

SMD3068 Crystal Resonator

7Z032768NW2

1. Scope:

1.1 This specification applies to the RoHS compliance quartz crystal unit with a frequency of 32.768KHz which will be used in crystal oscillator applications.



2. Construction:

2.1 Type of Quartz Resonator: SMD3068

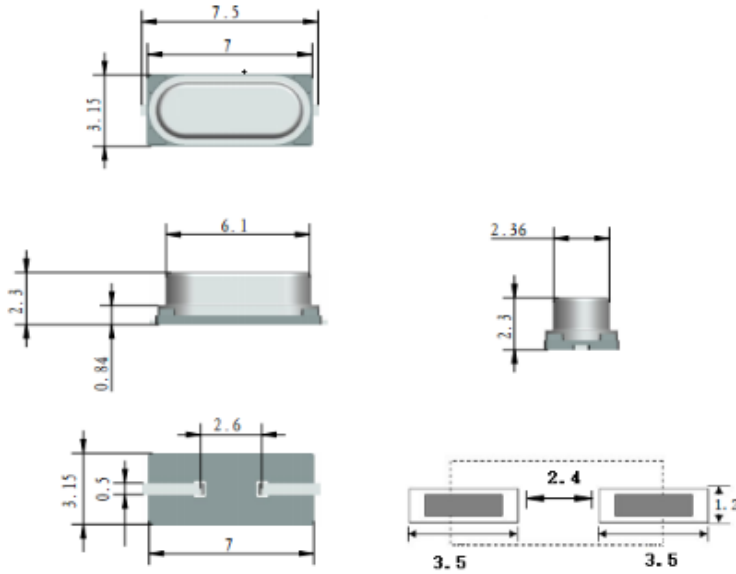
3. Electrical Characteristics

| | |
|---|---|
| 3.1 Mode of Vibration : | NT |
| 3.2 Nominal frequency(F): | 32.768KHz |
| 3.3 Load Capacitance(C _L): | 12.5PF |
| 3.4 Frequency Tolerance at 25℃ | ±20ppm |
| 3.5 Frequency Temperature Stability: | -0.034±0.006 * 10 ⁻⁶ /℃ ² Max |
| 3.6 Series Resistance(R _r): | 65 KΩ Max |
| 3.7 Quality Factor(Q): | 60K TYP |
| 3.8 Turnover Temperature(T _o): | 25℃ ± 5℃ |
| 3.9 Operation Temperature: | -20℃ ~ +70℃ |
| 3.10 Preservation Temperature: | -55℃ ~ +125℃ |
| 3.11 Shunt Capacitance(C ₀): | 1.0pF Max |
| 3.12 Motional Capacitance(C ₁): | 3.0fF Max |
| 3.13 Insulation Resistance: | 500MΩ at DC 100V±10V |
| 3.14 Drive Level: | 0.5μW Max |

Reliability Specification

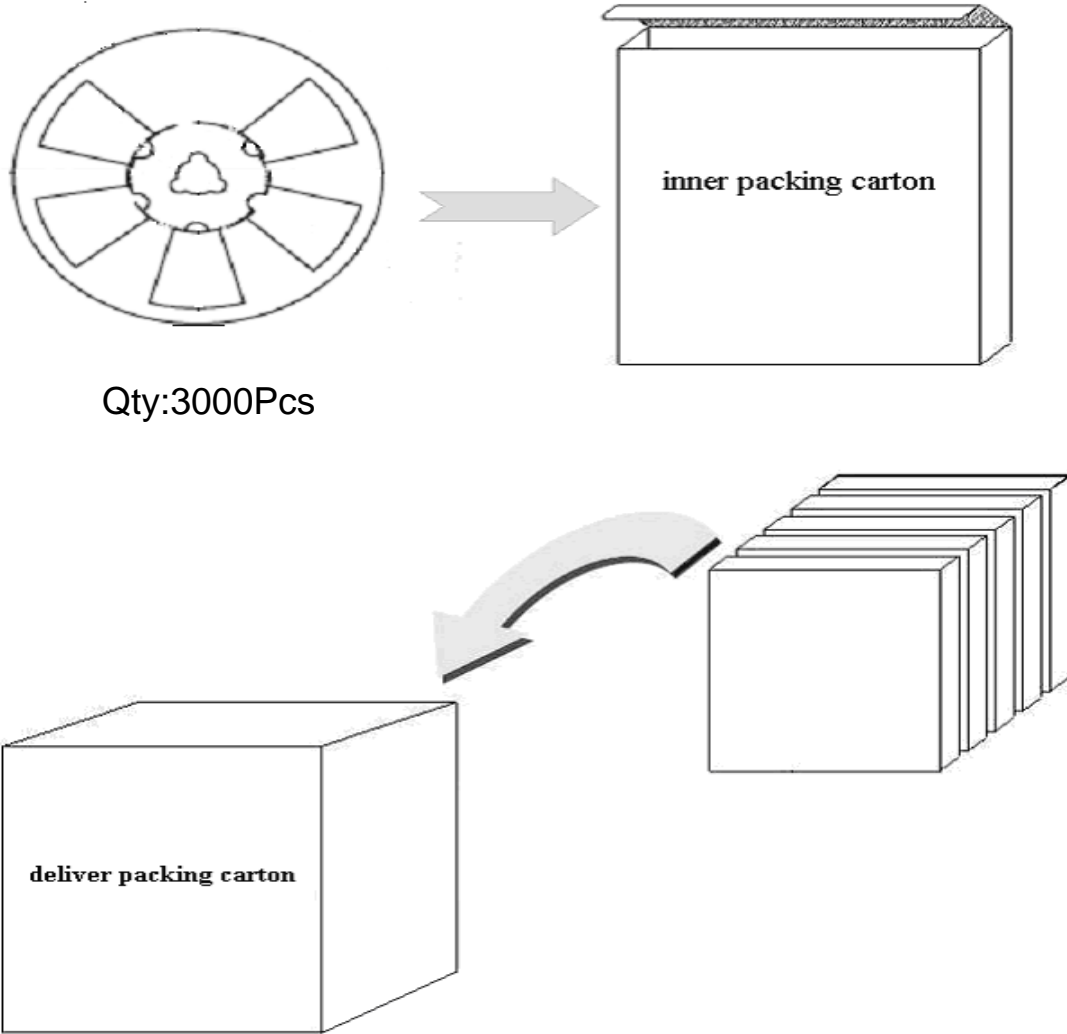
| | Item | Condition | Standard |
|----|----------------------------------|--|--|
| 1. | Drop characteristics | Free drop from 75cm height on a hard wooden board for 3 times. (Board is thickness more than 30 mm.) | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |
| 2. | Mechanical shock | Device are shocked to half sine wave (1000g) three mutually perpendicular axes each 3 times | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |
| 3. | Shake characteristics | Shake frequency 10~55Hz, cyc1~2 minutes, swing 1.5mm, direction x/y/z, all 30 minutes, test after 1 hours. | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |
| 4. | Humidity characteristics | $+85 \pm 2^\circ\text{C}$ & 90%~95% R.H. 1000 hours | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |
| 5. | Low temperature characteristics | $-40 \pm 2^\circ\text{C}$, 1000 hours, put in room temperature, test after 1 hours. | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |
| 6. | High temperature characteristics | $+125 \pm 2^\circ\text{C}$, 1000 hours, put in room temperature, test after 1 hours. | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |
| 7. | Temperature cycling | $-55 \pm 2^\circ\text{C}/30 \pm 3\text{min} \sim +125 \pm 2^\circ\text{C}/30 \pm 3\text{min}$, 100 cycles | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |
| 8. | Refluence examination | <p>1. Max 180sec 2. Max 10 sec 3. Max 80 sec 4. Max 90 sec</p> | Frequency change: $\leq \pm 10\text{ppm}$ Rr as specification |

Package Outline Dimensions



Unit: mm

Packing Specification



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