



RFM Integrated Device, Inc.

## General Specification

XTL Crystal Units

### **3225 Series**

SMD 3.2 x 2.5 mm

## Frequency Range

16.000 - 80.000 MHz

## Tol/Spec

+/-3 to +/-30ppm @25C+/-3C

## Features:

- Surface Mount Hermetic Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package
- Moisture Sensitivity Level (MSL) : Level-1
- ROHS and AEC-Q200 compliance
- Compliance with BT/ WI/ NB-IOT application



## Specifications

| Item                            | Symbol | Specification                         |                          | Unit              | Remark                                 |
|---------------------------------|--------|---------------------------------------|--------------------------|-------------------|----------------------------------------|
| Frequency Range                 | f_nom  | 16000 to 80000                        | Fundamental              | KHz               |                                        |
| Overtone Order                  | OT     | 80000 to 160000                       | 3 <sup>rd</sup> overtone |                   |                                        |
| Load Capacitance                | CL     | 4~∞                                   |                          | pF                |                                        |
| Frequency Tolerance             | f_tol  | ±5~-30                                |                          | ×10 <sup>-6</sup> | 25°C±3°C                               |
| Motional Series Resistance      | R1     | Table 1                               |                          | ohm               |                                        |
| Drive Level                     | DL     | 10~500                                |                          | μW                |                                        |
| Operating Temp. Range           | T_use  | -20 ~75/-30~85                        |                          | °C                |                                        |
|                                 |        | -40~85/-40~105                        |                          | °C                |                                        |
|                                 |        | -40~125/-40~150                       |                          | °C                |                                        |
| Storage Temp. Range             | T_stg  | -40 to +150                           |                          | °C                |                                        |
| Frequency Temp. Characteristics | f_tem  | ±10//+/-15//+20//+/-30//+/-50//+/-100 |                          | ×10 <sup>-6</sup> | Freq. deviation from the value at 25°C |

### Resistance (Fundamental)

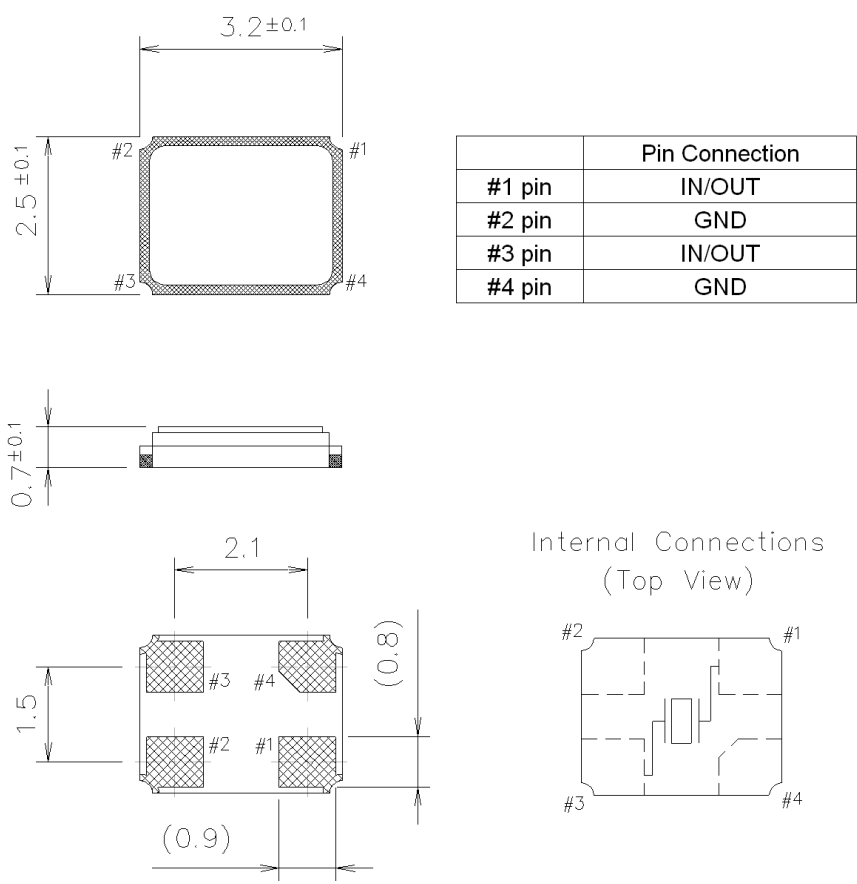
| Frequency Range | Motional Series Resistance |
|-----------------|----------------------------|
| 8000<=9000kHz   | 500 Ω max.                 |
| 9000<=10000kHz  | 300 Ω max.                 |
| 10000<=12000kHz | 150 Ω max.                 |
| 12000<=13000kHz | 120 Ω max.                 |
| 13000<=16000kHz | 100 Ω max.                 |
| 16000<=30000kHz | 80 Ω max.                  |
| 30000<=50000kHz | 60 Ω max.                  |
| 50000<=80000kHz | 40 Ω max.                  |

### Resistance (3<sup>rd</sup> overtone)

| Frequency Range   | Motional Series Resistance |
|-------------------|----------------------------|
| 50000<=80000kHz   | 120 Ω max.                 |
| 80000<=120000kHz  | 100 Ω max.                 |
| 120000<=150000kHz | 80 Ω max.                  |

# Mechanical Dimensions (mm):

## Base



## Recommended Land Pattern: (unit: mm)

Reference Footpoint

