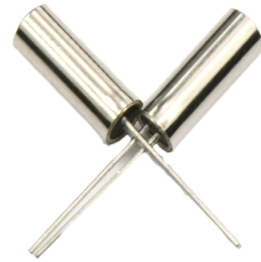


HD206 Quartz Crystal

7S032768NW2

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.



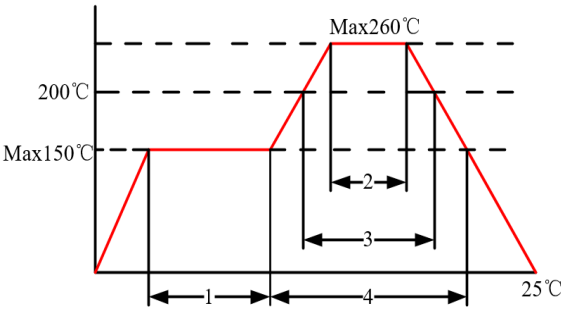
2. Construction:

- 2.1 Type of Quartz Resonator: HD206

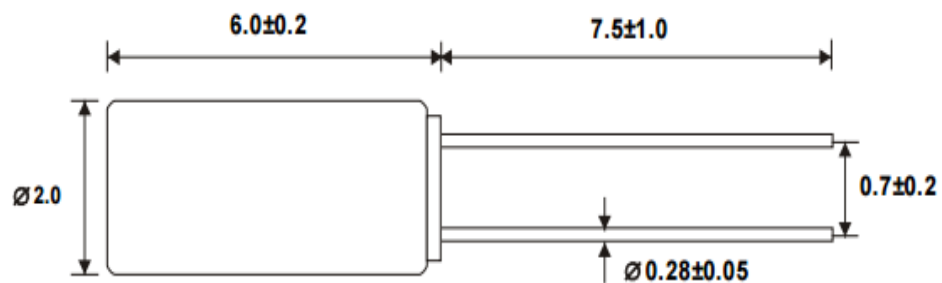
3. Electrical Characteristics

- | | |
|--|---|
| 3.1 Mode of Vibration: | +2°X-cut , Fundamental |
| 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: | -0.04* 10 ⁻⁶ /℃ ² Max |
| 3.6 Series Resistance(R _r): | 50 KΩ Max |
| 3.7 Quality Factor(Q): | 60K TYP |
| 3.8 Turnover Temperature(T _o): | 25℃ ± 5℃ |
| 3.9 Operation Temperature: | -40℃ ~ + 85℃ |
| 3.10 Preservation Temperature: | -55℃ ~ +125℃ |
| 3.11 Shunt Capacitance(C ₀): | 0.8PF Typical |
| 3.12 Capacitance Ratio(C ₀ /C ₁): | 500 Typical |
| 3.13 Insulation Resistance: | 500MΩ at DC 100V±10V |
| 3.14 Drive Level: | 1μW |

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: $\leq \pm 5\text{ppm}$ Rr as specification
2	Mechanical shock	Device are shocked to half sine wave (1000g) three mutually perpendicular axes each 3 times	Frequency change: $\leq \pm 5\text{ppm}$ 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: $\leq \pm 5\text{ppm}$ Rr as specification
4.	Humidity characteristics	+40 $\pm$ 2 $^{\circ}\text{C}$ & 90%~95% R.H. 250 hours	Frequency change: $\leq \pm 5\text{ppm}$ Rr as specification
5.	Low temperature characteristics	-40 $\pm$ 2 $^{\circ}\text{C}$, 250 hours, put in room temperature, test after 1 hours.	Frequency change: $\leq \pm 5\text{ppm}$ Rr as specification
6.	High temperature characteristics	+85 $\pm$ 2 $^{\circ}\text{C}$, 250 hours, put in room temperature, test after 1 hours.	Frequency change: $\leq \pm 5\text{ppm}$ Rr as specification
7.	Temperature cycling	-30 $\pm$ 3 $^{\circ}\text{C}$ /30 $\pm$ 3 min~+85 $\pm$ 2 $^{\circ}\text{C}$ /30 $\pm$ 3min, 5 cycles	Frequency change: $\leq \pm 5\text{ppm}$ Rr as specification
8.	Refluence examination	 1.Max 180sec 2. Max 10 sec 3.Max 80 sec 4.Max 90 sec	Frequency change: $\leq \pm 5\text{ppm}$ Rr as specification

Package Outline Dimensions



Packing Specificatio

