



## 深圳市凯越翔电子有限公司

### 石英谐振器规格书

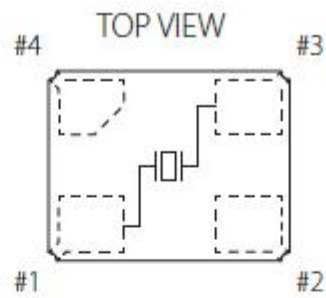
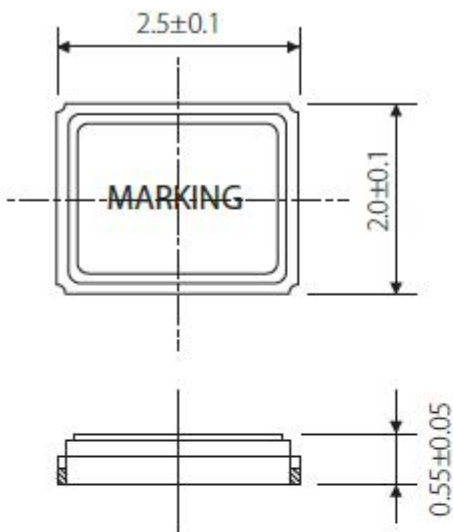
|         |                 |
|---------|-----------------|
| 产品名称:   | 石英晶振谐振器         |
| 产品型号:   | 2520/16.000 MHZ |
| 产品参数:   | 12 PF/±10ppm    |
| 原厂型号:   | K2C160001210    |
| 凯越翔技术部: | 董宗全             |

### 客户确认印栏

|       |       |
|-------|-------|
| 认证印章  | 负责人印章 |
| 年 月 日 | 年 月 日 |

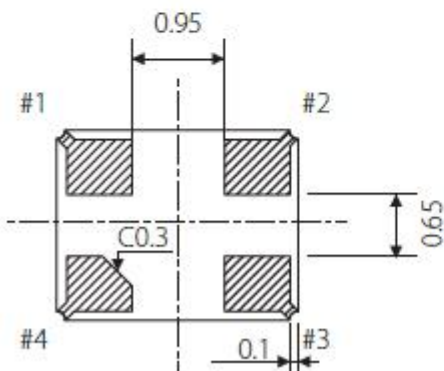
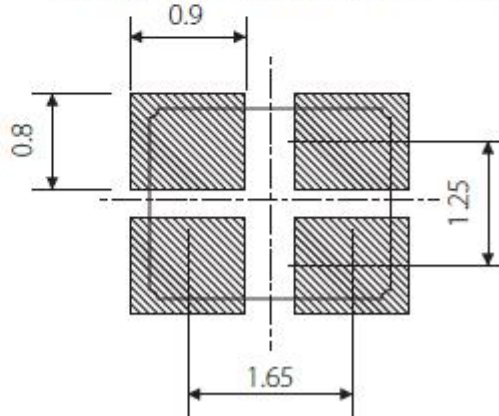
本规格章程连同本页合共 5 页

- |  |  |
|--|--|
| 1. Frequency:                                  | <b>16.000 MHZ</b>  |
| 2. Holder Type:                                | SMD2.5*2.0   |
| 3. Frequency Tolerance:                        | $\pm 10\text{ppm at } 25^\circ\text{C} \pm 3^\circ\text{C}$  |
| 4. Equivalent Series Resistance:               | 60 $\Omega$ Max  |
| 5. Storage Temperature Range:                  | $-40^\circ\text{C} \sim +85^\circ\text{C}$                   |
| 6. Operating Temperature Range:                | $-40^\circ\text{C} \sim +85^\circ\text{C}$                   |
| 7. Frequency Characteristics Over Temperature: | $\pm 20\text{ppm } -40^\circ\text{C} \sim +85^\circ\text{C}$ |
| 8. Load Capacitance (CL):                      | 12 PF  |
| 9. Drive Level:                                | 100 $\mu$ W  |
| 10. Shunt Capacitance:                         | 3PF MAX  |
| 11. Insulation Resistance:                     | $\geq 500\text{M}\Omega$ Min at 100 V                        |
| 12. Mode Of Oscillation:                       | Fundamental  |
| 13. Aging:                                     | $\pm 3\text{ppm/Year}$                                       |
| Marking description:                           | KYX16.000  |
| 14. Dimensions(mm):                            |  |



• #1,#3 : Crystal terminal / #2,#4 : Connected to cover  
(Please connect it with GND)

Example of a Terminal Land Pattern



16. Structure Illustration



| PART NAME |       | MATERIAL | PART NAME |           | MATERIAL    |
|-----------|-------|----------|-----------|-----------|-------------|
| 1.        | BASE  | CERAMIC  | 4.        | ELECTRODE | Metal       |
| 2.        | LID   | Co       | 5.        | ADHESMES  | SILVER GLUE |
| 3.        | BLANK | QUARTZ   |           |           |             |

凯越翔晶振

凯越翔晶振

## Reliability Testing 可靠性测试项目介绍

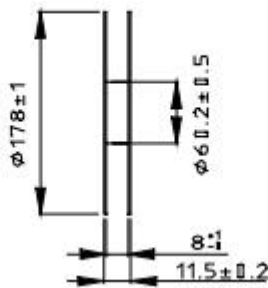
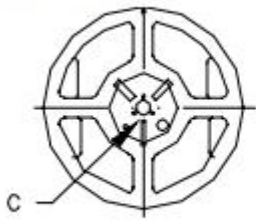
| 项目                          | 验条件及要求  | 要求                                    |
|-----------------------------|---|---------------------------------------|
| Vibration<br>振动             | Endurance condition by a frequency sweep shall be made. The entire frequency range from 10HZ to 50HZ and return to 10HZ, shall be transverse in 1min. Amplitude(total excursion):1.5mm this motion shall be applied for a period of 2h each of 3 mutually perpendicular axes(a total of 6h)<br>振动频率: 从 10HZ 到 55HZ, 再回到 10HZ 1 倍频程/min 幅度为 1.5mm 3 个相互垂直的方向各 2 小时 |                                       |
| Drop<br>跌落                  | Form 70cm height 3 times on 3cm hard wooden floor<br>从 70cm 高处跌落到 3cm 厚的硬质木板上, 重复 3 次   | (1). FL: +/-10ppm<br>(2). Rr: +/-10 Ω |
| Shock<br>冲击                 | Peak acceleration:981m/s <sup>2</sup> duration of the pulse :6ms three successive shocks shall be applied in both direction of 3 mutually perpendicular axes(a total of 18 shocks)<br>加速度: 981m/s <sup>2</sup> 时间: 6ms 作用在 3 个相互垂直的方向   |                                       |
| Damp heat, constant<br>恒定湿热 | The unit shall be stored at a temperature of 40℃ ±2℃ with relative humidity of 90%to95% for 48h, then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made.<br>在温度: 40℃ ±2℃、湿度: 90%to95%条件下存放 48 小时, 然后在标准大气压下放置 1~2 小时后测试   |                                       |
| Cold<br>低温存储                | The unit shall be stored at a temperature of -40℃ ±5℃ for 48h, then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made.<br>在 -40℃ ±5℃ 下存放 48 小时, 然后在标准大气压下放置 1~2 小时后测试   | (1). FL: +/-10ppm<br>(2). Rr: +/-10 Ω |
| Dry heat<br>高温存储            | The unit shall be stored at a temperature of 100℃ ±5℃ for 24h, then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made.<br>100℃ ±5℃ 下存放 24 小时, 然后在标准大气压下放置 1~2 小时后测试   |                                       |
| Aging<br>老化                 | The unit shall be stored at a temperature of 85℃ ±5℃ for 7d then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made.<br>85℃ ±5℃ 下放置 7 天, 然后在标准大气压下放置 1~2 小时后测试   |                                       |
| Temperature<br>cycling      | The unit shall be subjected to 5 successive change of temperature cycles, each as show in table below, then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made<br>在下表给定温度和时间参数的条件下循环 5 次, 标准大气压下放置 1~2 小时后测试   |                                       |

|      |  |                     |
|------|--|---------------------|
| 温度循环 | Temperature<br>温度                          | Duration<br>放置时间    |
|      | 1 -40°C ± 3°C                              | 30min (30 分钟)       |
|      | 2 Standard atmospheric conditions<br>标准大气压 | Within 30s<br>30 秒内 |
|      | 3 100°C ± 3°C                              | 30min (30 分钟)       |
|      | 4 Standard atmospheric conditions<br>标准大气压 | Within 30s<br>30 秒内 |

|                                      |  |
|--------------------------------------|--|
| Resistance to soldering heat<br>耐焊接热 | <p>250°C<br/>217°C<br/>200°C<br/>150°C<br/>25°C</p> <p>Peak 10s Max<br/>+4°C/s Max preheating<br/>-6°C/s Max cooling<br/>25°C to peak: 360s<br/>40 to 90s<br/>60 to 120s</p> <p>TIME (Seconds) Total: 420s</p> <p>使用回流焊方法见上图</p> |
|--------------------------------------|--|

2. REEL : 3000 PCS



|    |     |    |     |    |     |
|----|-----|----|-----|----|-----|
| 拟制 | 成望生 | 审核 | 董宗全 | 批准 | 谢为亮 |
|----|-----|----|-----|----|-----|