Real Time Clock - SPI Bus

RV3049C2

```
5.20
(max)
        3.40
        (max)

1.20
(max)

SOLDER PAD LAYOUT
        0.90
10      6
1       5       2.20
1.00 | 0.40    0.60
1.00
TOP VIEW
```

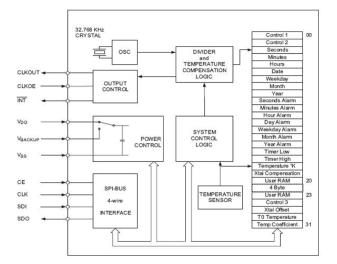| PAD	CONNECTION	PAD	CONNECTION
1	Supply (VDD)	6	Ground
2	Frequency output (CLKOUT)	7	Interrupt output (/INT)
3	Chip select (CS)	8	Backup supply
4	Serial clock input (SCL)	9	Serial data in (SDI)
5	Serial data out (SDO)	10	CLK output enable (CLKOE)

Features

◀▶ **Temperature compensated accuracy**

◀▶ **AEC Q200 Rev C compliant**

◀▶ **Compliant with 4-wire SPI-Bus**

◀▶ **Backup battery input (internal switchover)**

◀▶ **Programmable alarm, timer and interrupt**

Block Diagram

Specifications

Parameters	Product RV3049C2	Option Codes
Frequencies (selectable):		
32.768kHz, 1024Hz, 32Hz & 1Hz	■	
Frequency tolerance @ 25°C:		
±10ppm typ, ±20ppm max	■	
Time accuracy:		
±3ppm max (0.26s/day) @ 25°C	■	
±6ppm max (0.52s/day), -40+85°C	□	A
±25ppm max (2.17s/day), -40+85°C	■	B
±8ppm max (0.70s/day), -40+125°C	□	D
±30ppm max (2.60s/day), -40+125°C	□	E
Operating temperature range:		
-40 to +85°C	■	
Extended op. temp range:		
-40 to +125°C	□	
Storage temperature range:		
-55 to +125°C	■	
Supply voltage (V$_{DD}$):		
SPI bus active 1.8 ~ 5.5V	■	
Time-keeping mode 1.3 ~ 5.5V	■	
Supply current (V$_{DD}$=3.0V):		
0.80µA typ, 1.0µA max	■	
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: **RV3049C2/B** ±25ppm -40+85°C
Option code X (eg RV3049C2/X) denotes a custom spec.

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

Description

The RV3049C2 is a Real-Time-Clock Module with embedded crystal. This RTC has a 4-wire serial interface (SPI-Bus) and offers temperature compensated time. The STC (Smart Temperature Compensation) can be factory calibrated to achieve a very high time accuracy of ±6ppm over -40°C to +85°C (option A) and ± 8ppm from -40°C to +125°C (option C).

Beside standard RTC functions, it includes a Backup Battery Input with internal switchover function, a programmable trickle-charge circuitry, an integrated temperature sensor with digital-output and offers 8 Bytes RAM and 2 Bytes EEPROM for customer application.

The calendar function tracks year and leap-year flags. The clock tracks second, minute and hour in 24-hour format. Programmable alarm setting and universal timer functions increase flexibility.

MICRO CRYSTAL SWITZERLAND

◆ Manufactured by Micro Crystal
◆ Stocked & distributed by Golledge