



江苏长晶科技股份有限公司
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

产 品 规 格 书

SPECIFICATIONS FOR PRODUCT

产品类型 TYPE : Quartz Crystal

产品规格 SPEC : 32.768KHz/3215/7PF/20PPM

产品型号 P/N : CJK07-327680720B20

日期 DATE : 2022/01/18

核准及签名			部门 DEPT. 频率器件事业部
R&D APPR. SIGNATURED			
拟制 ISSUE	审核 CHECK	批准 APPROVAL	
Ivan 2022/01/18	Abbey 2022/01/18	Ken 2022/01/18	

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CJ-310 Quartz Crystal

CJK07-327680720B20

1. Scope:

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

Construction:

2.1 Type of Quartz Resonator: CJ-310

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):	7PF
3.4 Frequency Tolerance at 25℃	±20ppm
3.5 Series Resistance(R _r):	70 KΩ Max
3.6 Quality Factor(Q):	60K TYP
3.7 Turnover Temperature(T _o):	25 ℃± 5℃
3.8 Temperature Coefficient(K):	-0.035±0.006 ppm/℃ ²
3.9 Operation Temperature:	-40 ℃~ +85℃
3.10 Preservation Temperature:	-55 ℃~ +125℃
3.11 Shunt Capacitance(C ₀):	1.5PF Typical
3.12 Aging 1st Year(Δf /f):	±3 ppm max.
3.13 Shock Resistance:	±5 ppm max.
3.14 Capacitance Ratio(C ₀ /C ₁):	520 Typical
3.15 Insulation Resistance:	500MΩ at DC 100V±15V
3.16 Drive Level:	1 μ W

Reliability Specifications

4. Reliability Specifications

This is the quality control and quality assurance and reliability tests performance data for the RoHS/SONY compliance 32.768KHz CJ-310 Quartz Crystal.

related to the specification and approval sheet provided by JSCJ .

Standard test condition (TEMP.: 20±5°C. Relative humidity: 65±20%)

For any discrepancy in GO/NG, test will be done at TEMP.25±2°C, R.H. 65±5%.

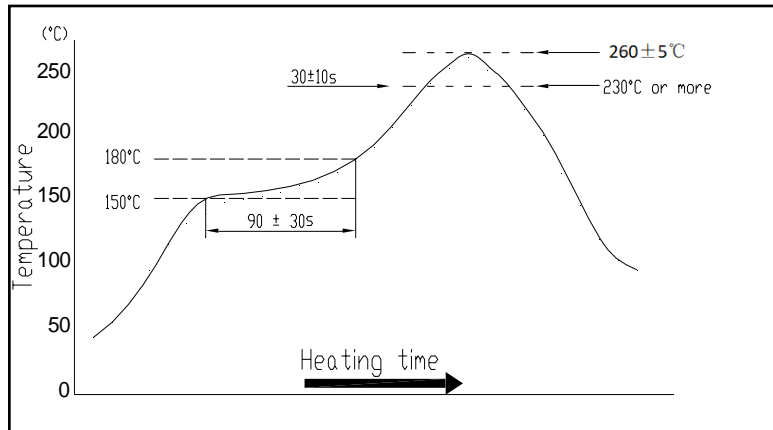
NO.	PROCESS	SPECIFICATION	TEST METHOD
4.1	Temperature Cycle (GB/T 2423.22-2002, Method Nb)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms.	10 cycles from -55°C to 125°C. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.2	Low Temperature Storage (GB/T 2423.1-2001, Method Aa)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms.	Spending 72 hrs at -55°C±3°C constant temperature. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.3	High Temperature Storage (GB/T 2423.2-2001, Method Ba)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms.	Spending 72 hrs at 125°C±3°C constant temperature. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.4	Humidity (GB/T 2423.3-2006, Method Cab)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms.	Spending 96 hrs at 40 °C ± 3 °C, with 93 %R.H, Then keep the DUT in dry oven at 40 ± 5 °C for 24 hour. Measurement taken after DUT being left at room temperature for 1 to 2 hours.
4.5	Vibration (GB/T 2423.10-1995, Method Fc)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms.	Apply 0.75mm vibration at sweep frequency 10~500 Hz, 10 cycles in each direction of 3 axis. Measurement taken after 1 hour.
4.6	Shock (GB/T 2423.5-1995, Method Ea)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms. and exhibit no visible damage.	Peak 1000m/s ² , normal width 6ms half sine wave form, 3.7m/s, 3 perpendicular axis of samples, 3 cycles / direction, total 18 cycles. Measurement taken after 1 hour.
4.7	Drop (GB/T 2423.8-1995, Method Ed)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms. and exhibit no visible damage.	Free drop to the steel plate with thickness of 3 mm from 0.75 m heights for 3 times.
4.8	Solderability (IEC60068-2-58, Test Td:)	Terminals shall be covered more than 95% with solder.	Passed through the re-flow oven under the following condition. Preheat 150 to 180°C for 60 to 120sec, and soldering time for 20s ± 5s at 235°C, peak soldering time for 10s ± 1s between 240 and 250°C. There is no need to do functional test. 8-12X magnifier.
4.9	Terminal Strength (JIS-C-6429 Method 1 & 2)	No visible damage	Mount on a glass-epoxy board (100x50x1.6mm), then bend to 2mm displacement (velocity 1mm/sec) and keep for 5 seconds. or pulling force 0.5kg for at least 60 seconds.
4.10	Resistance to Soldering Heat (IEC60068-2-58, Test Td: Table 4)	Frequency change after test $\leq \pm 5$ ppm. Resonance resistance change after test ≤ 10 ohms.	Passed through the re-flow oven under the following condition. Preheat 150 to 180°C for 60 to 120sec, and soldering time for 60s max at 235°C, peak soldering time for 20s max at 265°C max. Measurement taken after DUT being left at room temperature for at least 2 hours.
4.11	OTHERS		

Recommended Reflow soldering conditon

5. Recommended Reflow soldering condition (SMD)

Solder profile

Peak: $260 \pm 5^\circ\text{C}$ Soldering zone: 230°C or more, $30 \pm 10\text{s}$. Pre-heating zone 1: $150 \sim 180^\circ\text{C}$, $90 \pm 30\text{s}$



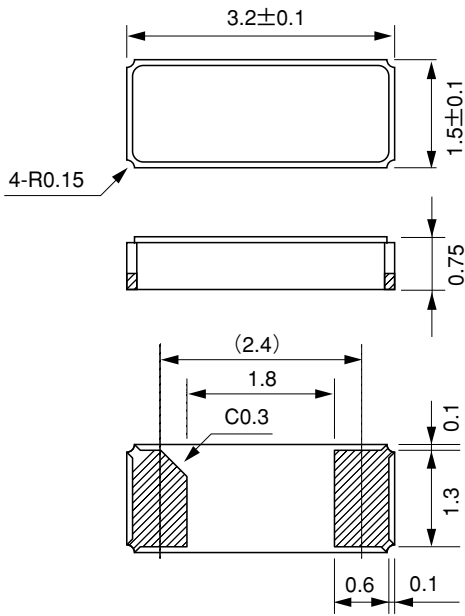
Temperature profile for reflow soldering

6. Soldering iron method

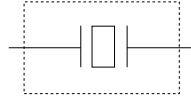
Bit temperature: $350 \pm 10^\circ\text{C}$ Application time of soldering iron: $3+1\text{ s}$. For other procedures, refer to IEC 60068-2-20.

Package Outline Dimensions

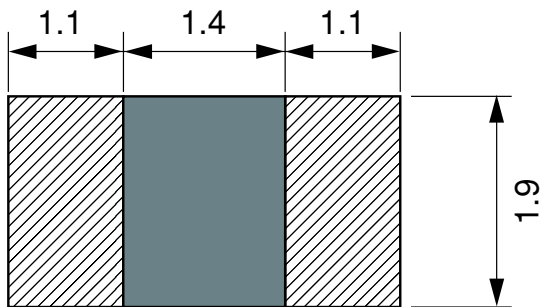
Units:mm



Connection



Suggested Pad Layout



NOTICE

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