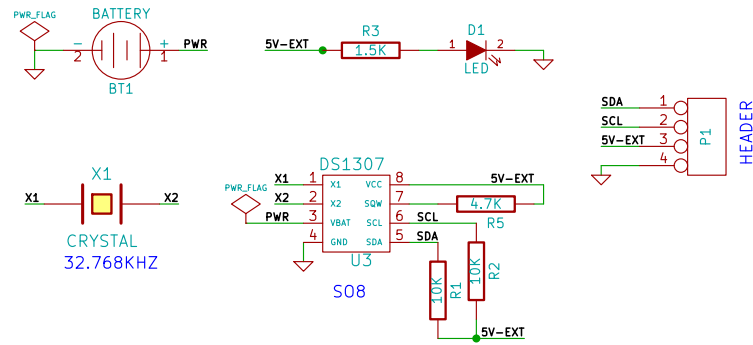
Physical Dimensions



L x W x H : 40.640 mm x 32.512 mm x 15 mm
 Mechanical Hole Diameter- 3.2 mm

Schematics

See next page.



| | |
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