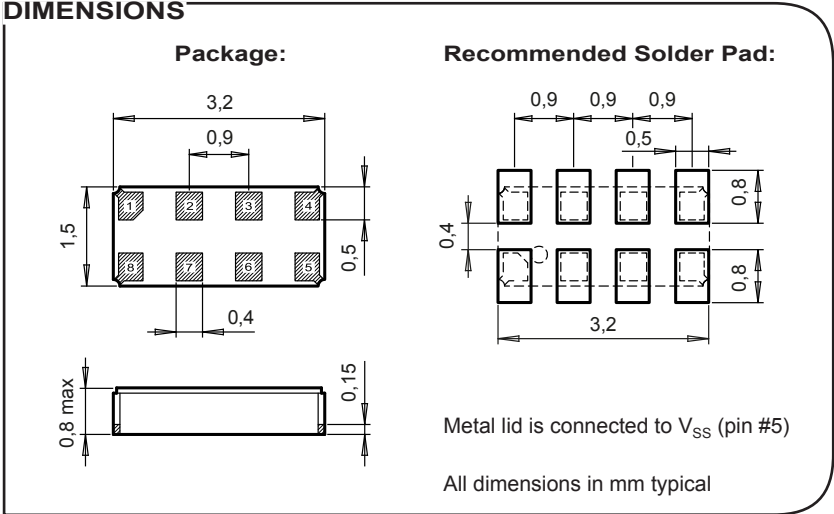
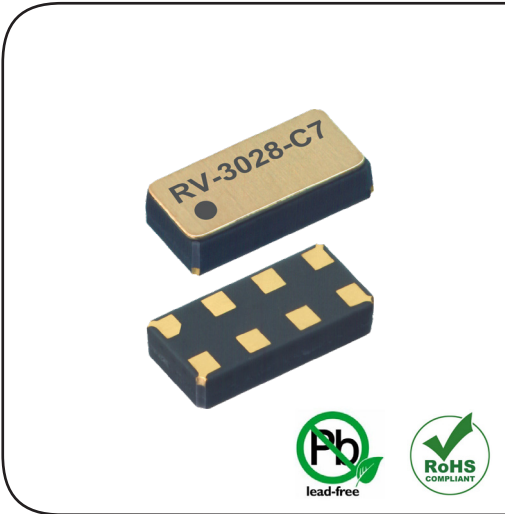


RV-3028-C7

Extreme Low Power RTC Module



APPLICATIONS

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

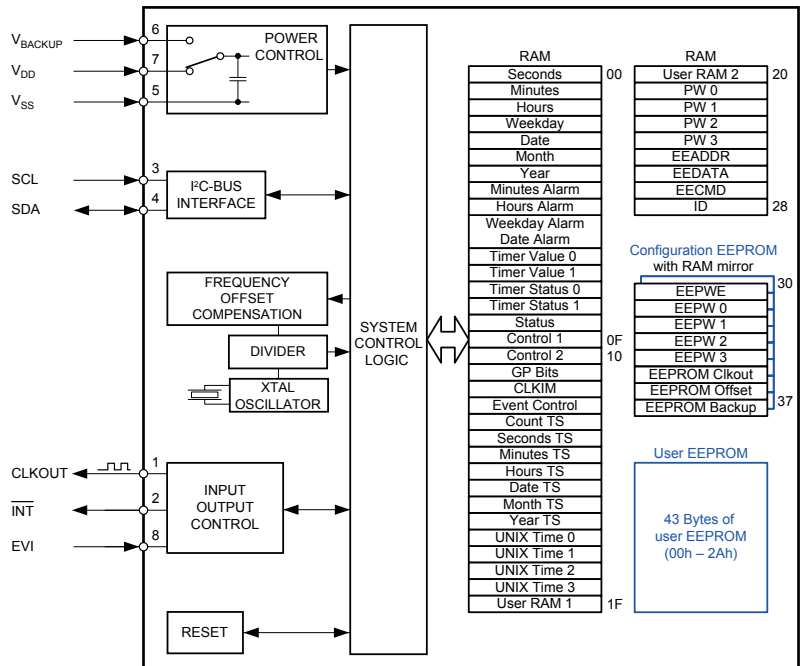
DESCRIPTION

The RV-3028-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

- Extreme low power consumption: 45 nA @ 3 V.
- Wide operating voltage range: 1.1 V to 5.5 V.
- Time accuracy: Factory calibrated to ±1 ppm @ 25°C
- User progr. password for write protection of time and configuration.
- Non-volatile configuration settings with user programmable offset value.
- Automatic Backup Switchover and Trickle Charger function.
- Provides year, month, date, weekday, hours, minutes, seconds, UNIX.
- Timer, Alarm and External event input with Time Stamp function.
- Clock output: 32.768 kHz, 8192 Hz, 1024 Hz, 64 Hz, 32 Hz, 1 Hz.
- 43 bytes non-volatile user memory, 2 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} | Time keeping | 1.1 | | 5.5 | V |
| Supply voltage | V _{DD} | I ² C-bus active | 1.2 | | 5.5 | V |
| Current consumption Time keeping mode | I _{DDO} | I ² C-bus inactive, V _{DD} = 3 V | | 45 | 60 | nA |
| CLKOUT frequency | F _{CLKOUT} | Programmable | 32768...to...1 | | | Hz |
| Time accuracy | Δt/t | @ 25°C | ±1 | | | ppm |
| Aging first year max. | ΔF/F | @ 25°C | ±3 | | | ppm |

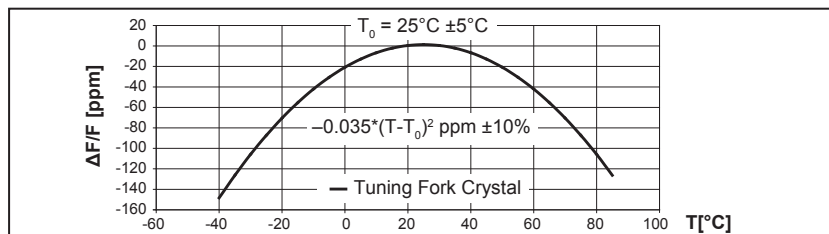
ENVIRONMENTAL CHARACTERISTICS

| | | Conditions | Max. Dev. |
|--------------------------------|------|------------------------|-----------|
| Storage temperature 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 |

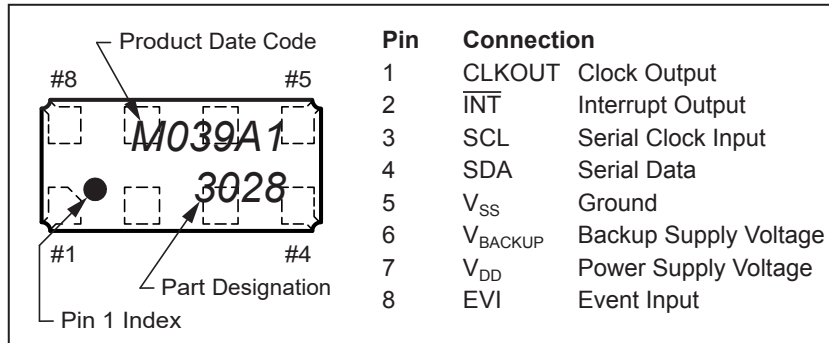
TERMINATIONS AND PROCESSING

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

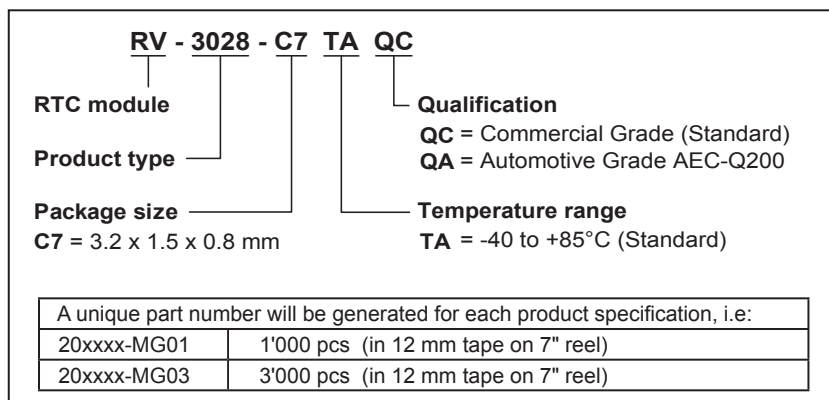
FREQUENCY TEMPERATURE CHARACTERISTICS



PIN CONNECTIONS TOP VIEW



ORDERING INFORMATION



All specifications subject to change without notice.



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