

Feature

- Metal can SMD package. (13.0×4.85×4.2mm typ.)
- 24mm width Tape & Reel package for automatic assembly.
- Application: Automotive; Bluetooth, Wireless; Computers Modems, Communications; Set-top Box, DECT/WDCT.



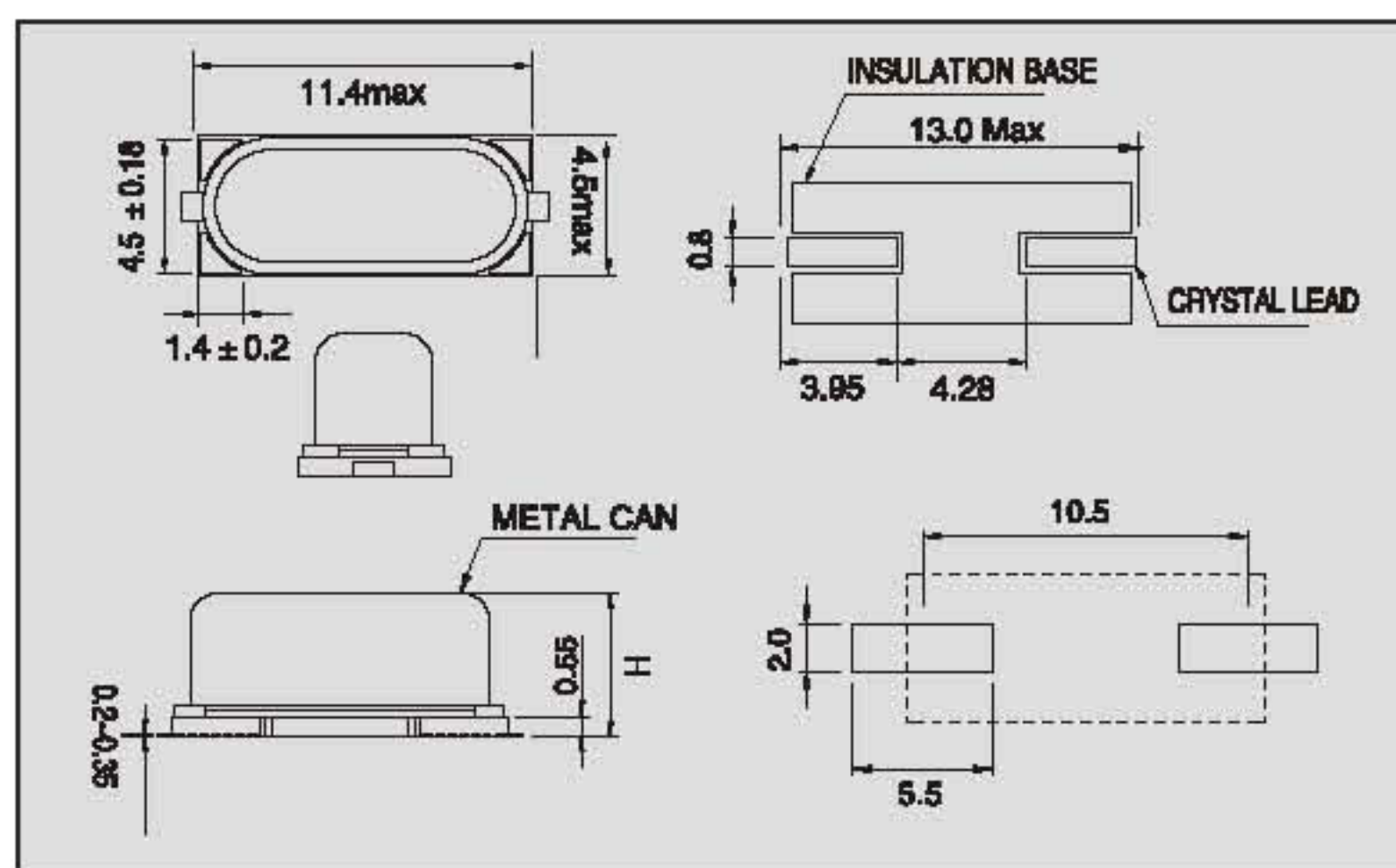
Specifications

RoHS Compliant REACH Compliant

| Item | Model | RFWJ Series | | | |
|---|-----------------------|---------------------------------------|-----------------------|---------------------------------------|--|
| Frequency Range | | 3.5 to 80MHz | | | |
| Oscillator Mode | | Fundamental, 3rd Overtone | | | |
| Frequency Tolerance (25± 3°C) | | ±10PPM~±50PPM | | | |
| Temperature Characteristics (with reference to +25°C) | | ±10PPM~±50PPM | | | |
| Operating Temperature Range | | -20 to 70°C | | | |
| Load Capacitance | | 7pF -32pF ,Series | | | |
| Storage Temperature Range | | -40to+85°C | | | |
| Drive Level | | 10μW(max.500μW) | | | |
| Equivalent Series Resistance | Frequency Range (MHz) | Equivalent Series Resistance max. [Ω] | Frequency Range (MHz) | Equivalent Series Resistance max. [Ω] | |
| | 3.5 to 4 | 140 | 16 to 20 | 30 | |
| | 4 to 5 | 120 | 20 to 30 | 25 | |
| | 5 to 7 | 80 | 30 to 36 | (A1) 25 | |
| | 7 to 9 | 45 | 30 to 36 | (A3) 80 | |
| | 9 to 13 | 40 | 36 to 80 | 80 | |
| | 13 to 16 | 35 | | | |

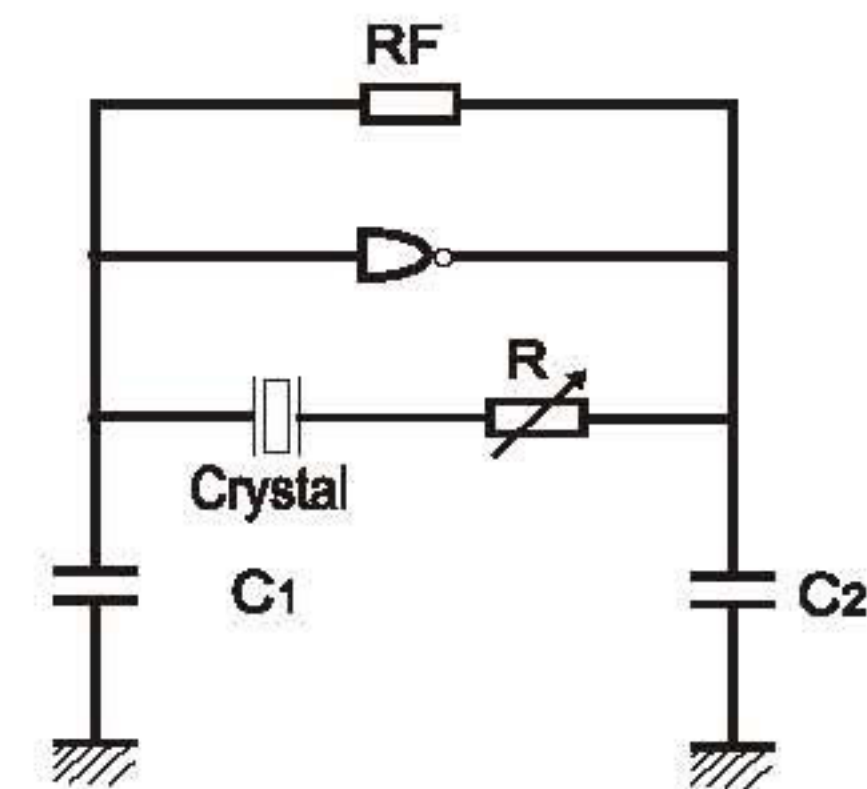
The above specifications are standard for this RFW products. Custom-made Spec. such as CL and Temp. Stability are also available. Please contact us with your enquiries.

Outline Drawing



SMD Crystal

| Model | H(mm) |
|-------|-------|
| RFWJ | 4.0 |
| RFWP | 3.0 |



$$CL = \frac{C1 \cdot C2}{C1 + C2} + 3 \sim 7 \text{ pf}$$

Ordering Information

Part Number Guide

| RFW XTAL | J Package Size (mm) | 20 Load Capacitance (pF) | E Freq. Tol. @25°C (ppm) | E Frequency Stability (ppm) | C Temp. Range (°C) | 1 Oscillator Mode | - Dash | Freq. (Mhz) |
|--------------------|----------------------------------|--|---|---|------------------------------------|--|-----------|-----------------------|
| | J:4.0mm P:3.0mm | XX=xxpF | A:±5 B:±10 C:±20 D:±25 E:±30 G:±50 | A:±5 B:±10 C:±20 D:±25 E:±30 G:±50 | I:-10~60 C:-20~70 L:-40~85 | 1:AT Fundamental 3:3rd Overtone | | XX.XXXXXX |

Frequency Stability Vs. Temperature Range

| Temp.(°C) | Ppm | ±5 | ±10 | ±15 | ±20 |
|-----------|-----|----|-----|-----|-----|
| -10 ~ +60 | | ⊘ | ⊕ | ⊕ | ⊕ |
| -20 ~ +70 | | ⊘ | ⊕ | ⊕ | ⊕ |
| -40 ~ +85 | | ⊘ | ⊘ | ⊕ | ⊕ |

⊕ Standard ⊕ Available(case by case) ⊘ Not Available

Example RFWJ20EEC1-12.000000MHz
 Crystal unit, RoHS Compliant, 13.0*4.85mm; CL=20pF; Freq. Tolerance: +/-30ppm;
 Freq. Stability: +/-30ppm; Operating Temp. Range: -20~70°C; No Special; AT
 Fundamental; Normal; RoHS Compliant; Freq. 12.000000MHz.
 **Not all combinations of options are available.