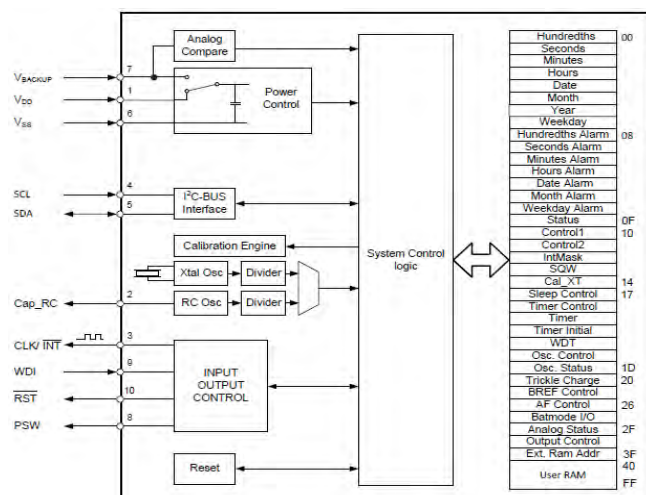


PAD	CONNECTION	PAD	CONNECTION
1	Supply (VDD)	6	Ground (VSS)
2	Capacitor RC-oscillator	7	Backup supply voltage
3	Clock/Interrupt (CLK/INT)	8	Power switch output (PSW)
4	Serial clock input (SCL)	9	Watchdog input (WDI)
5	Serial data (SDA)	10	Reset output (RST)

Features

- Extremely low current consumption
- Miniature package with integrated crystal
- Trickle charger, power management & switch
- Backup battery input (internal switchover)
- Programmable alarm, timer and interrupt

Block Diagram



Specifications

Parameters	Product RV1805C3	Option Codes
Frequencies (programmable): 32.768kHz ~ 1/60Hz	■	
Frequency tolerance @ 25°C: ±100ppm typ	■	
Time accuracy: ±2ppm typ (0.17s/day) @ 25°C	■	
Operating temperature range: -40 to +85°C	■	
Storage temperature range: -55 to +125°C	■	
Frequency / temp coefficient: -0.035ppm/°C ² ±10%	■	
Supply voltage (V_{DD}): I ² C bus active 1.6 ~ 3.6V Time-keeping mode 1.5 ~ 3.6V	■ ■	
Supply current (I²C, f_{scl}=400kHz): 6µA typ (V _{DD} =3.0V,) 1.5µA typ (V _{DD} =1.7V)	■ ■	
Supply current (time-keeping V_{DD}=3V): 60nA typ, 80nA max (32kHz XTAL) 17nA typ, 25nA max (RC MODE) 22nA typ, 32nA max (RC AUTOCAL)	■ ■ ■	
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 name

eg: **RV1805C3** ±25ppm -40/+85°C

Option code X (eg RV1805C3/X) denotes a custom spec.

- ♦ Available on T&R - 1k or 3k pcs per reel
- ♦ Evaluation / development board & manual available on request
- ♦ The I²C-Bus is a trademark of Philips Electronics NV

Description

This RTC IC has been specially designed for ultimate low current consumption of typically 60 nA @ VDD 3.0V for 32.768 kHz XTAL mode. Additionally, there is an RC-Mode consuming only 17nA and an autocalibrated RC-mode consuming 22nA which permits to operate this RTC module several hours at Backup Supply Voltage using low-cost MLCC. The very small SMT ceramic-package combines the 32.768 kHz crystal unit with the CMOS-based oscillator and real-time-clock IC. The calendar function tracks year, month, date, and day-of-the-week. The factory calibrated clock achieves a time accuracy of typ. ±2.0 ppm @ 25°C and tracks hundredths of second, second, minute and hour in AM/PM or 24-hour format. Additional features include Alarm, Timer and Interrupt functions, Watchdog Timer, Power Management with Power-Switch, Trickle Charger and Automatic Switchover to backup supply voltage.



- ♦ Manufactured by Micro Crystal
- ♦ Stocked & supplied by Golledge