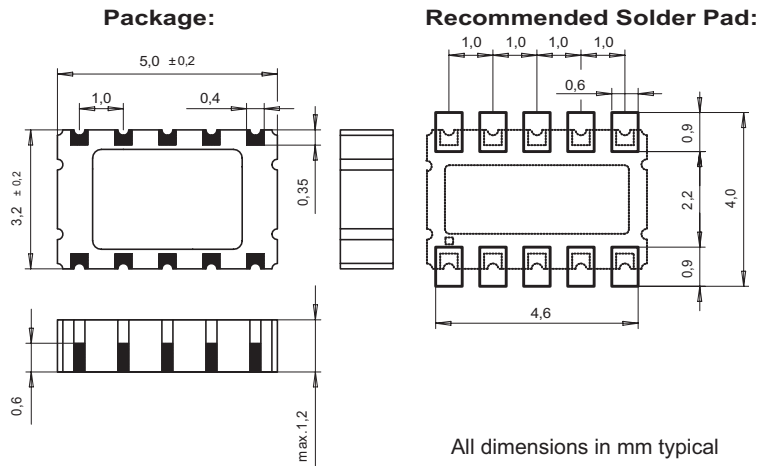


RV-8564-C2

Real Time Clock Module with I²C Bus



DIMENSIONS



All-in-one-package solution
 Miniature ceramic package
 Very low power consumption
 Very tight frequency tolerance
 I²C Bus Interface (400 kHz) *
 Programmable Clock-output
 Low aging
 Time keeping mode down to 1.2 V
 Programmable alarm, timer and interrupt functions

The RV-8564-C2 is a completely leadfree product.

DESCRIPTION:

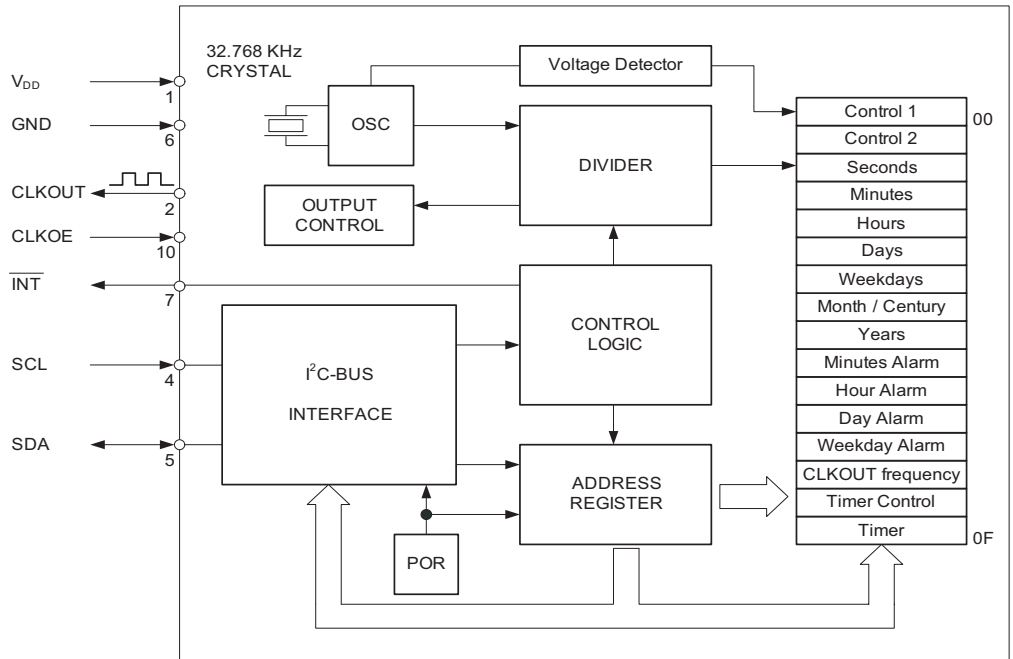
This very small SMD ceramic package has been specially designed to combine the 32.768 kHz crystal unit with the CMOS-based oscillator and real-time-clock circuit.

The calendar function tracks year, month, date, and day-of-the-week with built-in century and leap-year flags. The clock function tracks minute and second in 24-hour format. Programmable alarm setting and universal timer functions increase flexibility.

For pick-and-place equipment, the parts are available in 12 mm tape:

- 7" (178 mm) reel with 1'000 parts
- 10" (254 mm) reel with 2'500 parts
- 13" (330 mm) reel with 5'000 parts

BLOCK DIAGRAM:



**ELECTRICAL CHARACTERISTICS
AT 25°C:**

Output frequency	¹⁾		32768 / 1024 / 32 / 1	Hz
Frequency tolerance	²⁾	$\Delta F/F$	+/-20 / +/-10	ppm
Aging first year max. @ 25° C		$\Delta F/F$	+/-3	ppm
Turnover temperature		T_0	25 +/-5	°C
Frequency vs. temperature		$\Delta F/F_0$	$-0.035 \text{ ppm}/^\circ\text{C}^2 (T - T_0)^2 \text{ +/-10\%}$	ppm

- 1) I²C Bus programmable
- 2) Tighter and wider frequency tolerances on request.

	Symbol	Condition	Min.	Typ.	Max	Unit
Supply voltage	V _{DD}	I ² C-Bus Active	1.8		5.5	V
Time keeping voltage	V _{DD}		1.2		5.5	V
Power current during access	I _{DD}	fscI=400 kHz			800	µA
		fscI=100 kHz			200	µA
Current consumption Time keeping mode	I _{DDO}	fscI=0 Hz, V _{DD} =3 V		250	500	nA
		fscI=0 Hz, V _{DD} =2 V		225	450	nA

ENVIRONMENTAL CHARACTERISTICS:

		Conditions	Max. Dev.
Storage temp. range		-55 to +125°C	
Industrial operating temp. range		-40 to +85°C	
Shock resistance	$\Delta F/F$	5000 g, 0.3 ms, 1/2 sine	+/-5 ppm
Vibration resistance	$\Delta F/F$	20 g / 10–2000 Hz	+/-5 ppm

PACKAGE, TERMINATIONS AND PROCESSING:

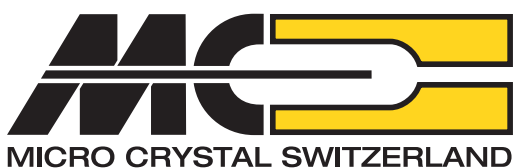
Package-Type	Termination	Processing
SON 10-pin	For SMD mounting Au flashed pads	Reflow soldering 260°C / 20 s max.

**PIN CONNECTIONS
TOP VIEW:**

Pin	Connection
1	V _{DD} Power Supply Voltage
2	CLKOUT Frequency output
4	SCL Serial clock input
5	SDA Data
6	GND Ground
7	$\overline{\text{INT}}$ Interrupt output
10	CLKOE FOUT output enable

Pins 3, 8, 9 are not connected.

All specifications subject to change without notice. 09.05



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