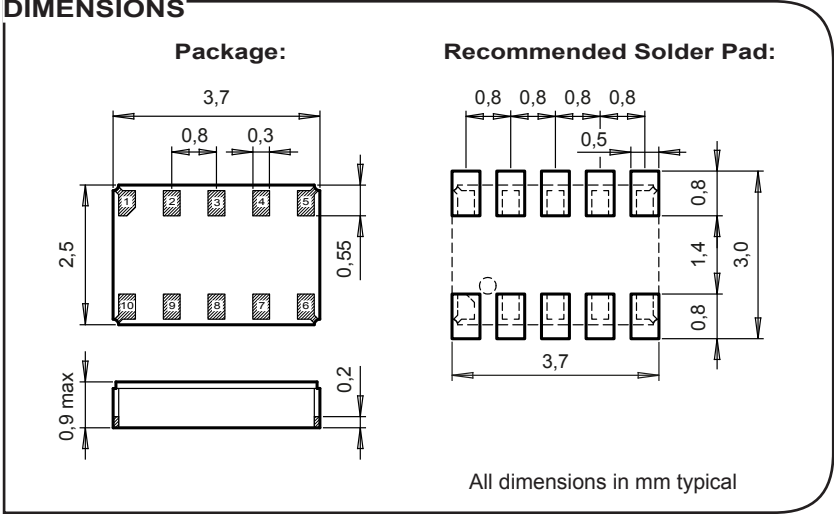


# RV-8564-C3

## Real-Time Clock Module with I<sup>2</sup>C-Bus



### APPLICATIONS

- IoT
- Metering
- Industrial
- Automotive
- Health Care
- Wearables, Portables

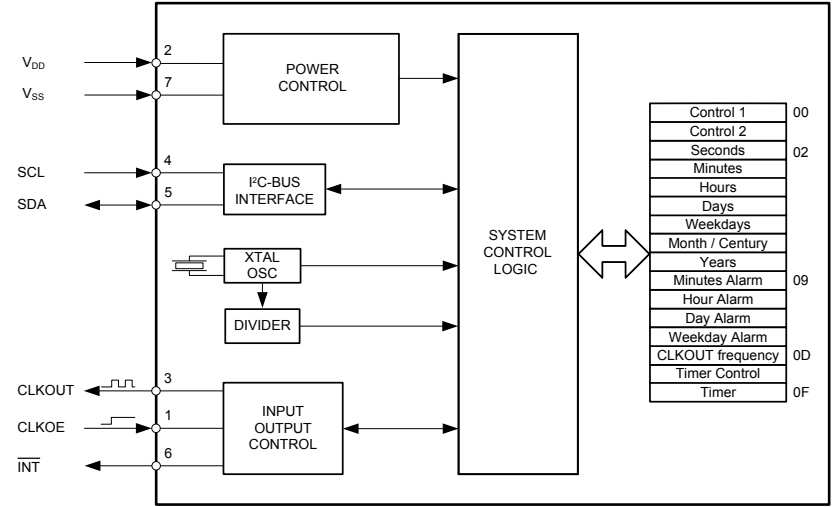
### DESCRIPTION

The RV-8564-C3 is a SMT Real-Time Clock Module that incorporates an integrated CMOS circuit together with an XTAL. It operates under vacuum in a hermetically sealed ceramic package with metal lid.

### FEATURES

- Low power consumption: 250 nA @ 3 V.
- Wide operating voltage range: 1.2 V to 5.5 V.
- Time accuracy: ±20 ppm @ 25°C.
- Operating temperature: -40 to +85°C.
- Low voltage detection.
- Provides year, month, date, weekday, hours, minutes and seconds.
- Leap year calculation and Century bit.
- Alarm and timer functions.
- Clock output frequencies: 32.768 kHz, 1024 Hz, 32 Hz, 1 Hz.
- I<sup>2</sup>C-bus interface: 400 kHz.
- 100% Pb-free, RoHS-compliant.
- Automotive qualification according to AEC-Q200 available.

### BLOCK DIAGRAM



## ELECTRICAL CHARACTERISTICS AT 25°C

More detailed information can be found in the Application Manual.

	Symbol	Condition	Min.	Typ.	Max	Unit
Supply voltage	V <sub>DD</sub>	I <sup>2</sup> C-bus active	1.8		5.5	V
Supply voltage	V <sub>DD</sub>	Time keeping	1.0		5.5	V
Current consumption Time keeping mode	I <sub>DDO</sub>	I <sup>2</sup> C-bus inactive, V <sub>DD</sub> = 3 V		250	350	nA
CLKOUT frequency	F <sub>CLKOUT</sub>	Programmable	32768/1024/32/1			Hz
Freq. tol. typ./max.	ΔF/F	@ 25°C	±10 / ±20 <sup>1)</sup>			ppm
Aging first year max.	ΔF/F	@ 25°C	±3			ppm

1) Tighter frequency tolerances on request.

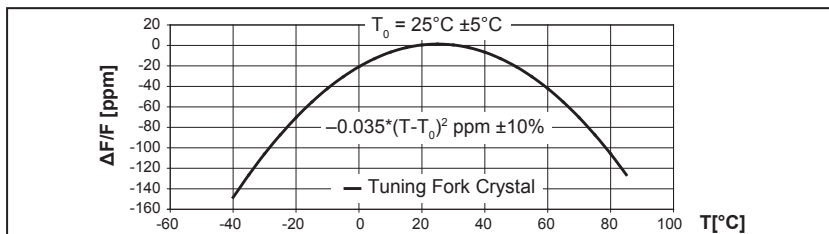
## ENVIRONMENTAL CHARACTERISTICS

	Conditions	Max. Dev.
Storage temp. range	-55 to +125°C	
TA Operating temperature range	-40 to +85°C	
Shock resistance	ΔF/F 5000 g, 0.3 ms, ½ sine	±5 ppm
Vibration resistance	ΔF/F 20 g / 10–2000 Hz	±5 ppm

## TERMINATIONS AND PROCESSING

Package	Termination	Processing
SON-10	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

## FREQUENCY TEMPERATURE CHARACTERISTICS



## PIN CONNECTIONS TOP VIEW

Pin	Connection
1	CLKOE Clock Output Enable
2	V <sub>DD</sub> Power Supply Voltage
3	CLKOUT Clock Output
4	SCL Serial Clock Input
5	SDA Serial Data
6	INT̄ Interrupt Output
7	V <sub>SS</sub> Ground
8	NC Not connected
9	NC Not connected
10	NC Not connected

Product Date Code #10 #6  
#1 #5  
Part Designation  
Pin 1 Index

## ORDERING INFORMATION

RV - 8564 - C3 TA QC
RTC module
Product type
Package size C3 = 3.7 x 2.5 x 0.9 mm
Qualification QC = Commercial Grade (Standard) QA = Automotive Grade AEC-Q200
Temperature range TA = -40 to +85°C (Standard)

A unique part number will be generated for each product specification, i.e.:

20xxxx-MG01	1'000 pcs (in 12 mm tape on 7" reel)
20xxxx-MG03	3'000 pcs (in 12 mm tape on 7" reel)

All specifications subject to change without notice.



A COMPANY OF THE SWATCH GROUP

Micro Crystal AG  
Muehlestrasse 14  
CH-2540 Grenchen  
Switzerland

Phone +41 32 655 82 82  
Fax +41 32 655 82 83  
sales@microcrystal.com  
www.microcrystal.com

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Micro Crystal:

[RV-8564-C3-EVALUATION-BOARD](#) [RV-8564-C3-32.768KHZ-20PPM-TA-QC](#) [RV-8564-C3-32.768KHZ-10PPM-TA-QC](#)