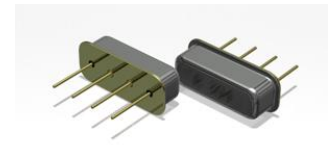


F11 Series

☑ CHF11-R315M75K-NB

Pb Free

RoHS Compliant 2002/95/EC



※ Application & Features

- RF, Wireless
- Automotive Equipment at Other
- 11.0×4.5×3.2mm Metal Package
- This specification shall cover the characteristics of 1-port SAW resonator with 315.000M used for remote-control security.

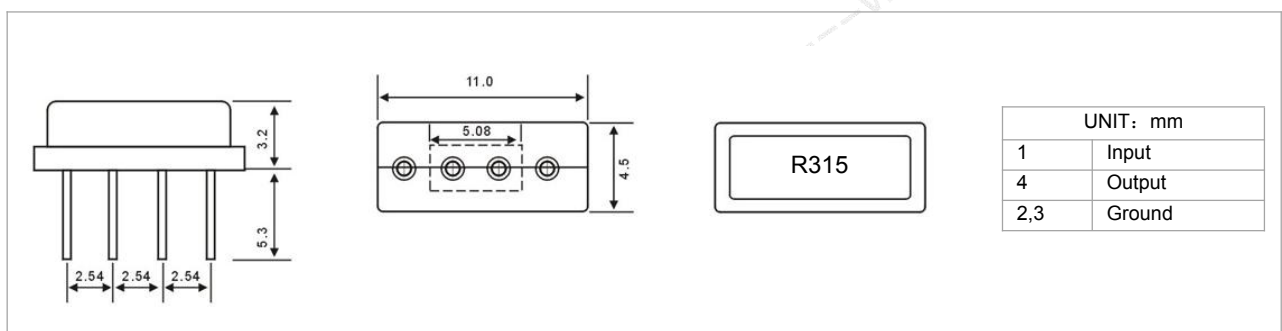
※ Maximum Rating

| Rating | | Value | Unit |
|----------------------------------|-----------|-----------|------|
| CW RF power dissipation | P | 10 | dBm |
| DC voltage between any terminals | V_{DC} | ±30 | V |
| Operating temperature range | T_A | -40 ~ +85 | °C |
| Storage temperature range | T_{stg} | -40 ~ +85 | °C |

※ Electronic Characteristics

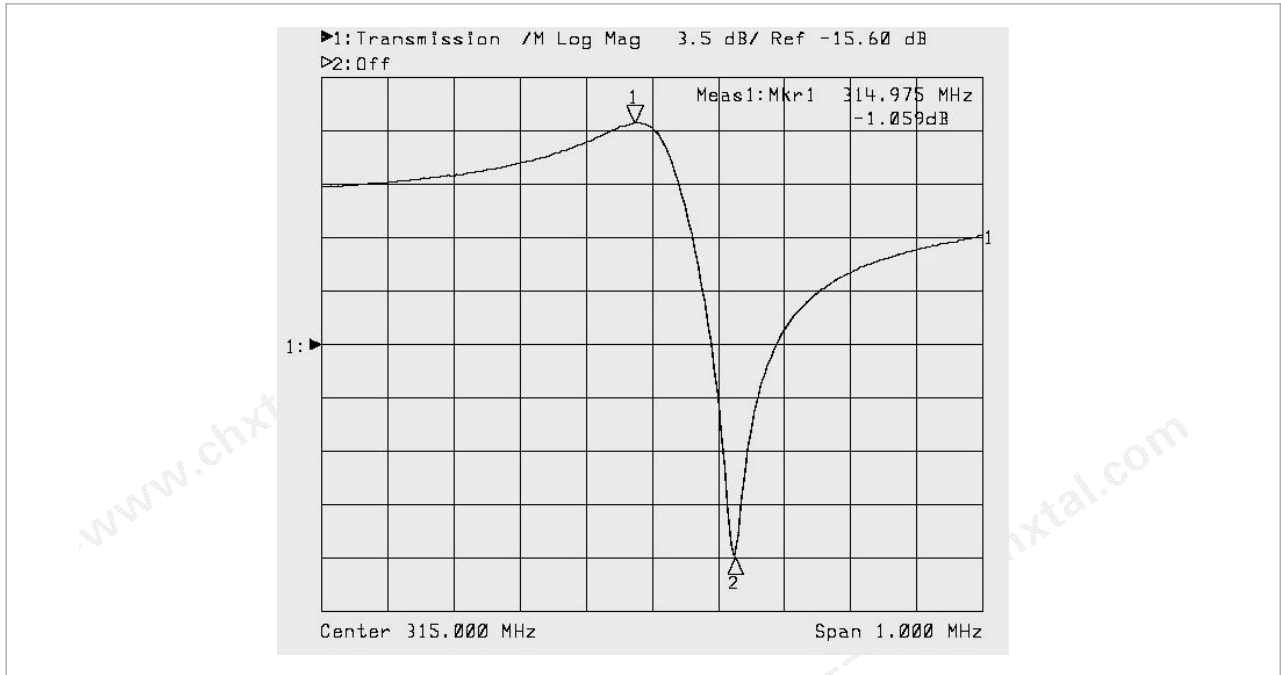
| Characteristic | | Sym | Minimum | Typical | Maximum | Unit |
|--|--------------------------------------|--------------|---------|---------------|---------|---------------------|
| Center Frequency (+25°C) | Absolute Frequency | f_c | 314.925 | 315.000 | 315.075 | MHz |
| | Tolerance from 315.000 MHz | Δf_c | | ±75 | | kHz |
| Insertion Loss | | IL | | 1.4 | 2.0 | dB |
| Quality Factor | Unloaded Q | Q_U | 8.000 | 11.90 | | |
| | 50 Ω Loaded Q | Q_L | 1000 | 1900 | | |
| Temperature Stability | Turnover Temperature | T_0 | 10 | 25 | 40 | °C |
| | Turnover Frequency | f_0 | | $f_0 \pm 2.7$ | | kHz |
| | Frequency Temperature Coefficient | FTC | | 0.032 | | ppm/°C ² |
| Frequency Aging | Absolute Value during the First Year | $ f_A $ | | ≤10 | | ppm/yr |
| DC Insulation Resistance Between Any Two Terminals | | | 1.0 | | | MΩ |
| RF Equivalent RLC Model | Motional Resistance | R_M | | 19 | 23 | Ω |
| | Motional Inductance | L_M | | 114.2958 | | μH |
| | Motional Capacitance | C_M | | 2.2358 | | pF |
| | Shunt Static Capacitance | C_0 | 2.3 | 2.6 | 2.9 | pF |

※ Mechanical Dimensions and Marking



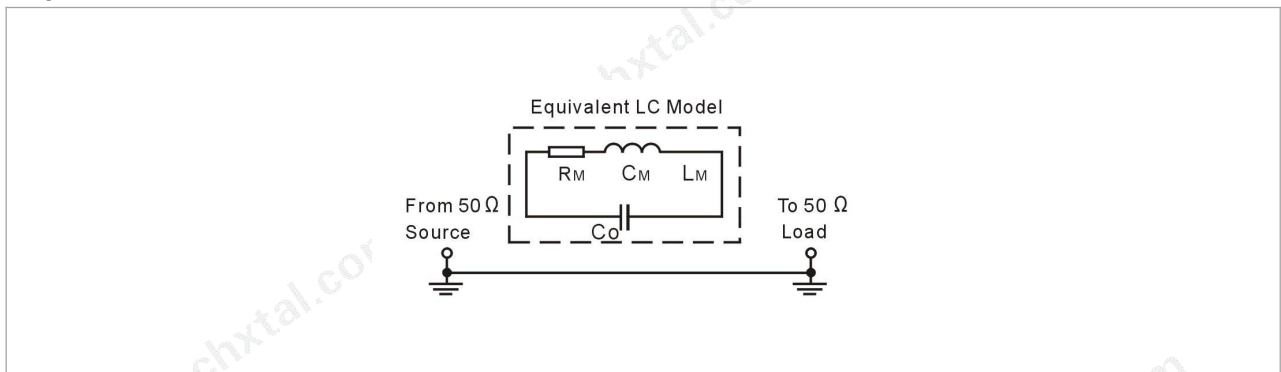
| UNIT: mm | |
|----------|--------|
| 1 | Input |
| 4 | Output |
| 2,3 | Ground |

※ Typical Frequency Response

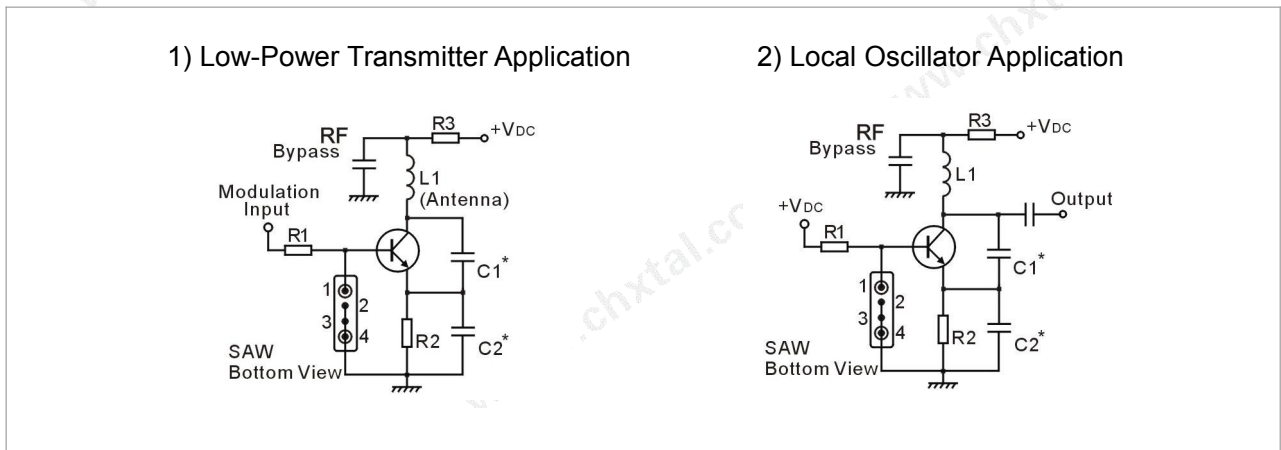


※ Equivalent LC Model

※ Test Circuit



※ Typical Application Circuits



※ Environment Characteristic

1 Thermal Shock:

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: TA=-40℃±3℃, TB=85℃±2℃, t1=t2=30min, switch time≤3min& cycle time : 100 times, recovery time: 2h±0.5h.

2 Resistance to solder heat

Submerge the device terminals into the solder bath at 260℃ ±5℃ for 10±1 sec. Then release the device into the room conditions for 4 hours. It shall meet the specifications in 2.2.

3 Solder ability

Submerge the device terminals into the solder bath at 245℃ ±5℃ for 5s, More than 95% area of the soldering pad must be covered with new solder. It shall meet the specifications in 2.2

4 The Temperature Storage:

4.1 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85℃±2℃ for 500h, recovery time : 2h±0.5h.

4.2 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the -40℃±3℃ for 500h, recovery time : 2h±0.5h.

5 Humidity test:

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature 60℃±2℃, and 90~96% RH for 500h.

6 Mechanical shock

Drop the device randomly onto the concrete floor from the height of 1m for 3 times. The resonator shall fulfill the specifications in 2.2.

7 Vibration

Subject the device to the vibration for 2 hour each in X, Y and Z axes with the amplitude of 1.5 mm at 10 to 55 Hz. The resonator shall fulfill the specifications in 2.2.

※ Remark

1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning

3 Soldering

Only leads of component may be soldered. Please avoid soldering another part of component.