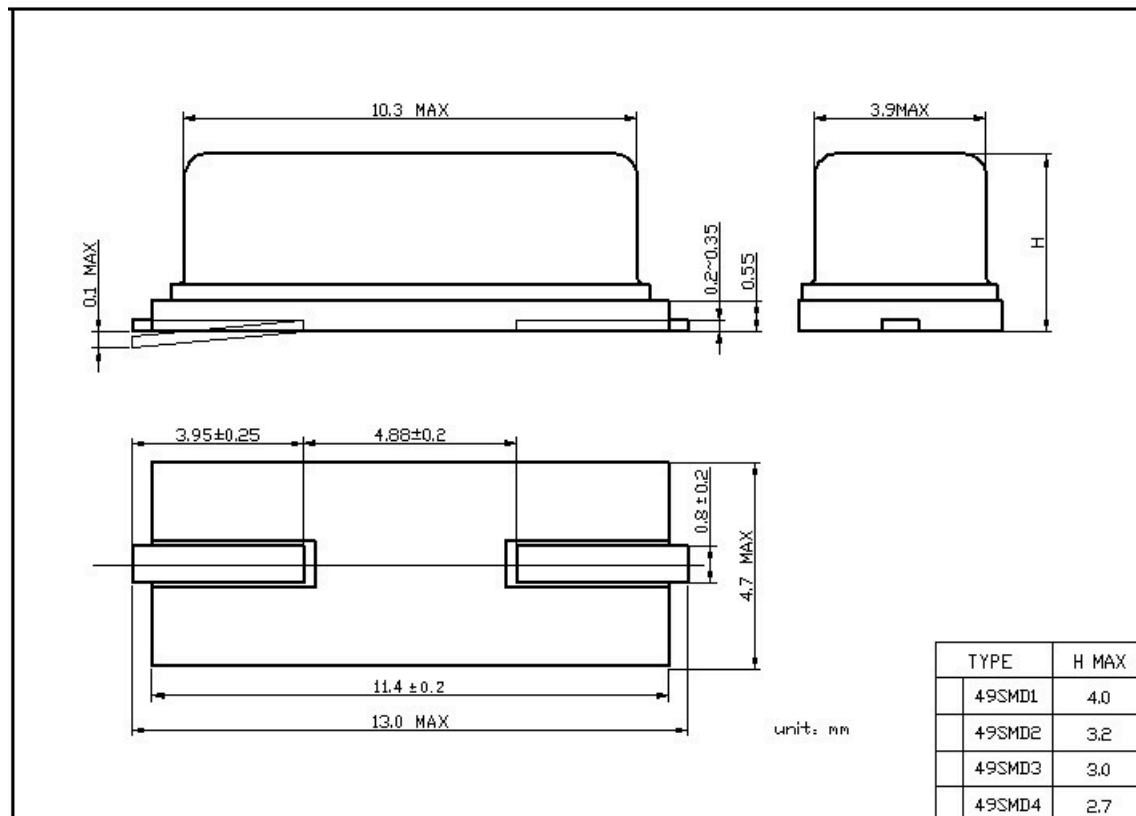




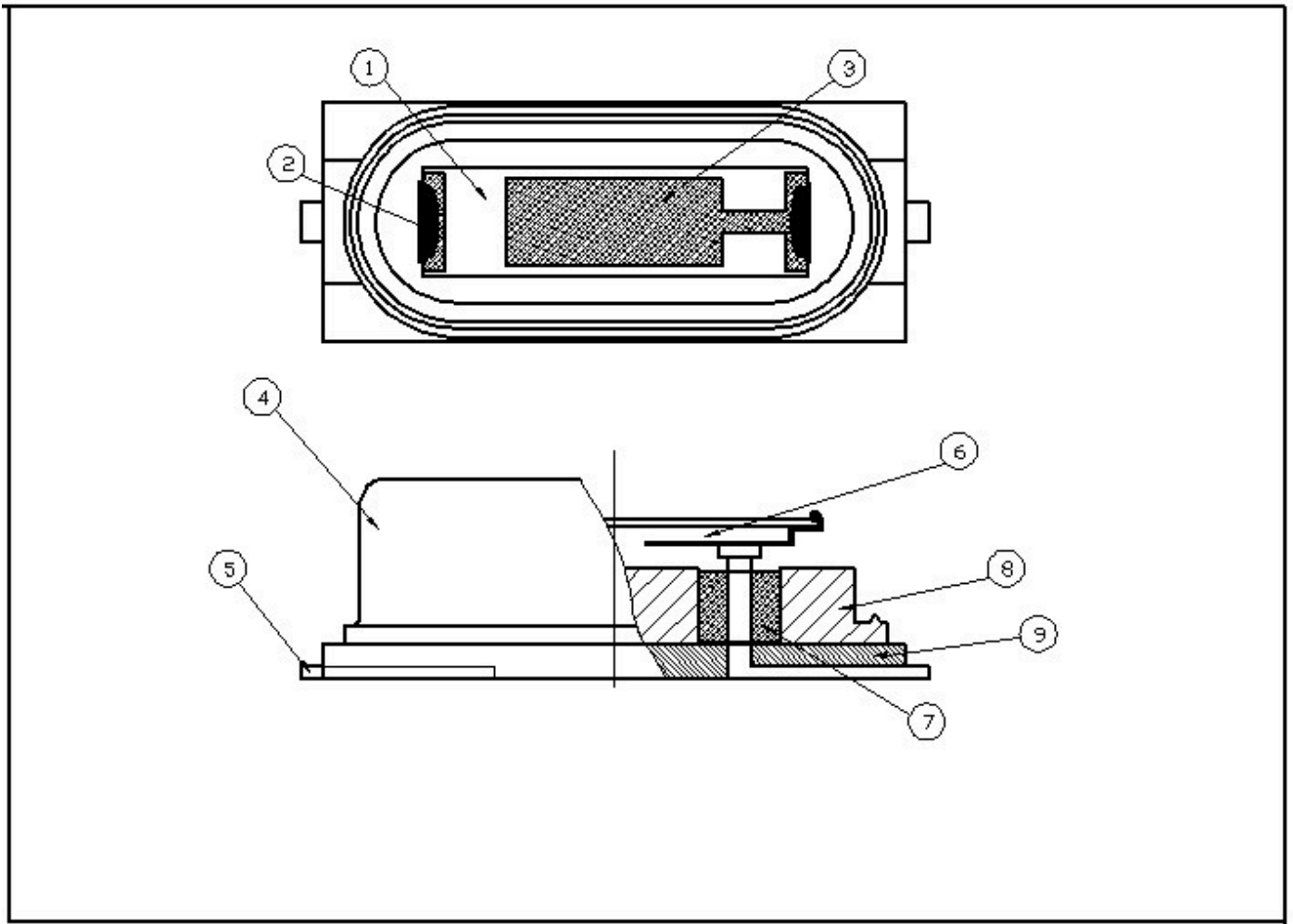
|  |                                       |
|--|---------------------------------------|
| Frequency range                                      | 3.00~100.00MHZ                        |
| Load Capacitance                                     | Series, 6~32pf, or specify            |
| Frequency Tolerance (at25°C )                        | ± 10 PPM ± 20 PPM ± 30 PPM or specify |
| Frequency stability Over Operating Temperature Range | ± 10 PPM ± 20 PPM ± 30 PPM or specify |
| Operating Temperature Range                          | -20~+70°C -40~+85°C or specify        |
| Storage Temperature Range                            | -40~+85°C                             |
| Shunt Capacitance(C0)                                | 7pf-Max                               |
| Drive Level  | 1~1000uW (100uW typical)              |
| Insulation Resistance                                | 500m Minimum at 100VDC                |
| Aging(at25°C)  | ± 3PPM/year Max.                      |
| Remark (备注) :  |                                       |

**DIMENSIONS SPECIFICATIONS (外形尺寸)**





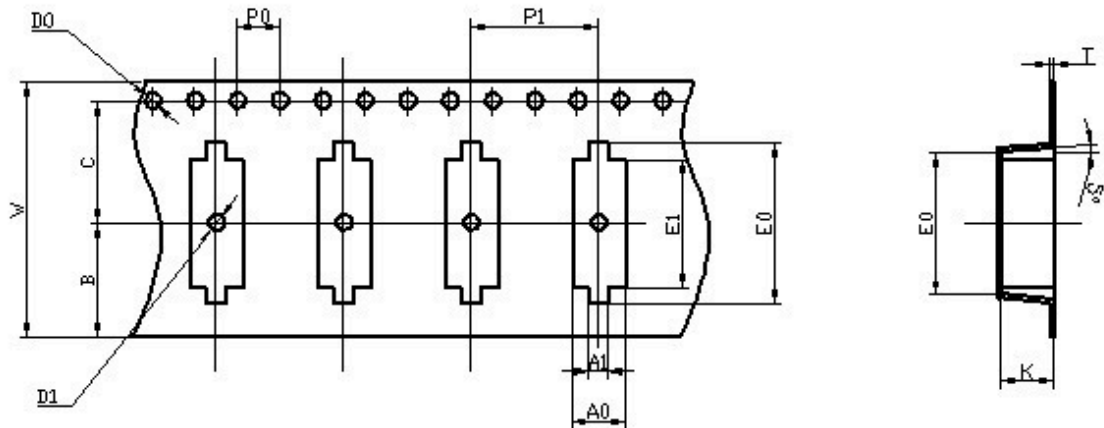
**Report of bills of materials and suppliers (物料清单及供应商)**





| NO. | Product name<br>部件名称 | MATERIALS<br>材质 | QTY<br>数量 | Supplier<br>供应商      |
|-----|----------------------|-----------------|-----------|----------------------|
| 1   | Blank 晶片             | SIO2            | 1         | DeYangHuiYuan 德阳惠源   |
| 2   | Silver paste 导电胶     | 3301F           | 2         | THREE BOND 三键        |
| 3   | Silver 电极            | Ag              | 2         | GuangYang 光洋         |
| 4   | Cover 外壳             | Cu              | 1         | TongLingJingSai 铜陵晶赛 |
| 5   | Lead 引线              | Kovar           | 2         | RiZhaoRongDa 日照荣达    |
| 6   | Pin 簧片               | C7701           | 2         | RiZhaoRongDa 日照荣达    |
| 7   | GLASS 玻璃珠            | GLASS           | 2         | RiZhaoRongDa 日照荣达    |
| 8   | Base 底板              | SPCC-SD         | 1         | RiZhaoRongDa 日照荣达    |
| 9   | Insulation 垫片        | PPA             | 1         | TeFuLong 特富隆         |

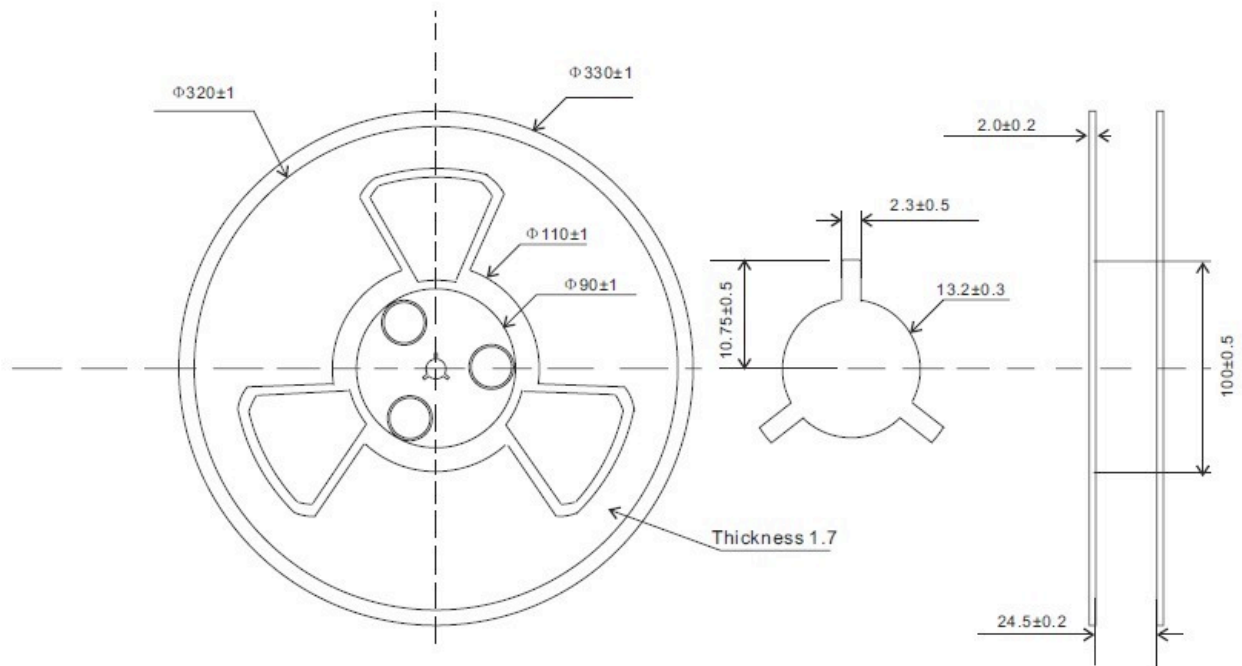
### Carrier rype (载带类型)



unit: mm  
1000Pcs Per Reel

| Symbol<br>Dinens<br>slons | A0        | A1        | B          | C          | D0          | D1          | E0         | E1         | K          | P0        | P1       | T          | w        |
|---------------------------|-----------|-----------|------------|------------|-------------|-------------|------------|------------|------------|-----------|----------|------------|----------|
| P8-4.35                   | 5.0 ± 0.1 | 1.8 ± 0.1 | 10.7 ± 0.2 | 11.5 ± 0.2 | φ 1.5 ± 0.1 | φ 1.5 ± 0.1 | 15.0 ± 0.1 | 12.0 ± 0.2 | 4.35 ± 0.1 | 4.0 ± 0.1 | 8 ± 0.1  | 0.4 ± 0.05 | 24 ± 0.5 |
| P8-3.40                   | 5.0 ± 0.1 | 1.8 ± 0.1 | 10.7 ± 0.2 | 11.5 ± 0.2 | φ 1.5 ± 0.1 | φ 1.5 ± 0.1 | 15.0 ± 0.1 | 12.0 ± 0.2 | 3.40 ± 0.1 | 4.0 ± 0.1 | 8 ± 0.1  | 0.4 ± 0.05 | 24 ± 0.5 |
| ● P12-4.35                | 5.0 ± 0.1 | 1.8 ± 0.1 | 10.7 ± 0.2 | 11.5 ± 0.2 | φ 1.5 ± 0.1 | φ 1.5 ± 0.1 | 15.0 ± 0.1 | 12.0 ± 0.2 | 4.35 ± 0.1 | 4.0 ± 0.1 | 12 ± 0.1 | 0.4 ± 0.05 | 24 ± 0.5 |
| P12-3.40                  | 5.0 ± 0.1 | 1.8 ± 0.1 | 10.7 ± 0.2 | 11.5 ± 0.2 | φ 1.5 ± 0.1 | φ 1.5 ± 0.1 | 15.0 ± 0.1 | 12.0 ± 0.2 | 3.40 ± 0.1 | 4.0 ± 0.1 | 12 ± 0.1 | 0.4 ± 0.05 | 24 ± 0.5 |

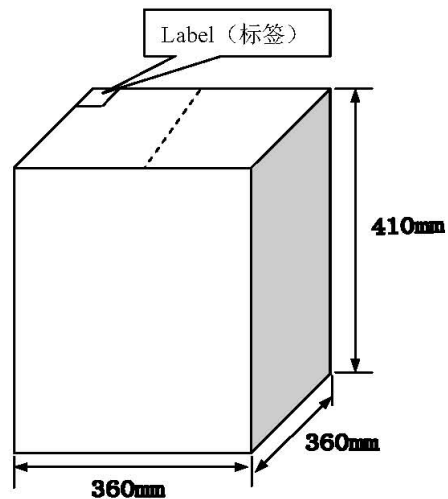
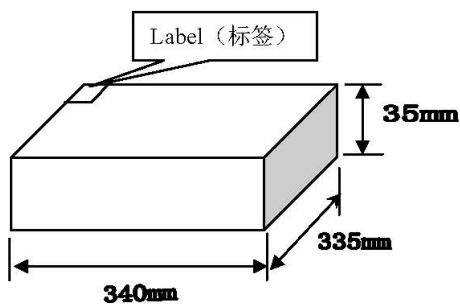
### Reel (载盘)



**PACKING METHOD(包装样式)**



- 1、Packed 1000 pcs in per reel.  
1000pcs一卷盘
- 2、Packed 1 reel in 1 box, Size of carton:340mm\*335mm\*35mm  
1卷盘装一盒，纸盒尺寸：340mm\*335mm\*35mm
- 3、Packed 10 box in 1 carton  
10盒一箱
- 4、There are 10000 pcs in 1 carton  
总计10000pcs 一箱
- 5、Size of carton:360mm\*360mm\*410mm  
外箱尺寸：360mm\*360mm\*410mm
- 6、Label mode  
标签样式  
A: Part NO.  
B: Holder Type  
C: Frequency  
D: CL  
E:  $\Delta f_1/f_0$   
F: ESR  
G: Quantity





苏州市利明电子有限公司  
Suzhou

代理 杭州创质科技有限公司  
Liming

Electronics

Co., Ltd.

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## **RELIABILITY SPECIFICATIONS 可靠性测试标准**

|   |                                     |   |                   |    |                    |
|---|-------------------------------------|---|-------------------|----|--------------------|
| 5 | Shock<br>耐冲击性                       | According to experiment of IEC 68-2-27 method Ba, the biggest acceleration :981m/s <sup>2</sup> (100g), work time :6ms, and 6 surfaces , and 3 directions for each surface, and shall be Shocked 18 times in total.                                 |                   | AB |                    |
|   |                                     | 按IEC 68-2-27试验Ea进行, 最大加速度: 981m/s <sup>2</sup> (100g),作用时间: 6ms, 6面, 每面三个方向, 共18次。  |                   |    |                    |
| 6 | Cold<br>耐寒性                         | According to experiment of IEC 68-2-1 method Aa, The quartz crystal unit should be stored at a temperature -40±3℃ for 2 hours, and then it shall be subjected to standard atmospheric conditions for 1 hour, after which measurement shall be made. |                   | A  |                    |
|   |                                     | 按IEC 68-2-1试验Aa进行, 晶体在温度-40±3℃中放置2小时后, 在常温常湿状态下放置1小时后测试。  |                   |    |                    |
| 7 | Dry Heat<br>干热                      | According to experiment of IEC 68-2-2 Ba, quartz crystal unit should be stored at a temperature 85±2℃ for 2 hours. Then it shall be subjected to standard atmospheric conditions for 1 hour ,after which measurement shall be made.                 |                   | A  |                    |
|   |                                     | 按IEC 68-2-2试验Ba进行, 晶体在温度85±2℃中放置2小时后, 在常温常湿状态下放置1小时后测试。   |                   |    |                    |
| 8 | High heat and high humidity<br>稳态湿热 | According to experiment of IEC 68-2-3 method Ta, quartz crystal unit should be stored at a temperature 40±2℃ and at humidity 90~95% for 96 hours. Then it shall be subjected to standard atmospheric conditions for 1 hour.                         |                   | A  |                    |
|   |                                     | 按IEC 68-2-3试验Ta进行, 晶体在温度40±2℃, 湿度90~95%中放置96小时后, 在常温常湿状态下放置1小时后测试。  |                   |    |                    |
| 9 | Temperature<br>Cycling<br>温度变化      | According to experiment of IEC 68-2-14 method Na, quartz crystal unit shall be made 5 temperature cycles ,and then it shall be subjected to standard atmospheric conditions for 1 hour.   |                   | A  |                    |
|   |                                     | 按IEC 68-2-14试验Na进行, 晶体按下表做5个温度循环后, 在常温常湿状态下放置1小时后测试。  |                   |    |                    |
|   |                                     |   | TEMPERATURE<br>温度 |    | STORE TIME<br>放置时间 |
|   |                                     | 1   | -40±3℃            |    | 30min              |
|   |                                     | 2   | Normal Temp(常温)   |    | 30sec              |
|   |                                     | 3   | 100±2℃            |    | 30min              |
| 4 | Normal Temp(常温)                     | 30sec   |                   |    |                    |



|    |             |   |    |
|----|-------------|---|----|
| 10 | Drop 跌落     | According to experiment of IEC 68-2-32 method Ed, quartz crystal unit shall be dropped from 75cm height on 3cm hard board for 3 times.  | AB |
|    |             | 按IEC 68-2-32试验Ed进行, 晶体从75厘米高度自由下落至3厘米硬木板, 重复3次。   |    |
| 11 | Reflow 回流焊  | Reflow soldering cure see the chart.  | A  |
|    |             | 回流焊曲线见下图。<br>   |    |
| 12 | Leakage 气密性 | Alcohol press method: quartz crystal unit shall be immersed in the can, and pressed by 0.5kg press for 30min; Then put away press, and dry it. Quartz crystal unit shall be test insulation resistance by 100V volts d.c for 1 min. | D  |
|    |             | 酒精加压法: 晶体浸入酒精罐中, 加压(压力0.5kg, 时间30分钟); 撤去压力后, 晾干晶体, 测量引线与外壳之间绝缘电阻(100V直流电压, 时间1分钟)。  |    |
| 13 | Aging 老化    | Quartz crystal unit shall be stored at a temperature $85\pm 2^{\circ}\text{C}$ for $720\pm 12$ hours(30days), and then it shall be subjected to standard atmospheric conditions for 1 hour.   | A  |
|    |             | 晶体在温度 $85\pm 2^{\circ}\text{C}$ 中放置720小时(30天) $\pm 12$ 小时后, 在常温常湿状态下放置1小时后测试。   |    |

**Accept Level:**

**判定标准:**

| No. | specification<br>标准   |
|-----|---|
| A   | Satisfying the electric characteristic; Frequency change is at the range of 5PPM and resistance change is at the range of $5\Omega$ . |
|     | 电气性能可满足要求: 频率变化量在5ppm以内, 电阻变化量在 $5\Omega$ 以内。   |
| B   | After each test, no visible damage shall be manifested, nor shall the hermetic seal break down  |
|     | 试验后, 无机械损伤  |
| C   | Dipping in 3 sec. A new uniform coating of solder shall cover a minimum of 95% of the surface being immersed.                         |
|     | 浸锡时间3秒以内, 引线挂锡面积95%以上。  |
| D   | Insulation resistance of leads shall be more than $500\text{M}\Omega(100\text{V DC})$ .   |
|     | 端子之间的绝缘电阻 $\geq 500\text{M}\Omega(100\text{V DC})$ 。  |