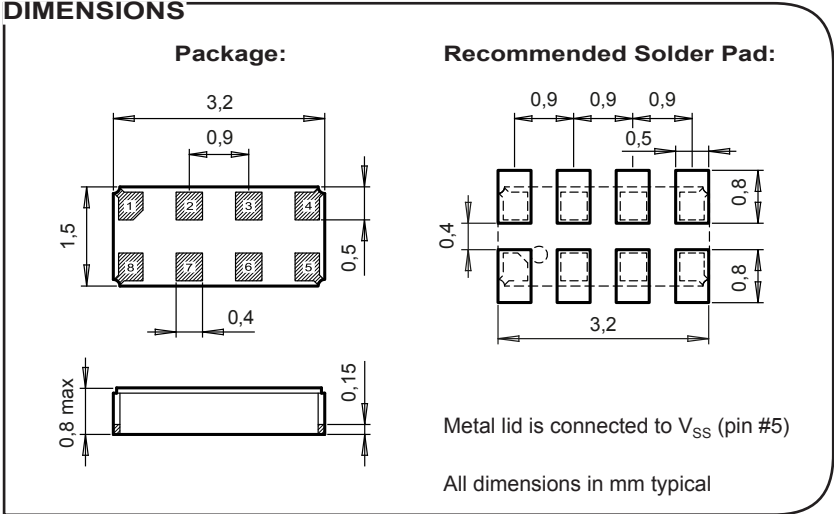
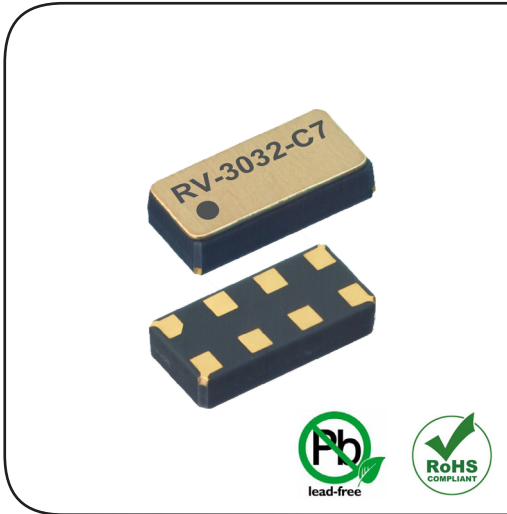


# RV-3032-C7

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



### APPLICATIONS

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

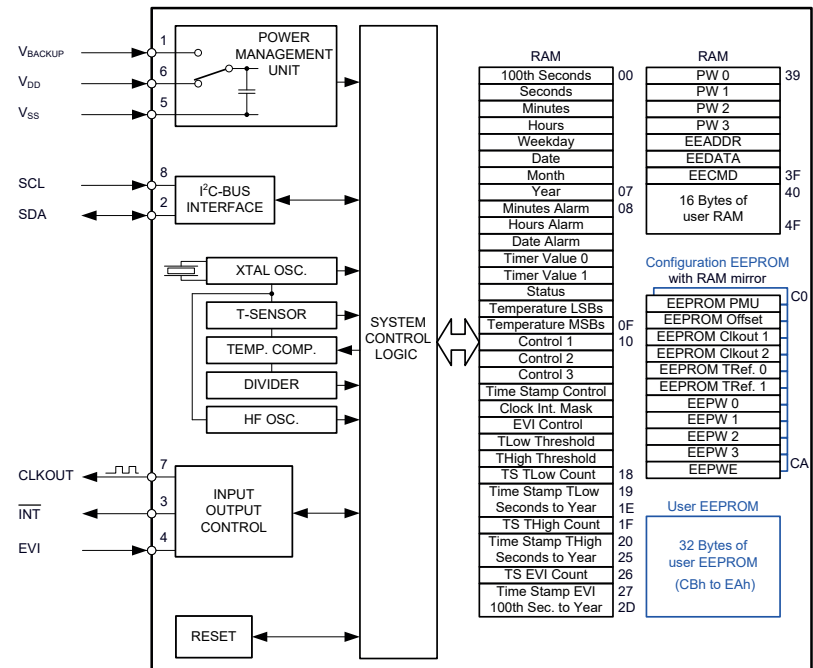
### DESCRIPTION

The RV-3032-C7 is a SMD 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

- Ultra low power consumption: 160 nA @ 3 V
- Wide operating voltage range: 1.3 V to 5.5 V
- Time accuracy: -40°C to +85°C, ±2.5 ppm
- Readable 12-bit Temperature Sensor with interrupt function
- User programmable Password for write protection
- Automatic Backup Switchover
- Trickle Charger with Charge Pump
- Timer, Alarm and External Event functions
- Clock output frequencies: 1 Hz to 52 MHz
- 32 bytes user EEPROM, 16 bytes user RAM
- 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>	Temp. comp.	1.3		5.5	V
Supply voltage	V <sub>DD</sub>	I <sup>2</sup> C-bus active	1.4		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		160	210	nA
CLKOUT frequency	F <sub>CLKOUT</sub>	Programmable	1 Hz to 52 MHz			
Time accuracy	ΔF/F	-40 to +85°C	±2.5			ppm
Aging first year max.	ΔF/F	@ 25°C	±3			ppm

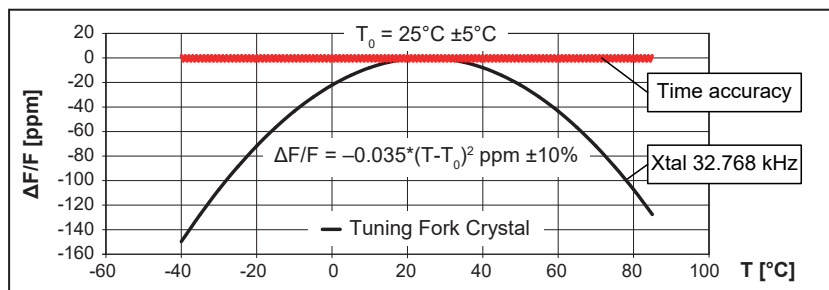
## ENVIRONMENTAL CHARACTERISTICS

	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	V <sub>BACKUP</sub> Backup Supply Voltage
2	SDA Serial Data
3	INT Interrupt Output
4	EVI Event Input
5	V <sub>SS</sub> Ground
6	V <sub>DD</sub> Power Supply Voltage
7	CLKOUT Clock Output
8	SCL Serial Clock Input

Product Date Code #8 #5

Part Designation M034A1 3032

Pin 1 Index #1 #4

## ORDERING INFORMATION

RV - 3032 - C7 TA QC	Qualification
RTC module	QC = Commercial Grade (Standard)
Product type	QA = Automotive Grade AEC-Q200
Package size	Temperature range
C7 = 3.2 x 1.5 x 0.8 mm	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.



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