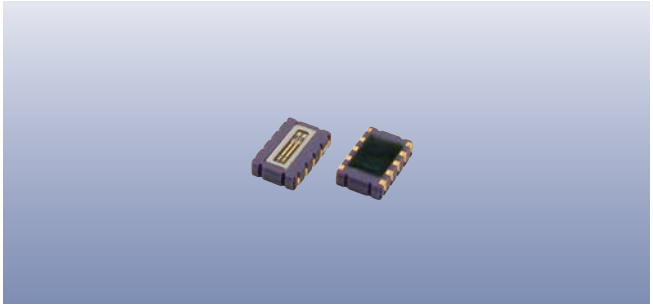
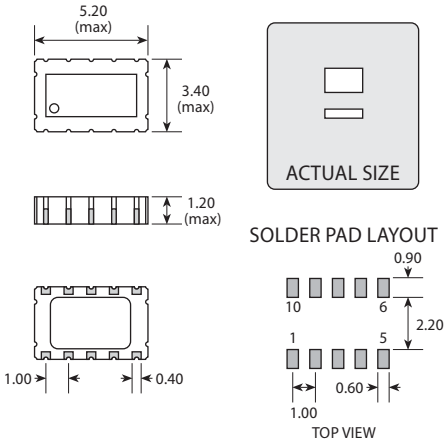
Real Time Clock - Low Power

RV2123C2





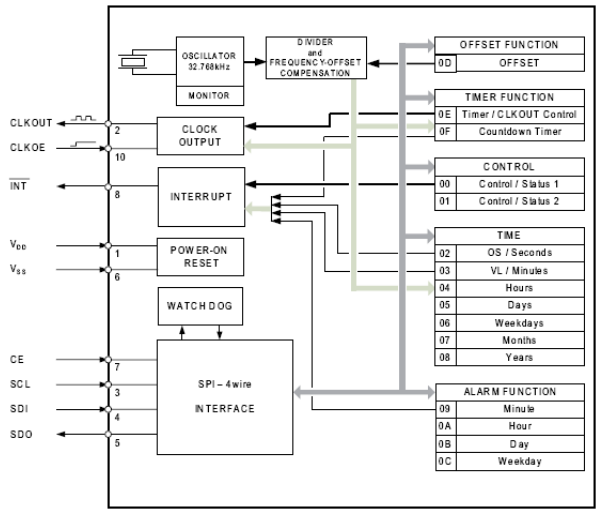
PAD	CONNECTION	PAD	CONNECTION
1	Supply (VDD)	6	Ground (VSS)
2	Frequency output (CLKOUT)	7	Chip enable (CE)
3	Serial clock input (SCL)	8	Interrupt output (/INT)
4	Serial data in (SDI)	9	Not connected
5	Serial data out (SDO)	10	CLK output enable (CLKOE)

Scale 3:1

Features

- ***Ultra low power consumption***
- ***Compliant with 4-wire SPI-Bus***
- ***Time keeping mode down to 1.1 V***
- ***Frequency-offset trimming register***
- ***Programmable alarm, timer and interrupt***

Block Diagram



Specifications

Parameters	Product RV2123C2	Option Codes
Frequencies (programmable): 32.768kHz ~ 1Hz	■	
Frequency tolerance: ±10ppm	□	A
±20ppm	■	B
Other	□	specify
Turnover temperature (T_0): +25°C ±5°C	■	
Frequency / temp coefficient: -0.035ppm/°C² ±10%	■	
Operating temperature range: -40 to +85°C	■	
Extended op. temp range: -55 to +125°C	■	
Storage temperature range: -55 to +125°C	■	
Supply voltage (V_{DD}): SPI bus active 1.6 ~ 5.5V	■	
Data holding voltage (V_{DD}): Timekeeping mode 1.1 ~ 5.5V	■	
Supply current (during access): 80µA max (fscl=1MHz V_{DD}=3V)	■	
400µA max (fscl=4.5MHz V_{DD}=3V)	■	
Supply current (backup mode): 130nA typ (fscl=0Hz, V_{DD}=3V)	■	
110nA typ (fscl=0Hz, V_{DD}=1V)	■	
Ageing: ±3ppm max first year	■	
Shock and vibration resistance: ±5ppm, 5,000g, 0.3ms, ½ sine	■	
±5ppm, 20g, 10.0 ~ 2,000Hz	■	
Soldering condition: Reflow, 260°C, 20 sec max	■	

■ Standard. □ Optional - Please specify required code(s) when ordering

Ordering Information

Product + option code
eg: ***RV2123C2/B*** ±20ppm
Option code X (eg RV2123C2/X) denotes a custom spec.

- Available on T&R - 1k or 5k pcs per reel
- Evaluation / development board & manual available on request

Description

This RTC IC has been specially designed to achieve an ultra-low power consumption of typically 130nA @ V_{DD} 3.0V in time-keeping mode.

The very small SMT ceramic-package combines the 32.768 kHz crystal unit with the CMOS-based oscillator and real-time-clock circuitry. The calendar function tracks year, month, date, and day-of-the-week with built-in century and leap-year fl ags. The clock function tracks minute and second in 24-hour format. Programmable alarm setting and universal timer functions increase flexibility.

MICRO CRYSTAL SWITZERLAND

- Manufactured by Micro Crystal
- Stocked & distributed by Golledge