

承 认 书

SPECIFICATION FOR APPROVAL

客户名称 Customer: _____

货 名 Description: _____ Y2*6 石英晶体谐振器

客户料号 Part No: _____

物料编号 Code No: _____ Y206327681252075

频 率 Frequency: _____ 32.768KHZ

日 期 Date: _____ 2023-04-19

备 注 Note: RoHS compliance with Directive (EU) 2015/863 (符合指令(EU) 2015/863 的 RoHS 要求)

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	

Add:广东省深圳市华发北路桑达工业区桑达雅苑 7P

7 P Sangda Yayuan Huafa North Road, Futian District, Shenzhen, Guangdong

Tel: 86-755-83048260

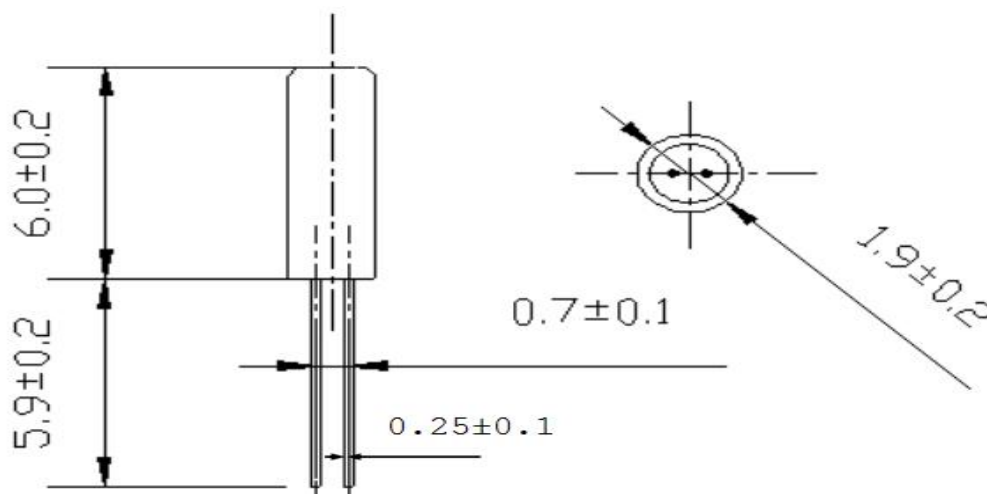
86-755-83048290

Fax: 86-755-83048280

1、 Specifications (规格)

1	规格型号 Holder Type	Y2*6
2	标称频率 Nominal Frequency	32.768KHz
3	振动模式 Mode of Oscillation	基频
4	调整频差 Frequency Tolerance at 25℃	±20ppm
5	温度频差 Temperature Frequency Stability	-0.04ppm/deg. C ² Max.
6	工作温度 Operating Temperature Range	-20~70℃
7	贮存温度 Storage Temperature Range	-40~85℃
8	负载电容 Load Capacitance	12.5pF
9	静电容 Shunt capacitance	≤3pF
10	等效电阻 Equivalent Series Resistance	40 K Ω Max
11	激励功率 Drive Level	0.1uW
12	绝缘阻抗 Insulation Resistance	500MΩ min./DC100V
13	年老化率 Aging	±3ppm/First year

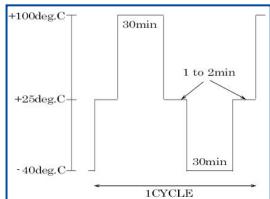
2.Dimensions 尺寸 (unit:mm)



3.Suggested soldering

- 3.1 Not recommended reflow soldering (不建议回流焊) ;
- 3.2 lead wire should be soldered within 3seconds with the iron heated to a temperature no higher than 380℃ ; (手动焊接温最高 380℃ , 焊接时间不超过 3 秒)
- 3.3 in sold-dip mounting,ti should be soldered with 10 seconds no higher than 260℃ (焊料的浸焊温度 260℃ 不超过 10 秒) .

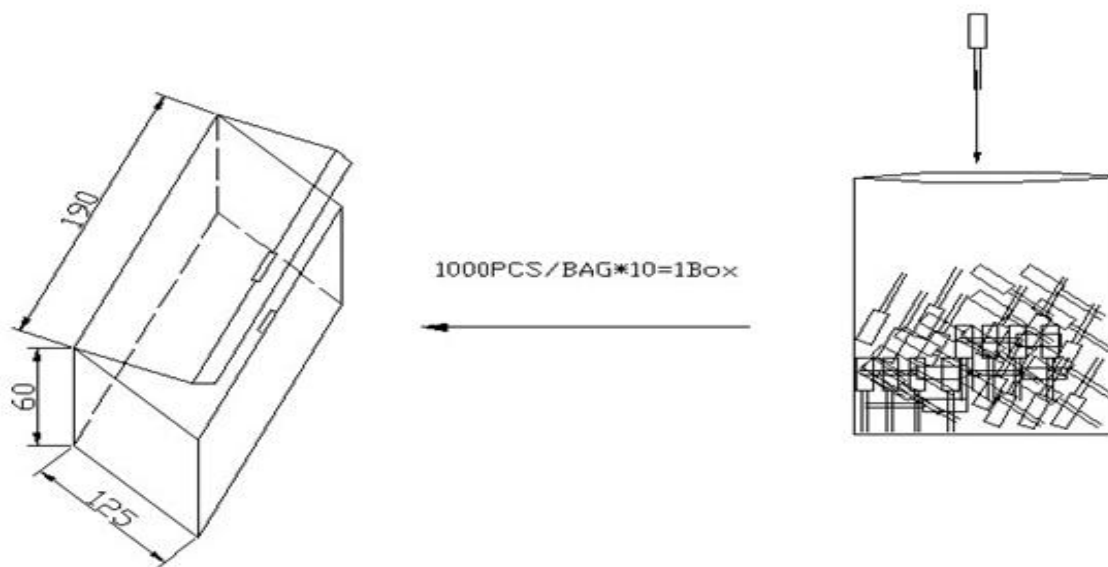
4、Reliability specifications (可靠性规范)

NO (序号)	Item (项目)	Condition (条件)	Standard (标准)
1.	Vibration (振动)	(1)Vibration Frequency (振动频率) 10 to 55Hz (2)Vibration Amplitude (振动振幅) 1.5mm (3) Cycle Time (周期时间) 1-2min(10-55-10Hz) (4)Direction (方向) X.Y.Z (5)Duration (持续时间) 2h/each direction (每个方向)	Frequency Change:±5ppm Max. 频率变化量: ±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大
2.	Shock (震动)	3 Times free drop from 75cm height to hard wooden board of thickness more than 30mm (从 75cm 高度自由落体 3 次至 30mm 以上厚硬木板)	Frequency Change:±5ppm Max. 频率变化量: ±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大
3.	Hermetic seal (气密封)	Helium leak detector (氦检漏仪) Checked:before the molded crystal units	less than 1×10^{-7} mbar.l/sec.
4.	Solder ability (可焊性)	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 (将晶体单元引线浸入松香溶液中 (7-10%) 3±0.5s, 然后将其浸入槽中 5-10s. 焊料熔化槽温度为 245°C±5°C)	The dipped surface of the leads should be at least 95% covered with continuous new solder coating
5.	High temperature (高温存储)	96 hours at +100°C±2°C 高温温度: +100°C ± 2°C, 时间: 96 个小时 After 1-2hours past at room temperature from following test. (在室温下经过 1-2 小时后进行以下测试)	Frequency Change:±5ppm Max. 频率变化量: ±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大
6.	Low temperature (低温存储)	72 hours at -40°C±2°C 低温温度: -40°C ± 2°C, 时间: 72 个小时 After 1-2hours past at room temperature from following test. (在室温下经过 1-2 小时后进行以下测试)	Frequency Change:±5ppm Max. 频率变化量: ±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大
7.	Humidity (湿度)	96 hours at +40°C±2°C, relative humidity 90-95% After 1-2hours past at room temperature from following test. (在室温下经过 1-2 小时后进行以下测试)	Frequency Change:±5ppm Max. 频率变化量: ±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大
8.	Temperature cycle (温度循环)	After supplying the following temperature cycle (50cycles) 高低温, 温度循环条件如下(50 次循环) 	Frequency Change:±5ppm Max. 频率变化量: ±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大

9.	Salt spray test (盐雾试验)	On the basis of GB/T10125-1997 依据 GB/T10125-1997	Frequency Change:±5ppm Max. 频率变化量: :±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大
10.	Lead strength (引线强度)	In the lead 2.00 Kg tensile force was applied at the end to keep more than 5 seconds 在引线末端施加 2.00 Kg 的拉力, 保持 5 秒以上	Frequency Change:±5ppm Max. 频率变化量: :±5ppm 最大 Resistance Change: 5kohm Max. 电阻变化量: 5kohm 最大

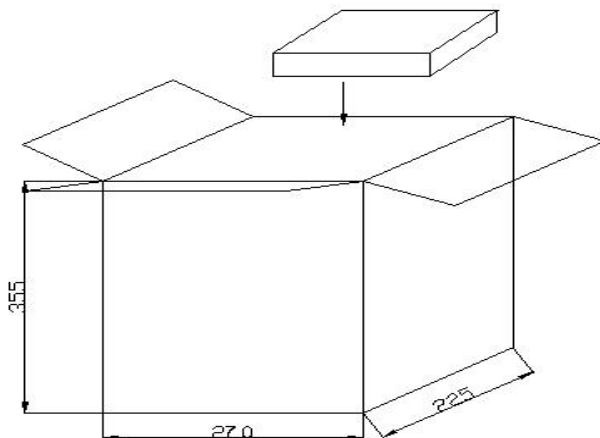
5、Packaging standard (包装标准)

5.1 Dimension of Inside Package (内包装尺寸图)



5.2 Dimensions of outside Package (外包装尺寸图)

10 inner box=1 outer box



6、Handling Notice for Standard Tuning Fork Crystal (Cylindrical Type)

音叉晶体(圆柱形)加工过程中注意事项

6.1. Shock resistance (耐冲击性)

It may deteriorate the characteristics or cause of no oscillation if excess physical shock given. Please be careful not to drop. Please use under condition to minimize the shocks as much as possible.

如施加过大的冲击,有可能引起特性的恶化或不发振。要充分注意避免发生跌落等。请尽可能在抑制了冲击的条件下使用

Please review the conditions if it is used by auto mounting or after the conditions are changed.

如果是自动安装使用,或在条件改变后使用,请验证使用条件

6.2. Heat and humidity resistance in storage (贮存时耐热、防潮)

Storing the crystal products under higher or lower temperature or high humidity for a long period may deteriorate the characteristics of crystal units.

将晶振长期存放在高温、低温或高湿环境下,会使晶振电性能变差

Please store and use the crystal products at the normal temperature and humidity.

请在正常温度和湿度下存放和使用石英晶振产品。

6.3. Solder heat resistance (焊锡耐热性)

Standard type crystal products use Material have a 230°C melting point. Heating up the package more than 230°C may deteriorate the characteristics or cause of no oscillation the products. If the crystal products need to be soldered at temperature of more than +230°C, please study heat-resistance products or SMD products.

标准型晶体产品使用的材料有 230°C 的熔点。加热包装超过 230°C 可能会恶化特性或导致产品无振荡。如果晶体产品需要在 +230°C 以上的温度下焊接,请使用耐热产品或 SMD 产品

Please review the condition or consult us about flow solder process.

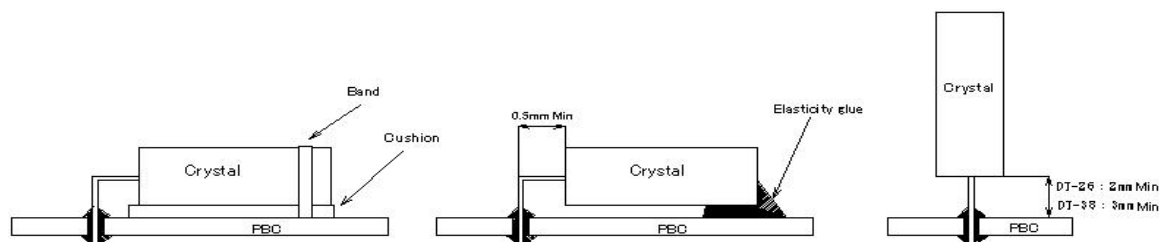
请检查条件或咨询我们关于波峰焊接工艺

6.4. Mounting method to PCB (PCB 安装方法)

Fix the units firmly if laid condition on circuit board is required.

Especially under the vibrating condition, insert shock absorber between the unit and circuit board, or fix the unit with elasticity glue (silicone applied) onto the board. If soldering the unit at standing condition is required, it is suggested to keep it away from a circuit board more than 2mm.

音叉型晶振横向倒放时,请充分固定到电路板上。特别是振动的部位,如图所示请在电路板与振动物子间放入缓冲材料,或用弹力较好的粘接剂(硅胶等)进行固定。另外,请避免在底座玻璃部涂粘接剂。直立晶振使用时,我们建议振动物子与电路板间隔开 2x6 型号的隔开 2mm 以上。



6.5. Lead process (引线加工)

When the lead needs to be cut please maintenance the cutter. When the lead needs to be bent or

repaired please be careful not to giving excess pressure at the root of the lead to avoid crack of the hermetic seal glass. Also please be careful not to giving excess pressure at sealing to avoid sealing tightness deteriorate. Leave more than 0.5 mm of lead from the case.

当引线需要切割时，请维护刀具。当需要弯曲或修复导线时，请注意不要在引线根部施加过多的压力，以免造成密封玻璃破裂。请不要直接将焊料涂在包装上，因为这可能会导致特性退化。剪脚产品需预留出 0.5 毫米以上的引线

6.6 ultrasonic soldering (超声波焊接)

Tuning fork crystals resonate at frequency bands that are close to the washing frequency of ultrasonic cleaning machines and this may cause resonance deterioration of the crystal. Therefore the use of ultrasonic cleaning machines to clean tuning fork crystals should be avoided. After applying ultrasonic cleaning, the functionality of crystals should be verified by testing the performance of the end product.

音叉晶体用超声波清洗机会产生频率共振，这可能会导致晶振电性能参数不良。因此应避免使用超声波清洗机清洗音叉晶体。应用超声波清洗后，需重新测试分选确保晶振品质。

6.7. Drive level (激励功率)

Applying excessive drive level to the crystal units may cause deterioration of characteristics or damage. Less than 1.0 μ W is recommended to this products.

More than 2.0 μ W cannot be guaranteed.

晶振测试激励过大可能会导致电性参数不良或停振。本产品要求激励功率小于 1 μ W。不能保证在 2.0 μ W 以上使用时不出现问题