MICRO CRYSTAL SWITZERLAND

RV-4162-C7

Real Time Clock Module with I²C-Bus

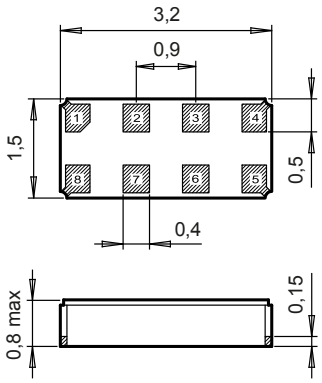


lead-free

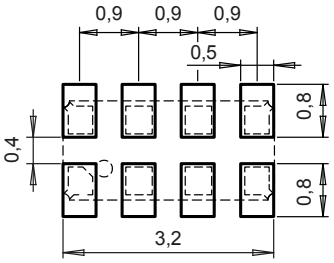
RoHS COMPLIANT

DIMENSIONS

Package:



Recommended Solder Pad:



Metal lid is not connected

All dimensions in mm typical

APPLICATIONS

IoT
Metering
Industrial
Automotive
Health Care
Wearables, Portables

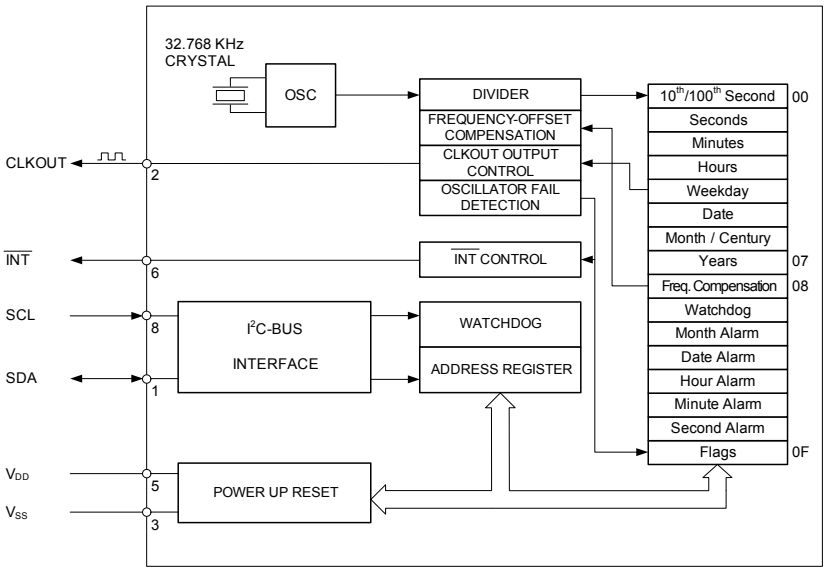
DESCRIPTION

The RV-4162-C7 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: 350 nA @ 3 V.
Operating voltage range: 1.0 V to 4.4 V.
Time accuracy: ±20 ppm @ 25°C.
Operating temperature range: -40 to +85°C.
User programmable offset value.
Oscillator stop detection.
Provides year, month, date, weekday, hours, minutes, seconds, 100th.
Automatic leap year calculation and century bits.
Alarm and Watchdog functions.
Clock output frequencies: 32.768 kHz to 1 Hz.
I²C-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_{DD}	I²C-bus active	1.3		4.4	V
Supply voltage	V_{DD}	Time keeping	1.0		4.4	V
Current consumption Time keeping mode	I_{DDO}	I²C-bus inactive, V_{DD} = 3 V		350	500	nA
CLKOUT frequency	F_{CLKOUT}	Programmable	32768 to 1			Hz
Frequency tolerance	ΔF/F	@ 25°C	±20 [1)]			ppm
Aging first year max.	ΔF/F	@ 25°C	±3			ppm

1) Tighter frequency tolerances on request.

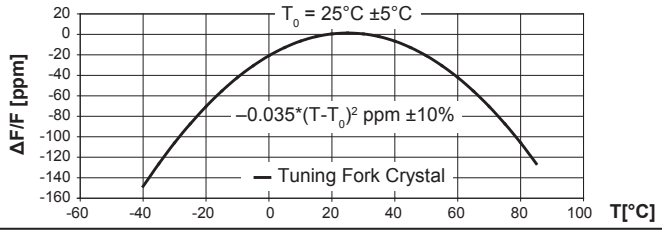
ENVIRONMENTAL CHARACTERISTICS

		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

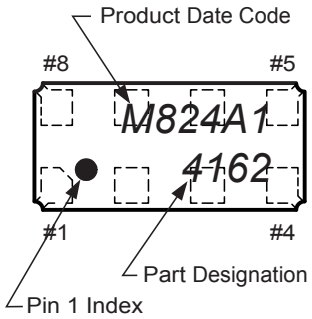
TERMINATIONS AND PROCESSING

Package	Termination	Processing
SON-8	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

FREQUENCY TEMPERATURE CHARACTERISTICS



PIN CONNECTIONS TOP VIEW



Pin	Connection	
1	SDA	Serial Data
2	CLKOUT	Clock Output
3	V_{SS}	Ground
4	NC	Not connected
5	V_{DD}	Power Supply Voltage
6	$\overline{INT}$	Interrupt Output
7	NC	Not connected
8	SCL	Serial Clock Input

ORDERING INFORMATION

RV - 4162 - C7 TA QC

RTC module

Product type

Package size
C7 = 3.2 x 1.5 x 0.8 mm

Temperature range
TA = -40 to +85°C (Standard)

Qualification
QC = Commercial Grade (Standard)
QA = Automotive Grade AEC-Q200

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.

MICRO CRYSTAL SWITZERLAND

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