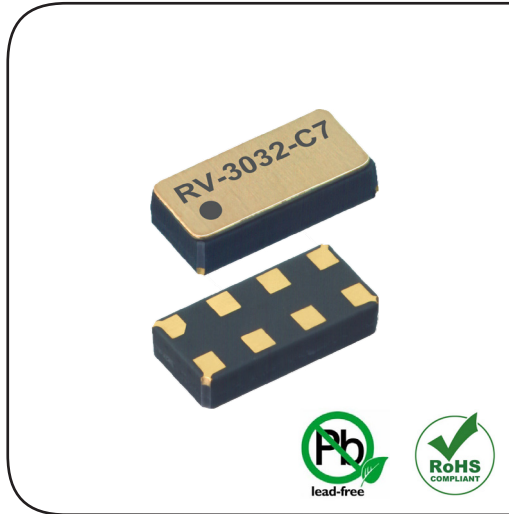
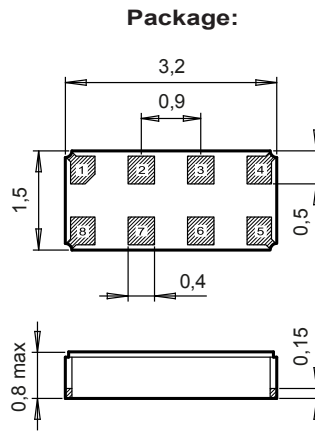


RV-3032-C7

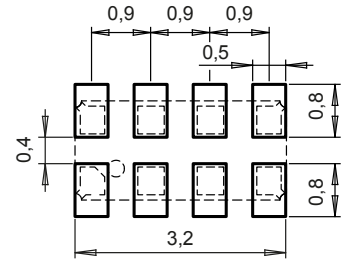
Real-Time Clock Module with I²C-Bus



DIMENSIONS



Recommended Solder Pad:



Metal lid is connected to V_{SS} (pin #5)

All dimensions in mm typical

APPLICATIONS

IoT
Metering
Industrial
Automotive
Health Care
Wearables, Portables

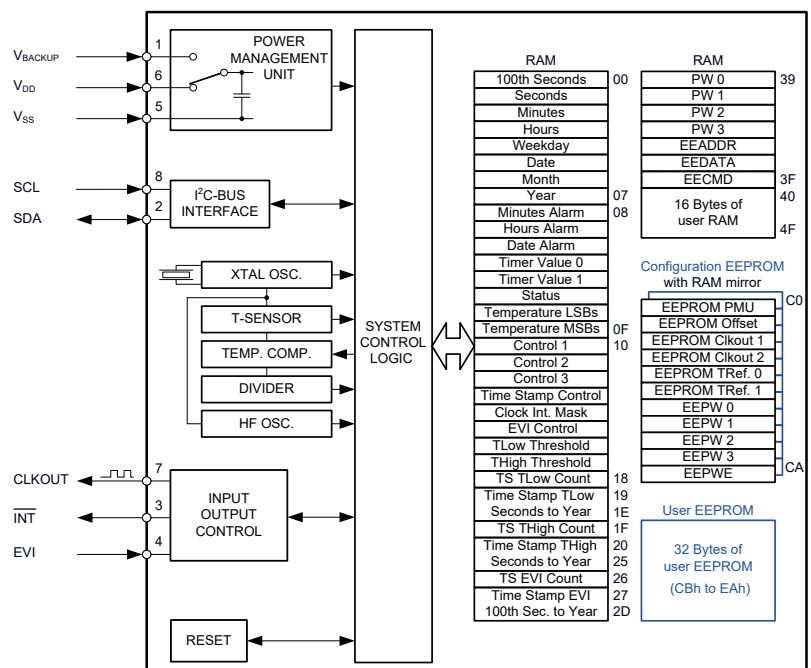
DESCRIPTION

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
- 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} | Temp. comp. | 1.3 | | 5.5 | V |
| Supply voltage | V _{DD} | I ² C-bus active | 1.4 | | 5.5 | V |
| Current consumption Time keeping mode | I _{DDO} | I ² C-bus inactive, V _{DD} = 3 V | | 160 | 210 | nA |
| CLKOUT frequency | F _{CLKOUT} | 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 |

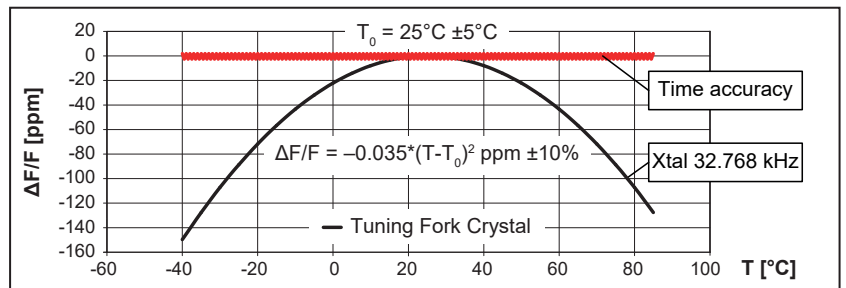
ENVIRONMENTAL CHARACTERISTICS

| | 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 _{BACKUP} Backup Supply Voltage |
| 2 | SDA Serial Data |
| 3 | INT Interrupt Output |
| 4 | EVI Event Input |
| 5 | V _{SS} Ground |
| 6 | V _{DD} 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 |
|----------------------------------|
| RTC module |
| Product type |
| Package size |
| C7 = 3.2 x 1.5 x 0.8 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
sales@microcrystal.com
www.microcrystal.com