

承 认 书

SPECIFICATION FOR APPROVAL

客户名称: Customer _____

货 名: Description _____ 3215 石英晶体谐振器

客户料号: Part No _____

物料编号: Code No _____ S3132768092070

频 率: Frequency _____ 32.768KHz

日 期: Date _____ 2023 年 0 4 月 18 日

备 注: RoHS compliance with Directive (EU) 2015/863

制作(Prepare by)	检查(Check by)	批准 (Approve by)
江丹娜	甘瑛	张刚

客户批准 Approve by customer	
批准日期 Approval date	

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Tel: 86-755-83048260

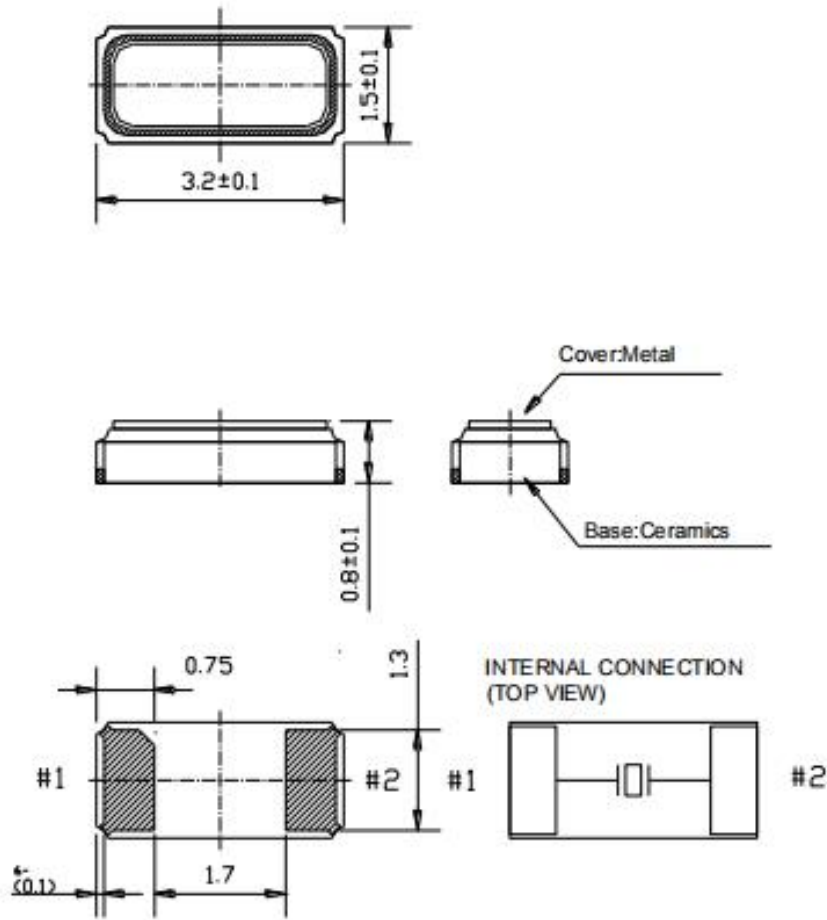
86-755-83048290

Fax: 86-755-83048280

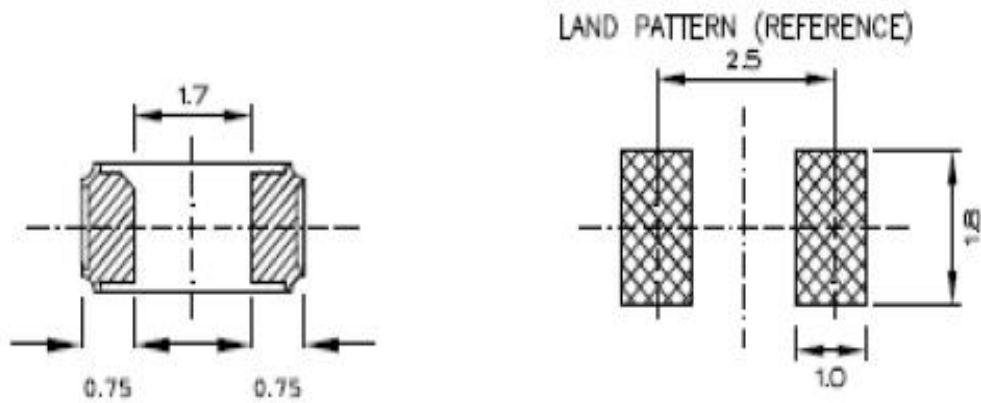
1.Specifications

Item	Symbol	MIN.	TYP.	MAX.	Unit	Notes
Nominal Frequency	F ₀	32.768			KHz	
Frequency Tolerance	ΔF/F ₀	-20		20	ppm	Refer to @25±3℃
Load Capacitance	CL		9		pF	
Drive Level	DL		0.1	1	uW	
Equivalent Series Resistance	ESR			70	KΩ	Refer to @25±3℃
Shunt Capacitance	C ₀	0.6	0.9	1.2	pF	
Insulation Resistance	IR	500			MΩ	@DC 100 Volt
Turnover Temperature	T _P	20	25	30	℃	
Frequency V.S Temperature Curve	K		-0.036		ppm/℃ ²	
Operating Temperature Range	-	-40		85	℃	
Storage Temperature Range	-	-50		125	℃	
Aging	Δf/f	-5		5	ppm	Per Year

2.Dimensions

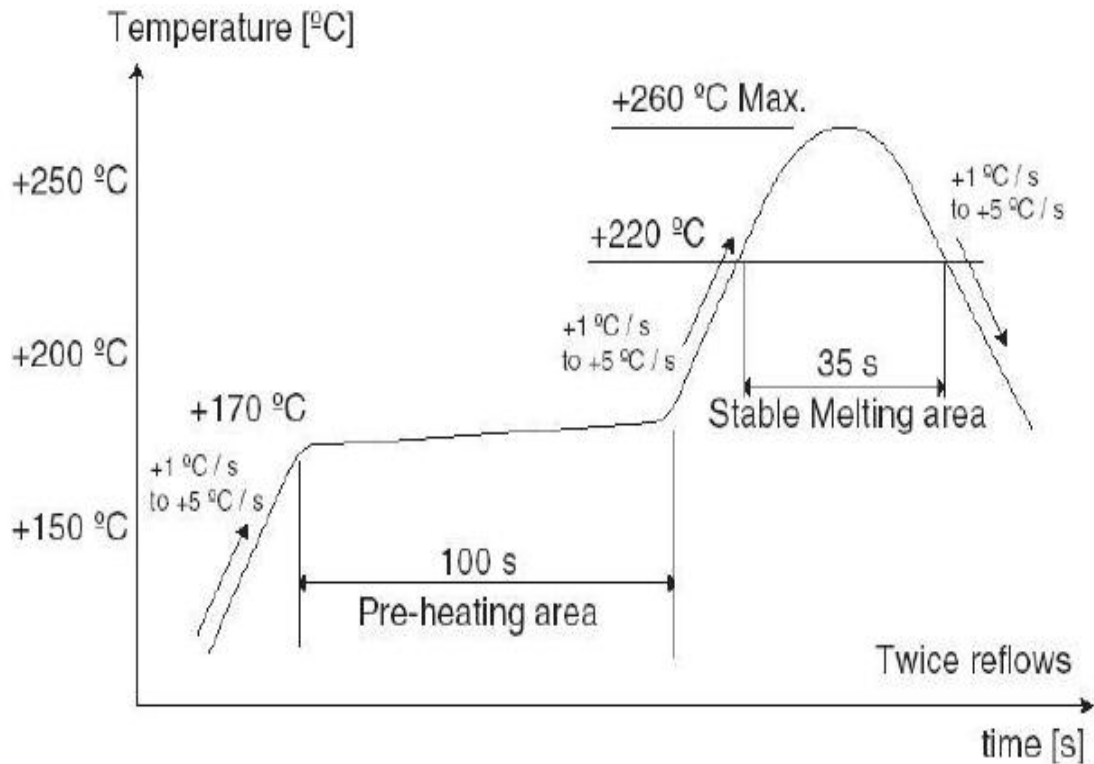


3.Recommended soldering pattern

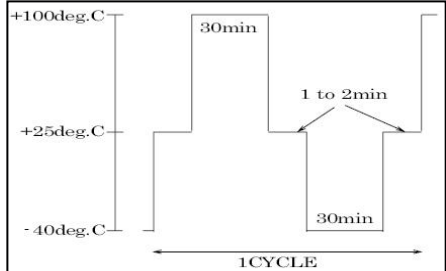


4. Recommended Reflow Profile

- Per heating temperature: +170°C
- Peak temperature must not exceed =260°C
- And the duration of over +220°C should be 35s

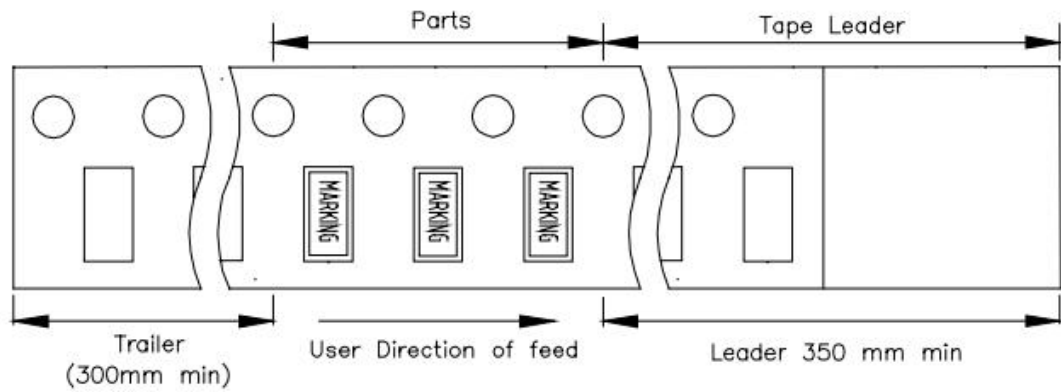
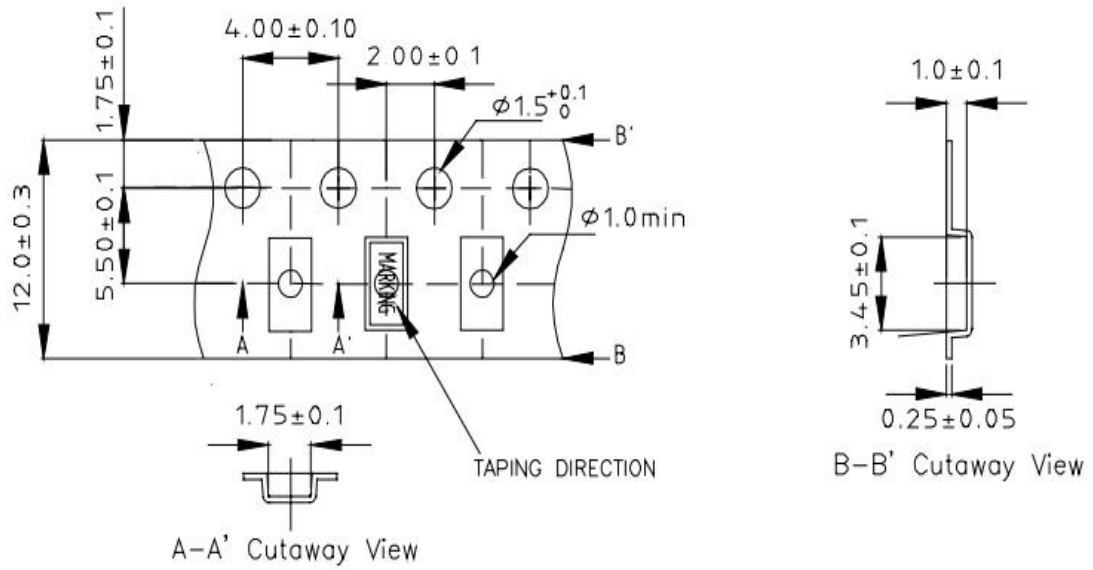


5. Reliability specifications

Test Items	Test Method and Condition	Requirements
Vibration	(1)Vibration Frequency 10 to 55Hz (2)Vibration Amplitude 1.5mm (3) Cycle Time 1-2min(10-55-10Hz) (4)Direction X.Y.Z (5)Duration 2h/each direction	Frequency Change:±10ppm Max. Resistance Change:±15% or 5kohm Max.
Shock	3 Times free drop from 75cm height to hard wooden board of thickness more than 30mm	Frequency Change:±10ppm Max. Resistance Change:±15% or 5kohm Max.
Hermetic seal	Helium leak detector Checked:before the molded crystal units	less than 1×10^{-7} mbar.l/sec.
Solder ability	Dip the leads of crystal units into the solution (7-10%) of rosin 3±0.5s,then dip it into the tank 5-10s. Temperature of solder melted tank is 245°C ±5°C	The dipped surface of the leads should be at least 95% covered with continuous new solder coating
High temperature	240 hours at +85°C ± 2°C After 1-2hours past at room temperature from following	Frequency Change:±10ppm Max. Resistance Change:±25% or 10kohm Max.
Low temperature	240 hours at -20°C ±2°C After 1-2hours past at room temperature from following test.	Frequency Change:±10ppm Max. Resistance Change:±15% or 5kohm Max.
Humidity	240 hours at +40°C ±2°C,relative humidity 90-95% After 1-2hours past at room temperature from following	Frequency Change:±10ppm Max. Resistance Change:±25% or 10kohm Max.
Temperature cycle	After supplying the following temperature cycle(50cycles) 	Frequency Change:±10ppm Max. Resistance Change:±25% or 10kohm Max.

6、Packaging standard

1. CARRIER TYPE



2. REEL : 3000PCS

