Real Time Clock
81066

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DESCRIPTION

DS3231 is a low-cost, extremely accurate I2C real-time clock (RTC), with an integrated temperature-compensated crystal oscillator (TCXO) and crystal.

The device incorporates a battery input, disconnect the main power supply and maintains accurate timekeeping.

Integrated oscillator improve long-term accuracy of the device and reduces the number of components of the production line.

The DS3231 is available in commercial and industrial temperature ranges, using a 16-pin 300mil SO package.

RTC maintains seconds, minutes, hours, day, date, month, and year information. Less than 31 days of the month, the end date will be automatically adjusted, including corrections for leap year. The clock operates in either the 24 hours or band / AM / PM indication of the 12-hour format.

Provides two configurable alarm clock and a calendar can be set to a square wave output. Address and data are transferred serially through an I2C bidirectional bus.

SPECIFICATIONS	
Battery	CR2032
Size	38mm (length) x 22mm (Width) x 14mm (height)
Weight	8g
Operating voltage	3.3 - 5.5VDC
Clock chip	High-precision clock chip DS3231
Clock Accuracy	0-40 °C, 2ppm, error is about 1 minute
Calendar & alarm clock	Two Programmable square-wave output
Real time clock generator	seconds, minutes, hours, day, date, month and year timing and provide valid until the year 2100 leap year compensation
Chip temperature sensor	accuracy of ± 3 °C
Memory chip	AT24C32 (storage capacity 32K)
IIC / i2c bus	maximum transmission speed of 400KHz (working voltage of 5V)
Note	Can be cascaded with other IIC device, 24C32 addresses can be shorted A0/A1/A2 modify default address is 0x57
Wiring suggestion for Arduino uno r3	SCL → A5 SDA → A4 VCC → 5V GND → GND