

# 承 认 书

## SPECIFICATION FOR APPROVAL

客户名称: Customer \_\_\_\_\_

货 名: Description FC-135 石英晶体谐振器

客户料号: Part No \_\_\_\_\_

物料编号: Code No SMD3100327122090 (2P)

频 率: Frequency 32.768KHz

日 期: Date 2020-05-22

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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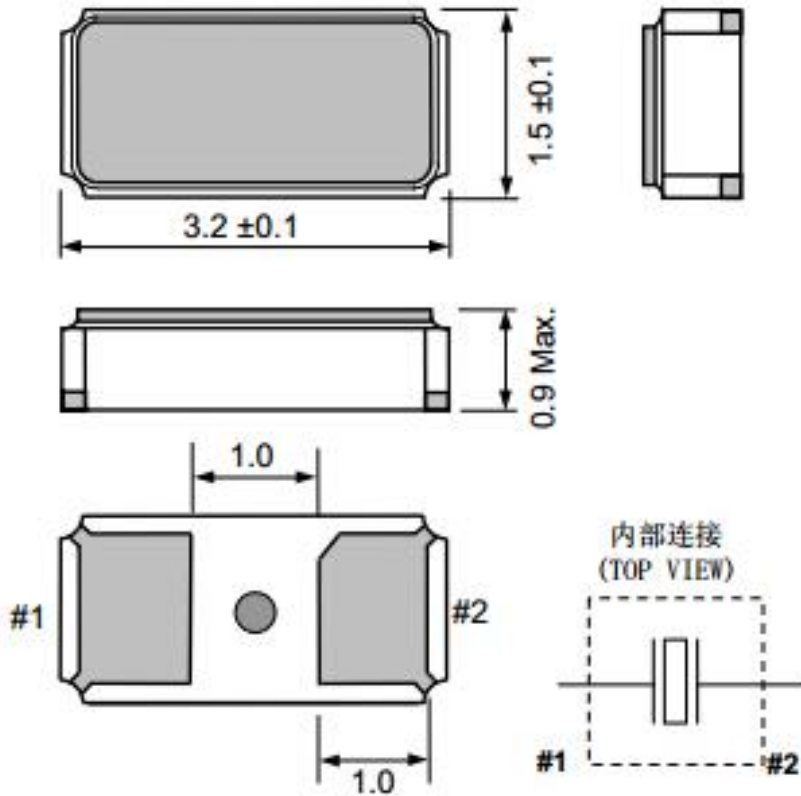
86-755-83048290

Fax: 86-755-83048280

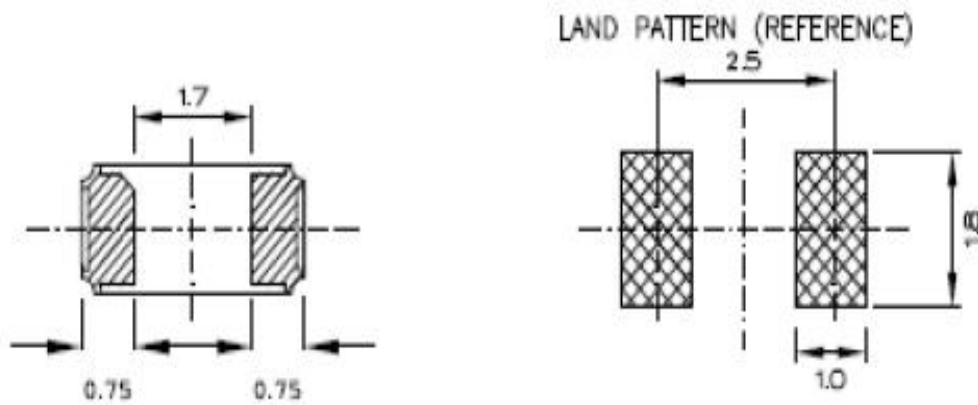
## 1.Specifications

Item	Symbol	MIN.	TYP.	MA X.	Unit	Notes
Nominal Frequency	F <sub>0</sub>	32.768			khz	
Frequency Tolerance	ΔF/F <sub>0</sub>	-20		20	ppm	Refer to @25±3°C
Load Capacitance	CL		12.5		pF	
Drive Level	DL		0.1	1	uW	
Equivalent Series Resistance	ESR			90	KΩ	Refer to @25±3°C
Shunt Capacitance	C <sub>0</sub>	0.6	0.9	1.2	pF	
Insulation Resistance	IR	500			MΩ	@DC 100 Volt
Turnover Temperature	T <sub>P</sub>	20	25	30	°C	
Frequency V.S Temperature Curve	K		-0.036ppm × 10 <sup>-6</sup>		ppm/°C <sup>2</sup>	
Operating Temperature Range	-	-40		85	°C	
Storage Temperature Range	-	-50		125	°C	
Aging	Δf/f	-5		5	ppm	Per Year

2. Dimensions



3. Recommended soldering pattern

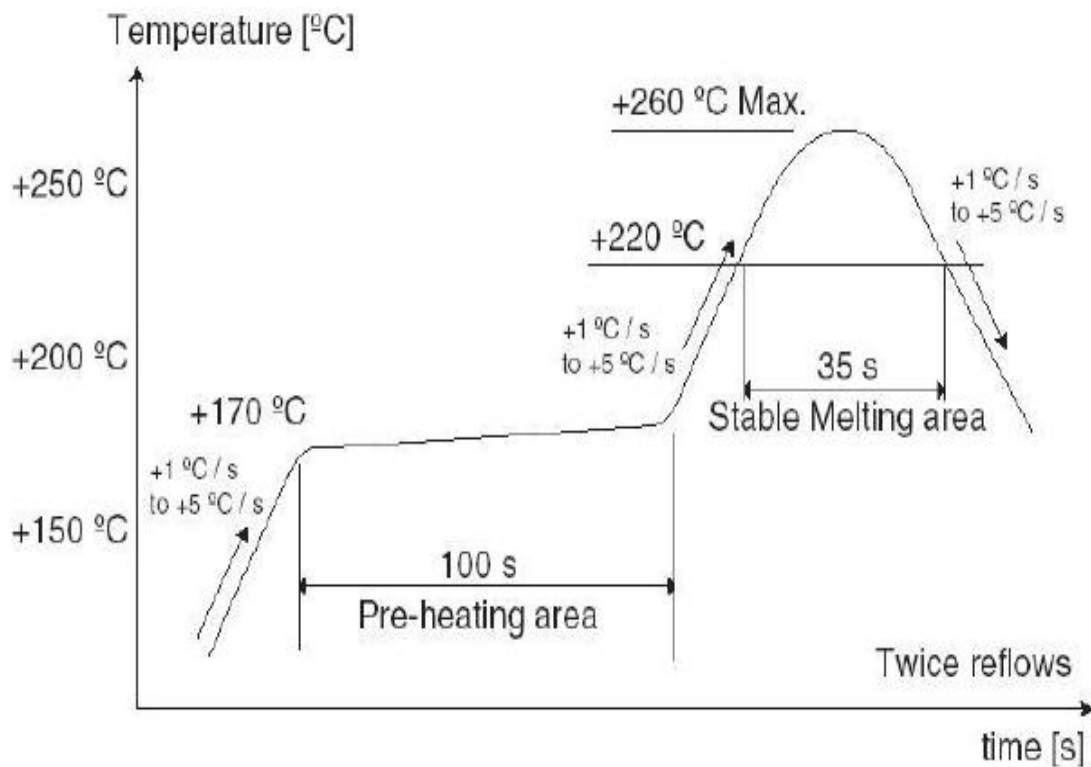


#### 4. Recommended Reflow Profile

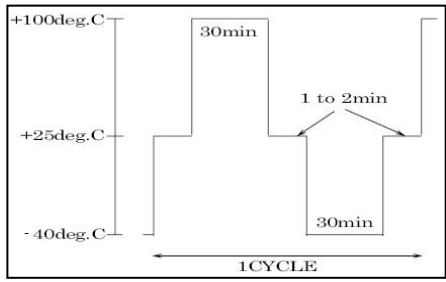
Per heating temperature: +170°C

Peak temperature must not exceed =260°C

And the duration of over +220°C should be 35s

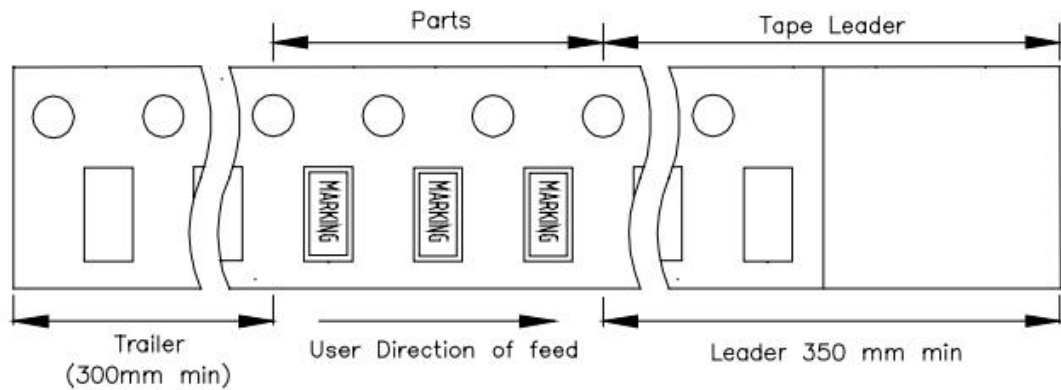
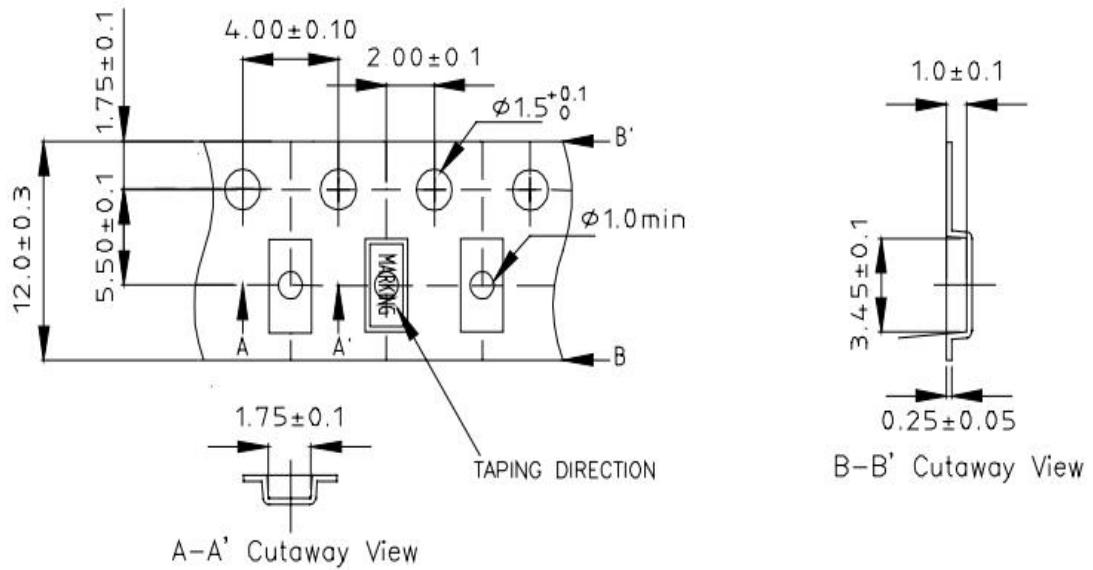


### 5. Reliability specifications

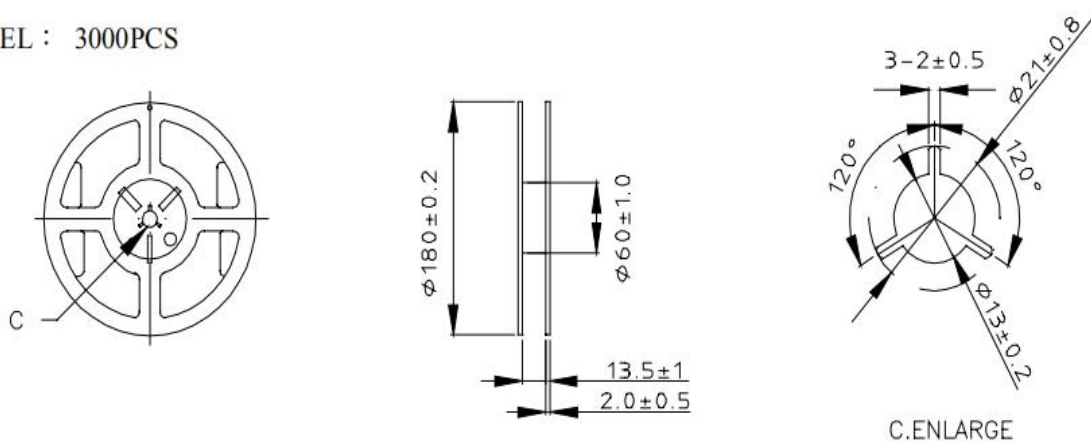
Test Items	Test Method and Condition	Requirements
Vibration	(1)Vibration Frequency 10 to 55Hz (2)Vibration Amplitude 1.5mm (3) Cycle Time 1-2min(10-55-10Hz) (4)Direction X.Y.Z (5)Duration 2h/each direction	Frequency Change:±10ppm Max. Resistance Change:±15% or 5kohm Max.
Shock	3 Times free drop from 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 $1 \times 10^{-7}$ 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



单击下面可查看定价，库存，交付和生命周期等信息

[>>JGHC\(晶光华\)](#)