Real Time Clock, Ultra Low Power

RV8803C7

Specifications

Parameters	Product	Option
	RV8803C7	Codes
Frequencies (selectable): 32.768kHz, 1024Hz, 1Hz	■	
Frequency tolerance (1Hz): ±3ppm max, -40+85°C	■	
Frequency tolerance (32.768kHz): ±10ppm typ, ±20ppm max, 25°C	■	
Time accuracy: ±1.5ppm max (0.13s/day), 0+50°C	■	
±3ppm max (0.26s/day), -40+85°C	■	
Turnover temperature (T$_0$): +25°C ±5°C	■	
Frequency / temp coefficient: -0.035ppm/°C^2 ±10%	■	
Operating temperature range: -40 to +85°C	■	
Storage temperature range: -55 to +125°C	■	
Supply voltage (V$_{DD}$): 1.5 ~ 5.5V	■	
Supply current: 240/400nA typ/max, V$_{DD}$=3V	■	
Ageing (25°C): ±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

Dimensions

3.20 (typ)

1.50 (typ)

0.80 (max)

0.90

1   4

0.50

8   5

0.40

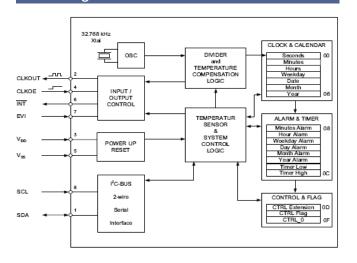SOLDER PAD LAYOUT

0.90

0.80

0.50

TOP VIEW

PAD	CONNECTION	PAD	CONNECTION
1	Serial data (SDA)	5	Ground (VSS)
2	Frequency output (CLKOUT)	6	Interrupt output (INT)
3	Supply voltage (VDD)	7	Event input (EVI)
4	Clock output enable (CLKOE)	8	Serial clock input (SCL)

Ordering Information

Product code
ie: **RV8803C7**
Option code X (eg RV8803C7/X) denotes a custom spec.

- ◆ Available on T&R - 1k or 3k pcs per reel.
- ◆ Evaluation / development board & manual available on request
- ◆ The I^{2}C-Bus is a trademark of Philips Electronics NV

Features

⫸ **High accuracy, ultra low power**

⫸ **Built-in crystal for adjustment-free operation**

⫸ **Time stamp event input function**

⫸ **I^{2}C-Bus interface (up to 400kHz)**

⫸ **Programmable alarm, timer and interrupt**

Description

The RV8803C7 is an high accuracy, ultra low power Real-Time-Clock module with embedded 32.768 kHz Crystal. High accuracy, high stability is achieved by factory calibrated, temperature compensated DTCXO giving time-accuracy of ± 3.0 ppm across the temperature range from -40°C to +85°C. Standard Clock & Calendar function tracks second, minute, hour in 24-hour format, year and leap-year flags. Beside standard RTC functions like Timer & Alarm, it includes integrated Temperature Sensor, Time Stamp Event Input and User RAM and offers I2C-bus (2-wire Interface). RV-8803-C7 is the smallest sized and consumes the lowest current of all temperature compensated RTC modules.

Block Diagram

MICRO CRYSTAL SWITZERLAND

- ◆ Manufactured by Micro Crystal
- ◆ Stocked & distributed by Golledge