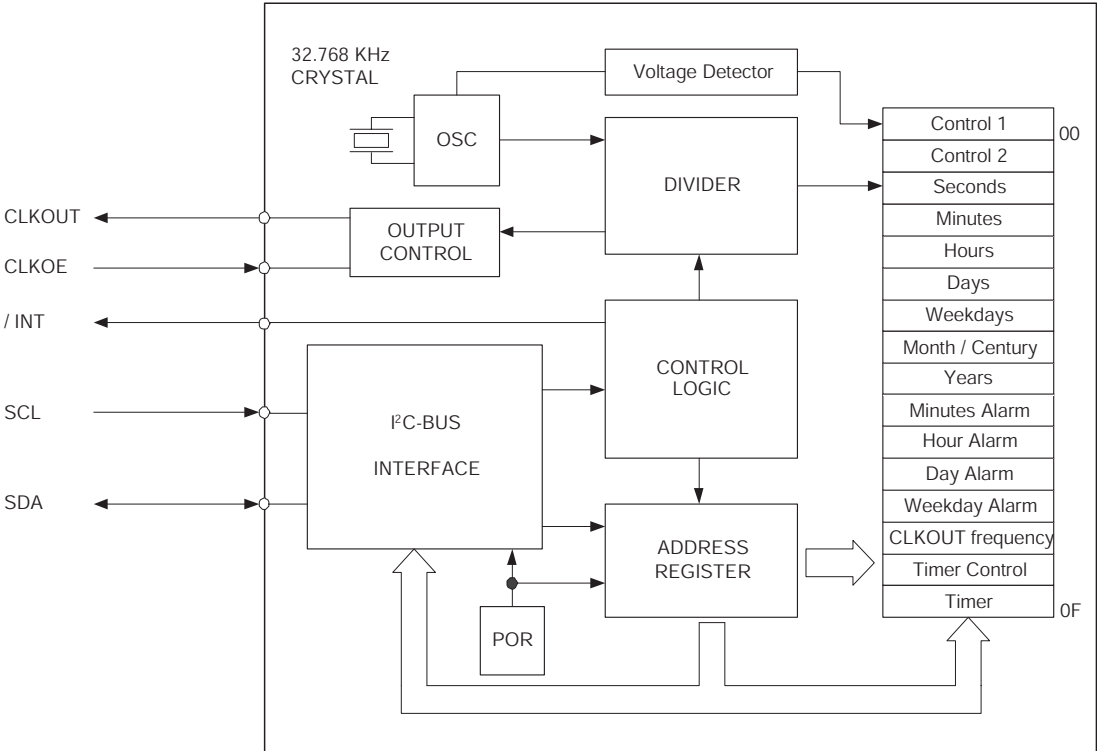


All-in-one-package solution
Miniature ceramic package
Very low power consumption
Very tight frequency tolerance
I²C Bus Interface (400 kHz) *
Programmable clock-output
Low aging
Time keeping mode down to 1.2 V
Programmable alarm, timer and interrupt functions

The RV-8564-C2 is a completely leadfree product.

DESCRIPTION:
 This very small SMD ceramic package has been specially designed to combine the 32.768 kHz crystal unit with the CMOS-based oscillator circuit. The calendar functions track year, month, date, and day with built-in century and leap-year flags. The clock functions tracks hour, minute, second, and hunderdth of second in 24- or 12-hour format. Programmable alarm setting and universal timer functions increase flexibility.
 For pick-and-place equipment, the parts are available in 12 mm tape:
 7" (178 mm) reel with 1'500 parts
 10" (254 mm) reel with 3'500 parts

BLOCKDIAGRAM:



PIN DESCRIPTION:

| Terminal | Pin No. | Description |
|----------|---------|--------------------|
| VDD | 1 | VDD |
| CLKOUT | 2 | Frequency output |
| SCL | 4 | Serial clock input |
| SDA | 5 | Data |
| GND | 6 | GND |
| / INT | 7 | Interrupt output |
| CLKOE | 10 | FOUT output enable |
| | 3, 8, 9 | N.C. |

ELECTRICAL CHARACTERISTICS AT 25°C:

| | | | | |
|---------------------------|----|----------------|--|-----|
| Output frequency | 1) | | 32768 / 1024 / 32 / 1 | Hz |
| Frequency tolerance | 2) | $\Delta F/F$ | +/-15 | ppm |
| Aging first year max. | | $\Delta F/F$ | +/-3 | ppm |
| Turnover temperature | | T_0 | 25 +/-5 | °C |
| Frequency vs. temperature | | $\Delta F/F_0$ | $-0.035 \text{ ppm}/^\circ\text{C}^2 (T - T_0)^2 \pm 10\%$ | ppm |

- 1) I²C Bus programmable
- 2) Tighter and wider frequency tolerances on request.

| | Symbol | Condition | Min. | Typ. | Max | Unit |
|---------------------------------|------------------|--|------|------|-----|------|
| Supply voltage | V _{DD} | I ² C-Bus Active | 1.8 | | 5.5 | V |
| Data holding voltage | V _{DD} | | 1.2 | | 5.5 | V |
| Power current during access | I _{DD} | f _{scl} =400 kHz | | | 800 | µA |
| | | f _{scl} =100 kHz | | | 200 | µA |
| Current consumption backup mode | I _{DDO} | f _{scl} =0 Hz, V _{DD} =3 V | | 275 | 700 | nA |
| | | f _{scl} =0 Hz, V _{DD} =2 V | | 250 | 650 | nA |

ENVIRONMENTAL CHARACTERISTICS:

| | | Conditions | Max. Dev. |
|----------------------------------|--------------|------------------------|-----------|
| Storage temp. range | | -55 to +125°C | |
| Industrial operating temp. range | | -40 to +85°C | |
| Shock resistance | $\Delta F/F$ | 5000 g, 0.3 ms, ½ sine | +/-5 ppm |
| Vibration resistance | $\Delta F/F$ | 20 g / 10–2000 Hz | +/-5 ppm |

PACKAGE, TERMINATIONS AND PROCESSING:

| Package-Type | Termination | Processing |
|--------------|-------------------------------------|-------------------------------------|
| SON 10-pin | For SMD mounting Au flashed pads | Reflow soldering 260°C/20 s max. |

All specifications subject to change without notice. 01.04



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