

外形尺寸 Shape and Dimensions

- 尺寸：见图 1 和表 1
- PCB 焊盘：见图 2 和表 1
- Dimensions: See Fig.1 and Table 1.
- Recommended PCB pattern for reflow soldering: See Fig.2 and Table 1

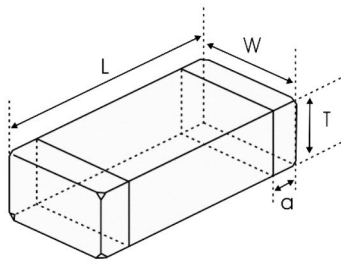


图 1 Fig.1

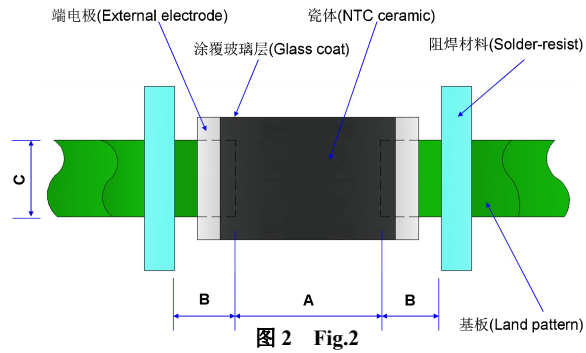


图 2 Fig.2

表 1 (Table 1)

单位 unit: inch[mm]

| 类别 Type | L | W | T | a | A | B | C |
|----------------|---------------------------|---------------------------|---------------------------|--------------------------|-----------|-----------|-----------|
| 0603 [1608] | 0.063±0.006 [1.6±0.15] | 0.031±0.006 [0.8±0.15] | 0.031±0.006 [0.8±0.15] | 0.012±0.008 [0.3±0.2] | [0.6-0.8] | [0.6-0.7] | [0.6-0.8] |

电气特性 Electrical Characteristics

| 型号 Part No | 电阻值 Resistance (25°C) (kΩ) | B 常数 B Constant (25/50°C) (K) | B 常数 B Constant (25/85°C) (K) | 允许工作电流 Permissible Operating Current (25°C) (mA) | 耗散系数 Dissipation Factor (mW/°C) | 热时间常数 Thermal Time Constant (s) | 额定功率 Rated Electric Power(25°C) (mW) | 工作温度 Operating ambient temperature (°C) |
|-------------------|-------------------------------------|--|--|--|--|---|---|---|
| KNTC0603/10KF3950 | 10±1% | 3950±1% | 3987 | 0.31 | 1.0 | <5 | 100 | -40~+125 |

检验和测试程序

测试条件

如无特别规定，检验和测试的标准大气环境条件如下：

- 环境温度：20±15℃；
- 相对湿度：65±20%；
- 气压：86 kPa~106 kPa

如果对测试结果有异议，则在下述条件下测试：

- 环境温度：25±2℃；
- 相对湿度：65±5%
- 气压：86kPa ~ 106kPa

检查设备

外观检查：20 倍放大镜；

阻值检查：热敏电阻测试仪

Test and Measurement Procedures

Test Conditions

Unless otherwise specified, the standard atmospheric conditions for measurement/test as:

- Ambient Temperature: 20±15℃
- Relative Humidity: 65±20%
- Air Pressure: 86kPa to 106kPa

If any doubt on the results, measurements/tests should be made within the following limits:

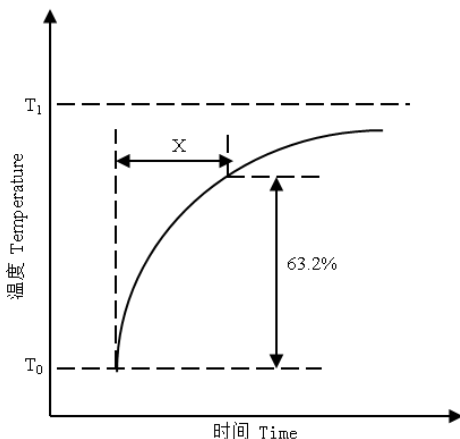
- Ambient Temperature: 25±2℃
- Relative Humidity: 65±5%
- Air Pressure: 86kPa to 106kPa

Inspection Equipment

Visual Examination: 20× magnifier

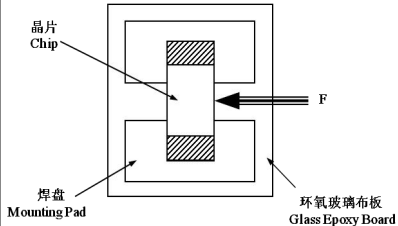
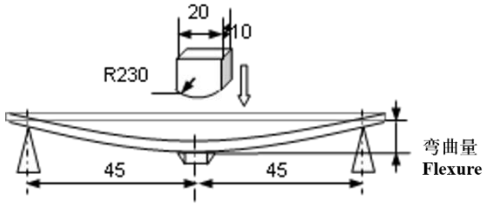
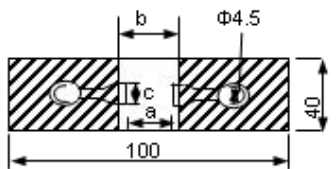
Resistance value test: Thermistor resistance tester

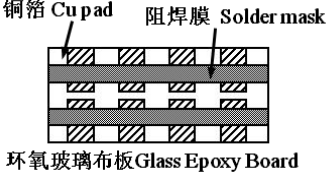
电性测试 Electrical Test

| 序号 No. | 项目 Items | 测试方法及备注 Test Methods and Remarks |
|--------|---|--|
| 1 | 25℃零功率电阻值 Nominal Zero-Power Resistance at 25℃(R25) | 环境温度 Ambient temperature: 25±0.05℃ 测试功率 Measuring electric power: ≤0.1mW |
| 2 | B 值常数 Nominal B Constant | 分别在环境温度 25±0.05℃, 50±0.05℃或 85±0.05℃下测量电阻值。 Measure the resistance at the ambient temperature of 25±0.05℃, 50±0.05℃ or 85±0.05℃. $B(25-50^{\circ}\text{C}) = \frac{\ln R_{25} - \ln R_{50}}{1/T_{25} - 1/T_{50}} \quad B(25-85^{\circ}\text{C}) = \frac{\ln R_{25} - \ln R_{85}}{1/T_{25} - 1/T_{85}}$ T: 绝对温度 (K) Absolute temperature (K) |
| 3 | 热时间常数 Thermal Time Constant | 在零功率条件下，当热敏电阻的环境温度发生急剧变化时，热敏电阻元件产生最初温度 T0 与最终温度 T1 两者温度差的 63.2% 的温度变化所需要的时间，通常以秒(S)表示。 The total time for the temperature of the thermistor to change by 63.2% of the difference from ambient temperature T ₀ (°C) to T ₁ (°C) by the drastic change of the power applied to thermistor from Non-zero Power to Zero-Power state, normally expressed in second(S).  |

| | | |
|---|---|---|
| 4 | 耗散系数 Dissipation Factor | 在一定环境温度下，NTC 热敏电阻通过自身发热使其温度升高 1℃ 时所需要的功率，通常以 mW/℃ 表示。可由下面公式计算： The required power which makes the NTC thermistor body temperature raise 1℃ through self-heated, normally expressed in milliwatts per degree Celsius (mW/℃). It can be calculated by the following formula: $\delta = \frac{W}{T-T_0}$ |
| 5 | 额定功率 Rated Power | 在环境温度 25℃ 下因自身发热使表面温度升高 100℃ 所需要的功率。 The necessary electric power makes thermistor's temperature rise 100℃ by self-heating at ambient temperature 25℃. |
| 6 | 允许工作电流 Permissible operating current | 在静止空气中通过自身发热使其升温为 1℃ 的电流。 The current that keep body temperature of chip NTC on the PC board in still air rising 1℃ by self-heating. |

信赖性试验 Reliability Test

| 项目 Items | 测试标准 Standard | 测试方法及备注 Test Methods and Remarks | 要求 Requirements | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|------------------|---|--------------------|---------------|-------------------------|------------------|-------|-------|----------|-------|---|-----|---|---------|---|---|---|------|------|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|------|
| 端头附着力 Terminal Strength | IEC 60068-2-21 | <p>将晶片焊接在测试基板上（如右图所示的环氧玻璃布板），按箭头所示方向施加作用力； Solder the chip to the testing jig (glass epoxy board shown in the right) using eutectic solder. Then apply a force in the direction of the arrow.</p> <table border="1"> <thead> <tr> <th>尺寸 Size</th> <th>F</th> <th>保持时间 Duration</th> </tr> </thead> <tbody> <tr> <td>0201, 0402, 0603</td> <td>5N</td> <td rowspan="2">10±1s</td> </tr> <tr> <td>0805</td> <td>10N</td> </tr> </tbody> </table> | 尺寸 Size | F | 保持时间 Duration | 0201, 0402, 0603 | 5N | 10±1s | 0805 | 10N | <p>端电极无脱落且瓷体无损伤。 No removal or split of the termination or other defects shall occur.</p>  | | | | | | | | | | | | | | | | | | | | | | |
| 尺寸 Size | F | 保持时间 Duration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0201, 0402, 0603 | 5N | 10±1s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0805 | 10N | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 抗弯强度 Resistance to Flexure | IEC 60068-2-21 | <p>将晶片焊接在测试基板上（如右图所示的环氧玻璃布板），按下图箭头所示方向施加作用力； Solder the chip to the test jig (glass epoxy board shown in the right) using a eutectic solder. Then apply a force in the direction shown as follow;</p>  <table border="1"> <thead> <tr> <th>尺寸 Size</th> <th>弯曲变形量 Flexure</th> <th>施压速度 Pressurizing Speed</th> <th>保持时间 Duration</th> </tr> </thead> <tbody> <tr> <td>0201,</td> <td>1mm</td> <td rowspan="2"><0.5mm/s</td> <td rowspan="2">10±1s</td> </tr> <tr> <td>0402, 0603, 0805</td> <td>2mm</td> </tr> </tbody> </table> | 尺寸 Size | 弯曲变形量 Flexure | 施压速度 Pressurizing Speed | 保持时间 Duration | 0201, | 1mm | <0.5mm/s | 10±1s | 0402, 0603, 0805 | 2mm | <p>① 无外观损伤。 No visible damage. ② $\Delta R_{25}/R_{25} \leq 5\%$</p> <p>单位 unit: mm</p> <table border="1"> <thead> <tr> <th>类型 Type</th> <th>a</th> <th>b</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>0201</td> <td>0.25</td> <td>0.3</td> <td>0.3</td> </tr> <tr> <td>0402</td> <td>0.4</td> <td>1.5</td> <td>0.5</td> </tr> <tr> <td>0603</td> <td>1.0</td> <td>3.0</td> <td>1.2</td> </tr> <tr> <td>0805</td> <td>1.2</td> <td>4.0</td> <td>1.65</td> </tr> </tbody> </table>  | 类型 Type | a | b | c | 0201 | 0.25 | 0.3 | 0.3 | 0402 | 0.4 | 1.5 | 0.5 | 0603 | 1.0 | 3.0 | 1.2 | 0805 | 1.2 | 4.0 | 1.65 |
| 尺寸 Size | 弯曲变形量 Flexure | 施压速度 Pressurizing Speed | 保持时间 Duration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0201, | 1mm | <0.5mm/s | 10±1s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0402, 0603, 0805 | 2mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 类型 Type | a | b | c | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0201 | 0.25 | 0.3 | 0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0402 | 0.4 | 1.5 | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0603 | 1.0 | 3.0 | 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0805 | 1.2 | 4.0 | 1.65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

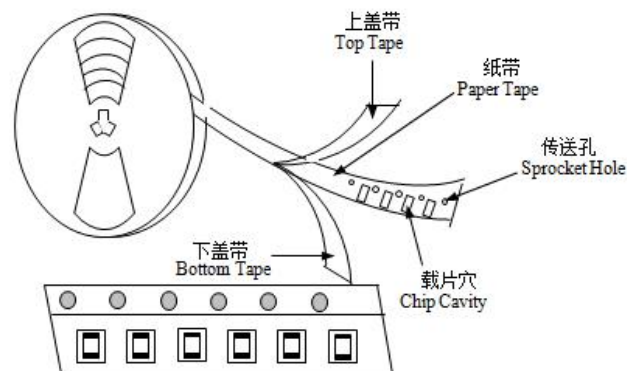
| <p>振动 Vibration</p> | <p>IEC 60068-2-80</p> | <p>① 将晶片焊接在测试基板上（如右图所示的环氧玻璃布板）； Solder the chip to the testing jig (glass epoxy board shown in the left) using eutectic solder.</p> <p>② 晶片以全振幅为 1.5mm 进行振动，频率范围为 10Hz ~55 Hz； The chip shall be subjected to a simple harmonic motion having total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz.</p> <p>③ 振动频率按 10Hz→55Hz→10Hz 循环，周期为 1 分钟，在空间三个互相垂直的方向上各振动 2 小时（共 6 小时）。 The frequency ranges from 10 to 55 Hz and return to 10 Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).</p> | <p>无外观损伤。 No visible damage.</p>  | | | | | | | | | | | | | | | |
|---|-----------------------|--|--|----------------|---------|---|--------|---------|---|-------|--------|---|--------|---------|---|-------|--------|--|
| <p>坠落 Dropping</p> | <p>IEC 60068-2-32</p> | <p>从 1m 的高度让晶片自由坠落至水泥地面 10 次。 Drop a chip 10 times on a concrete floor from a height of 1 meter.</p> | <p>无外观损伤。 No visible damage.</p> | | | | | | | | | | | | | | | |
| <p>可焊性 Solderability</p> | <p>IEC 60068-2-58</p> | <p>① 焊接温度 Solder temperature: 245±5℃. ② 浸渍时间 Duration: 3±0.3s. ③ 焊锡成分 Solder: Sn/3.0Ag/0.5Cu. ④ 助焊剂 Flux: （重量比）25%松香和 75%酒精 25% Resin and 75% ethanol in weight.</p> | <p>① 无外观损伤； No visible damage. ② 元件端电极的焊锡覆盖率不小于 95%。 Wetting shall exceed 95% coverage.</p> | | | | | | | | | | | | | | | |
| <p>耐焊性 Resistance to Soldering Heat</p> | <p>IEC 60068-2-58</p> | <p>① 焊接温度 Solder temperature: 260±5℃. ② 浸渍时间 Duration: 10±1s. ③ 焊锡成分 Solder: Sn/3.0Ag/0.5Cu. ④ 助焊剂 Flux: （重量比）25%松香和 75%酒精 25% Resin and 75% ethanol in weight. ⑤ 试验后标准条件下放置 1~2 小时后测量。 The chip shall be stabilized at normal condition for 1~2 hours before measuring.</p> | <p>① 无外观损伤； No visible damage. ② $\Delta R_{25}/R_{25} \leq 5\%$ ③ $\Delta B/B \leq 2\%$</p> | | | | | | | | | | | | | | | |
| <p>温度周期 Temperature cycling</p> | <p>IEC 60068-2-14</p> | <p>① 无负载于下表所示的环境条件下重复 5 次。 5 cycles of following sequence without loading.</p> <table border="1" data-bbox="491 1429 1040 1624"> <thead> <tr> <th>步骤 Step</th> <th>温度 Temperature</th> <th>时间 Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±5℃</td> <td>30±3min</td> </tr> <tr> <td>2</td> <td>25±2℃</td> <td>5±3min</td> </tr> <tr> <td>3</td> <td>125±2℃</td> <td>30±3min</td> </tr> <tr> <td>4</td> <td>25±2℃</td> <td>5±3min</td> </tr> </tbody> </table> <p>② 试验后标准条件下放置 1~2 小时后测量。 The chip shall be stabilized at normal condition for 1~2 hours before measuring.</p> | 步骤 Step | 温度 Temperature | 时间 Time | 1 | -40±5℃ | 30±3min | 2 | 25±2℃ | 5±3min | 3 | 125±2℃ | 30±3min | 4 | 25±2℃ | 5±3min | <p>① 无外观损伤； No visible damage. ② $\Delta R_{25}/R_{25} \leq 3\%$ ③ $\Delta B/B \leq 2\%$</p> |
| 步骤 Step | 温度 Temperature | 时间 Time | | | | | | | | | | | | | | | | |
| 1 | -40±5℃ | 30±3min | | | | | | | | | | | | | | | | |
| 2 | 25±2℃ | 5±3min | | | | | | | | | | | | | | | | |
| 3 | 125±2℃ | 30±3min | | | | | | | | | | | | | | | | |
| 4 | 25±2℃ | 5±3min | | | | | | | | | | | | | | | | |
| <p>高温存放 Resistance to dry heat</p> | <p>IEC 60068-2-2</p> | <p>① 在 125±5℃ 空气中，无负载放置 1000±24 小时。 125±5℃ in air, for 1000±24 hours without loading. ② 试验后标准条件下放置 1~2 小时后测量。 The chip shall be stabilized at normal condition for 1~2 hours before measuring.</p> | <p>① 无外观损伤； No visible damage. ② $\Delta R_{25}/R_{25} \leq 5\%$ ③ $\Delta B/B \leq 2\%$</p> | | | | | | | | | | | | | | | |

| | | | |
|---|-----------------------|---|--|
| 低温存放 Resistance to cold | IEC 60068-2-1 | ① 在-40±3℃空气中，无负载放置 1000±24 小时。 -40±3℃ in air, for 1000±24 hours without loading. ② 试验后标准条件下放置 1~2 小时后测量。 The chip shall be stabilized at normal condition for 1~2 hours before measuring. | ① 无外观损伤； No visible damage. ② $ \Delta R25/R25 \leq 5\%$ ③ $ \Delta B/B \leq 2\%$ |
| 湿热存放 Resistance to damp heat | IEC 60068-2-78 | ① 在 40±2℃，相对湿度 90~95%空气中，无负载放置 1000±24 小时。 40±2℃, 90~95%RH in air, for 1000±24 hours without loading. ② 试验后标准条件下放置 1~2 小时后测量。 The chip shall be stabilized at normal condition for 1~2 hours before measuring. | ① 无外观损伤； No visible damage. ② $ \Delta R25/R25 \leq 3\%$ ③ $ \Delta B/B \leq 2\%$ |
| 高温负荷 Resistance to high temperature load | IEC 60539-1 5.25.4 | ① 在 85±2℃空气中，施加允许工作电流 1000±48 小时。 85±2℃ in air with permissive operating current for 1000±48 hours ② 试验后标准条件下放置 1~2 小时后测量。 The chip shall be stabilized at normal condition for 1~2 hours before measuring. | ① 无外观损伤； No visible damage. ② $ \Delta R25/R25 \leq 5\%$ ③ $ \Delta B/B \leq 2\%$ |

编带 Taping

| | | | | |
|----------------------------|---------------|----------|----------|----------|
| 类型 Type | 0201 | 0402 | 0603 | 0805 |
| 编带厚度 Tape thickness(mm) | 0.5±0.15 | 0.5±0.15 | 0.8±0.15 | 0.85±0.2 |
| 编带材质 Tape material | 纸带 Paper Tape | | | |
| 每盘数量 Quantity per Reel | 15K | 10K | 4K | 4K |

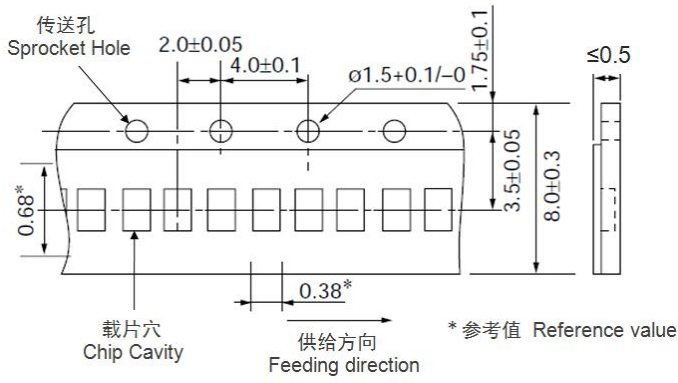
(1) 编带图 Taping Drawings



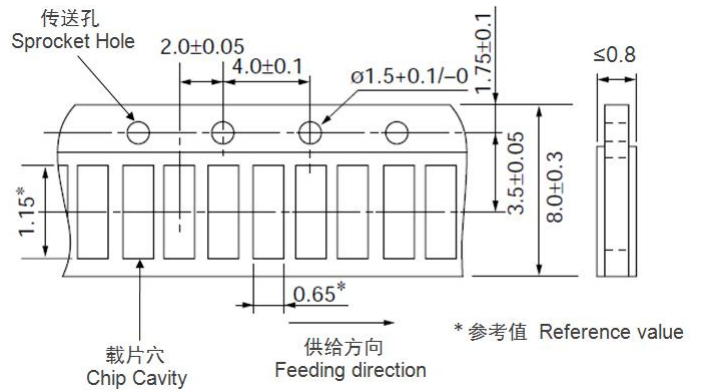
(2) 纸带尺寸 Paper Tape Dimensions

(单位 Unit: mm)

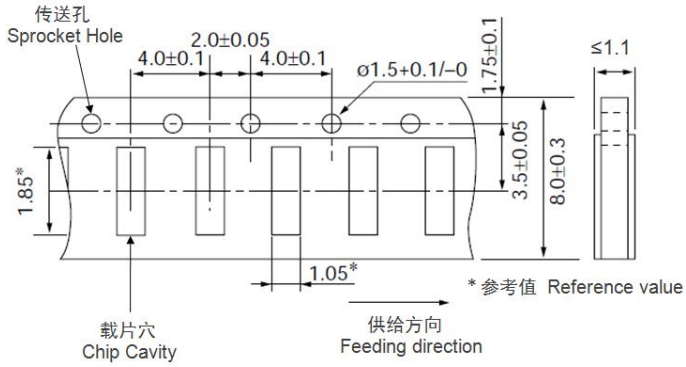
0201 系列



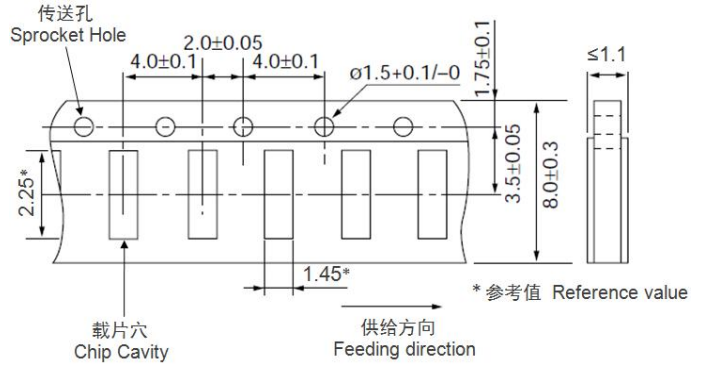
0402 系列



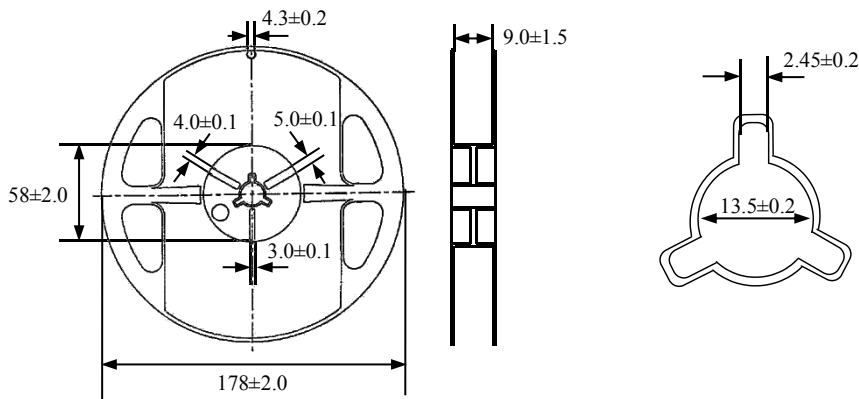
0603 系列



0805 系列



(3) 卷盘尺寸 Reel Dimensions (单位 Unit: mm)



储存

- **储存条件**
 - a. 储存温度: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
 - b. 相对湿度: $\leq 75\% \text{RH}$
 - c. 避免接触粉尘、腐蚀性气氛和阳光
- **储存期限: 产品交付后 6 个月**

注意事项

- 热敏电阻不可在以下条件下工作或储存:
 - (1) 腐蚀性气体或还原性气体
(氯气、硫化氢气体、氨气、硫酸气体、一氧化氮等)。
 - (2) 挥发性或易燃性气体
 - (3) 多尘条件
 - (4) 高压或低压条件
 - (5) 潮湿场所
 - (6) 存在盐水、油、化学液体或有机溶剂的场所
 - (7) 强烈振动
 - (8) 存在类似有害条件的其他场所
- 热敏电阻的陶瓷属于易碎材料，使用时不可施加过大压力或冲击。
- 热敏电阻不可在超过目录规定的温度范围情况下工作。

Storage

- **Storage Conditions**
 - a. Storage Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
 - b. Relative Humidity: $\cong 75\% \text{RH}$
 - c. Keep away from corrosive atmosphere and sunlight.
- **Period of Storage: 6 Months after delivery**

Notes & Warnings

- The thermistors shall not be operated and stored under the following environmental condition:
 - (1) Corrosive or deoxidized atmospheres
(such as chlorine, sulfurated hydrogen, ammonia, sulfuric acid, nitric oxide and so on)
 - (2) Volatile or inflammable atmospheres
 - (3) Dusty condition
 - (4) Excessively high or low pressure condition
 - (5) Humid site
 - (6) Places with brine, oil, chemical liquid or organic solvent
 - (7) Intense vibration
 - (8) Places with analogously deleterious conditions
- The ceramic body of the thermistors is fragile, no excessive pressure or impact shall be exerted on it.
- The thermistors shall not be operated beyond the specified "Operating Temperature Range" in the catalog.

建议焊接条件

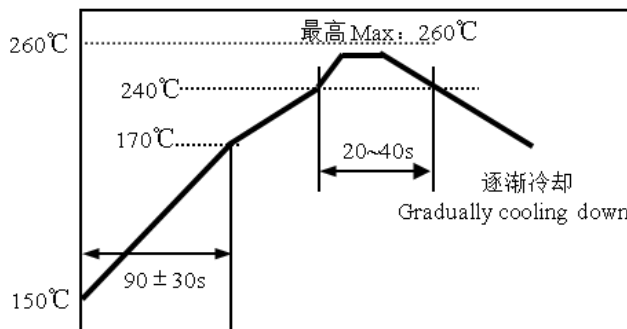
• **回流焊**

- 温升 1~2°C/sec.
- 预热：150~170°C/90±30 sec.
- 大于 240°C时间：20~40sec
- 峰值温度：最高 260°C/10 sec.
- 焊锡：96.5Sn/3.0Ag/0.5Cu
- 回流焊：最多 2 次

10 Recommended Soldering Technologies

• **Re-flowing Profile**

- 1~2°C/sec. Ramp
- Pre-heating: 150~170°C/90±30 sec.
- Time above 240°C: 20~40 sec.
- Peak temperature: 260°C Max./10 sec.
- Solder paste: 96.5Sn/3.0Ag/0.5Cu
- Max.2 times for re-flowing



• **手工焊**

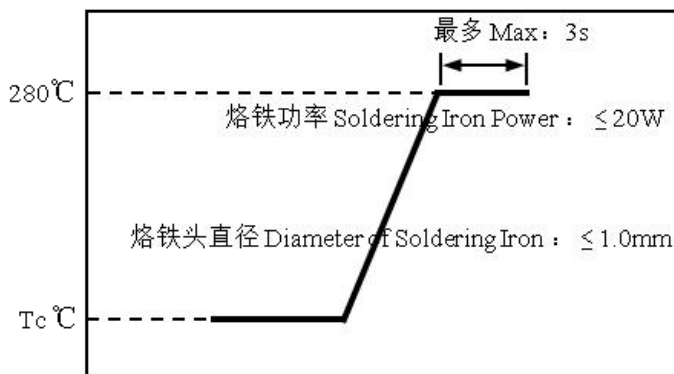
- 烙铁功率：最大 20W
- 预热：150°C/60sec.
- 烙铁头温度：最高 280°C
- 焊接时间：最多 3sec.
- 焊锡：96.5Sn/3.0Ag/0.5Cu
- 手工焊：最多 1 次

• **Iron Soldering Profile**

- Iron soldering power: Max.20W
- Pre-heating: 150°C/60sec.
- Soldering Tip temperature: 280°C Max.
- Soldering time: 3 sec Max.
- Solder paste: 96.5Sn/3.0Ag/0.5Cu
- Max.1 times for iron soldering

[注：不要使烙铁头接触到端头]

[Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.]



R-T 表 R-T table

| 温度 Temp. (°C) | R 最小值 R_Min (Kohm) | R 中心值 R_Cent (Kohm) | R 最大值 R_Max (Kohm) | 阻值公差 Res TOL. | 温度公差 Temp. TOL.(°C) |
|------------------|-----------------------|------------------------|-----------------------|------------------|------------------------|
| -40 | 329.927 | 345.275 | 361.300 | 4.64% | 0.67 |
| -39 | 308.651 | 322.791 | 337.545 | 4.57% | 0.66 |
| -38 | 288.892 | 301.925 | 315.514 | 4.50% | 0.66 |
| -37 | 270.532 | 282.549 | 295.071 | 4.43% | 0.65 |
| -36 | 253.464 | 264.549 | 276.091 | 4.36% | 0.65 |
| -35 | 237.587 | 247.816 | 258.459 | 4.29% | 0.64 |
| -34 | 222.812 | 232.254 | 242.072 | 4.23% | 0.64 |
| -33 | 209.055 | 217.774 | 226.833 | 4.16% | 0.63 |
| -32 | 196.239 | 204.292 | 212.655 | 4.09% | 0.63 |
| -31 | 184.293 | 191.735 | 199.457 | 4.03% | 0.62 |
| -30 | 173.153 | 180.032 | 187.165 | 3.96% | 0.61 |
| -29 | 162.760 | 169.120 | 175.711 | 3.90% | 0.61 |
| -28 | 153.059 | 158.941 | 165.033 | 3.83% | 0.60 |
| -27 | 144.000 | 149.441 | 155.073 | 3.77% | 0.60 |
| -26 | 135.535 | 140.571 | 145.779 | 3.71% | 0.59 |
| -25 | 127.622 | 132.284 | 137.102 | 3.64% | 0.59 |
| -24 | 120.207 | 124.522 | 128.979 | 3.58% | 0.58 |
| -23 | 113.270 | 117.266 | 121.391 | 3.52% | 0.58 |
| -22 | 106.779 | 110.480 | 114.298 | 3.46% | 0.57 |
| -21 | 100.701 | 104.130 | 107.664 | 3.39% | 0.56 |
| -20 | 95.008 | 98.185 | 101.459 | 3.33% | 0.56 |
| -19 | 89.674 | 92.618 | 95.650 | 3.27% | 0.55 |
| -18 | 84.672 | 87.402 | 90.211 | 3.21% | 0.55 |
| -17 | 79.982 | 82.513 | 85.115 | 3.15% | 0.54 |
| -16 | 75.580 | 77.927 | 80.339 | 3.10% | 0.53 |
| -15 | 71.449 | 73.626 | 75.861 | 3.04% | 0.53 |
| -14 | 67.569 | 69.588 | 71.661 | 2.98% | 0.52 |
| -13 | 63.924 | 65.797 | 67.719 | 2.92% | 0.51 |
| -12 | 60.498 | 62.237 | 64.019 | 2.86% | 0.51 |
| -11 | 57.277 | 58.890 | 60.543 | 2.81% | 0.50 |
| -10 | 54.247 | 55.744 | 57.278 | 2.75% | 0.49 |
| -9 | 51.396 | 52.786 | 54.208 | 2.69% | 0.49 |
| -8 | 48.712 | 50.002 | 51.322 | 2.64% | 0.48 |
| -7 | 46.184 | 47.382 | 48.606 | 2.58% | 0.47 |
| -6 | 43.803 | 44.916 | 46.051 | 2.53% | 0.47 |
| -5 | 41.559 | 42.592 | 43.646 | 2.47% | 0.46 |
| -4 | 39.441 | 40.400 | 41.377 | 2.42% | 0.45 |
| -3 | 37.443 | 38.333 | 39.240 | 2.37% | 0.45 |
| -2 | 35.559 | 36.385 | 37.227 | 2.31% | 0.44 |
| -1 | 33.781 | 34.548 | 35.328 | 2.26% | 0.43 |
| 0 | 32.102 | 32.814 | 33.538 | 2.21% | 0.43 |
| 1 | 30.518 | 31.179 | 31.851 | 2.16% | 0.42 |

| 温度 Temp. (°C) | R 最小值 R_Min (Kohm) | R 中心值 R_Cent (Kohm) | R 最大值 R_Max (Kohm) | 阻值公差 Res TOL. | 温度公差 Temp. TOL.(°C) |
|------------------|-----------------------|------------------------|-----------------------|------------------|------------------------|
| 2 | 29.022 | 29.636 | 30.259 | 2.10% | 0.41 |
| 3 | 27.608 | 28.178 | 28.756 | 2.05% | 0.40 |
| 4 | 26.271 | 26.800 | 27.336 | 2.00% | 0.40 |
| 5 | 25.007 | 25.497 | 25.994 | 1.95% | 0.39 |
| 6 | 23.808 | 24.263 | 24.724 | 1.90% | 0.38 |
| 7 | 22.674 | 23.096 | 23.523 | 1.85% | 0.37 |
| 8 | 21.601 | 21.992 | 22.387 | 1.80% | 0.37 |
| 9 | 20.584 | 20.947 | 21.313 | 1.75% | 0.36 |
| 10 | 19.622 | 19.958 | 20.297 | 1.70% | 0.35 |
| 11 | 18.711 | 19.022 | 19.336 | 1.65% | 0.34 |
| 12 | 17.847 | 18.135 | 18.425 | 1.60% | 0.33 |
| 13 | 17.028 | 17.294 | 17.563 | 1.55% | 0.33 |
| 14 | 16.251 | 16.498 | 16.746 | 1.51% | 0.32 |
| 15 | 15.514 | 15.742 | 15.972 | 1.46% | 0.31 |
| 16 | 14.814 | 15.025 | 15.237 | 1.41% | 0.30 |
| 17 | 14.150 | 14.345 | 14.541 | 1.37% | 0.29 |
| 18 | 13.519 | 13.699 | 13.880 | 1.32% | 0.29 |
| 19 | 12.921 | 13.086 | 13.253 | 1.27% | 0.28 |
| 20 | 12.351 | 12.504 | 12.657 | 1.23% | 0.27 |
| 21 | 11.811 | 11.951 | 12.092 | 1.18% | 0.26 |
| 22 | 11.296 | 11.426 | 11.555 | 1.13% | 0.25 |
| 23 | 10.808 | 10.926 | 11.045 | 1.09% | 0.24 |
| 24 | 10.342 | 10.452 | 10.561 | 1.04% | 0.24 |
| 25 | 9.900 | 10.000 | 10.100 | 1.00% | 0.23 |
| 26 | 9.471 | 9.570 | 9.670 | 1.04% | 0.24 |
| 27 | 9.062 | 9.162 | 9.261 | 1.09% | 0.25 |
| 28 | 8.673 | 8.773 | 8.872 | 1.13% | 0.26 |
| 29 | 8.304 | 8.402 | 8.501 | 1.18% | 0.27 |
| 30 | 7.952 | 8.049 | 8.147 | 1.22% | 0.29 |
| 31 | 7.616 | 7.713 | 7.811 | 1.26% | 0.30 |
| 32 | 7.297 | 7.393 | 7.490 | 1.31% | 0.31 |
| 33 | 6.993 | 7.088 | 7.184 | 1.35% | 0.32 |
| 34 | 6.703 | 6.797 | 6.892 | 1.39% | 0.33 |
| 35 | 6.427 | 6.520 | 6.613 | 1.43% | 0.35 |
| 36 | 6.164 | 6.255 | 6.348 | 1.47% | 0.36 |
| 37 | 5.913 | 6.003 | 6.094 | 1.52% | 0.37 |
| 38 | 5.673 | 5.762 | 5.852 | 1.56% | 0.38 |
| 39 | 5.445 | 5.532 | 5.621 | 1.60% | 0.40 |
| 40 | 5.226 | 5.313 | 5.400 | 1.64% | 0.41 |
| 41 | 5.018 | 5.103 | 5.189 | 1.68% | 0.42 |
| 42 | 4.819 | 4.903 | 4.987 | 1.72% | 0.43 |
| 43 | 4.629 | 4.711 | 4.795 | 1.76% | 0.45 |
| 44 | 4.448 | 4.529 | 4.610 | 1.80% | 0.46 |
| 45 | 4.274 | 4.354 | 4.434 | 1.84% | 0.47 |

| 温度 Temp. (°C) | R 最小值 R_Min (Kohm) | R 中心值 R_Cent (Kohm) | R 最大值 R_Max (Kohm) | 阻值公差 Res TOL. | 温度公差 Temp. TOL.(°C) |
|------------------|-----------------------|------------------------|-----------------------|------------------|------------------------|
| 46 | 4.109 | 4.187 | 4.266 | 1.88% | 0.49 |
| 47 | 3.951 | 4.027 | 4.104 | 1.92% | 0.50 |
| 48 | 3.799 | 3.874 | 3.950 | 1.96% | 0.51 |
| 49 | 3.655 | 3.728 | 3.803 | 2.00% | 0.53 |
| 50 | 3.516 | 3.588 | 3.661 | 2.04% | 0.54 |
| 51 | 3.384 | 3.454 | 3.526 | 2.08% | 0.55 |
| 52 | 3.257 | 3.326 | 3.396 | 2.12% | 0.57 |
| 53 | 3.135 | 3.203 | 3.272 | 2.16% | 0.58 |
| 54 | 3.019 | 3.086 | 3.153 | 2.19% | 0.59 |
| 55 | 2.908 | 2.973 | 3.039 | 2.23% | 0.61 |
| 56 | 2.801 | 2.865 | 2.930 | 2.27% | 0.62 |
| 57 | 2.699 | 2.761 | 2.825 | 2.31% | 0.64 |
| 58 | 2.601 | 2.662 | 2.724 | 2.35% | 0.65 |
| 59 | 2.507 | 2.567 | 2.628 | 2.38% | 0.66 |
| 60 | 2.417 | 2.476 | 2.535 | 2.42% | 0.68 |
| 61 | 2.331 | 2.388 | 2.447 | 2.46% | 0.69 |
| 62 | 2.248 | 2.304 | 2.362 | 2.49% | 0.71 |
| 63 | 2.169 | 2.224 | 2.280 | 2.53% | 0.72 |
| 64 | 2.092 | 2.146 | 2.201 | 2.57% | 0.74 |
| 65 | 2.019 | 2.072 | 2.126 | 2.60% | 0.75 |
| 66 | 1.949 | 2.001 | 2.053 | 2.64% | 0.76 |
| 67 | 1.882 | 1.932 | 1.984 | 2.67% | 0.78 |
| 68 | 1.817 | 1.866 | 1.917 | 2.71% | 0.79 |
| 69 | 1.754 | 1.803 | 1.852 | 2.75% | 0.81 |
| 70 | 1.695 | 1.742 | 1.790 | 2.78% | 0.82 |
| 71 | 1.637 | 1.684 | 1.731 | 2.82% | 0.84 |
| 72 | 1.582 | 1.628 | 1.674 | 2.85% | 0.85 |
| 73 | 1.529 | 1.574 | 1.619 | 2.88% | 0.87 |
| 74 | 1.479 | 1.522 | 1.566 | 2.92% | 0.88 |
| 75 | 1.430 | 1.472 | 1.516 | 2.95% | 0.90 |
| 76 | 1.383 | 1.424 | 1.467 | 2.99% | 0.92 |
| 77 | 1.337 | 1.378 | 1.419 | 3.02% | 0.93 |
| 78 | 1.294 | 1.333 | 1.374 | 3.06% | 0.95 |
| 79 | 1.251 | 1.290 | 1.330 | 3.09% | 0.96 |
| 80 | 1.211 | 1.249 | 1.288 | 3.12% | 0.98 |
| 81 | 1.172 | 1.209 | 1.247 | 3.16% | 0.99 |
| 82 | 1.135 | 1.171 | 1.208 | 3.19% | 1.01 |
| 83 | 1.099 | 1.134 | 1.171 | 3.22% | 1.03 |
| 84 | 1.064 | 1.099 | 1.135 | 3.26% | 1.04 |
| 85 | 1.031 | 1.065 | 1.100 | 3.29% | 1.06 |
| 86 | 0.998 | 1.032 | 1.066 | 3.32% | 1.07 |
| 87 | 0.967 | 1.000 | 1.033 | 3.35% | 1.09 |
| 88 | 0.937 | 0.969 | 1.002 | 3.38% | 1.11 |
| 89 | 0.908 | 0.940 | 0.972 | 3.42% | 1.12 |

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|------------------|-----------------------|------------------------|-----------------------|------------------|------------------------|
| 90 | 0.881 | 0.911 | 0.943 | 3.45% | 1.14 |
| 91 | 0.854 | 0.884 | 0.914 | 3.48% | 1.16 |
| 92 | 0.828 | 0.857 | 0.887 | 3.51% | 1.17 |
| 93 | 0.803 | 0.831 | 0.861 | 3.54% | 1.19 |
| 94 | 0.779 | 0.807 | 0.835 | 3.57% | 1.21 |
| 95 | 0.755 | 0.783 | 0.811 | 3.61% | 1.22 |
| 96 | 0.733 | 0.760 | 0.787 | 3.64% | 1.24 |
| 97 | 0.711 | 0.738 | 0.765 | 3.67% | 1.26 |
| 98 | 0.691 | 0.716 | 0.743 | 3.70% | 1.27 |
| 99 | 0.670 | 0.695 | 0.721 | 3.73% | 1.29 |
| 100 | 0.651 | 0.675 | 0.701 | 3.76% | 1.31 |
| 101 | 0.632 | 0.656 | 0.681 | 3.79% | 1.33 |
| 102 | 0.614 | 0.637 | 0.662 | 3.82% | 1.34 |
| 103 | 0.596 | 0.619 | 0.643 | 3.85% | 1.36 |
| 104 | 0.579 | 0.602 | 0.625 | 3.88% | 1.38 |
| 105 | 0.563 | 0.585 | 0.608 | 3.91% | 1.40 |
| 106 | 0.547 | 0.569 | 0.591 | 3.94% | 1.41 |
| 107 | 0.532 | 0.553 | 0.575 | 3.97% | 1.43 |
| 108 | 0.517 | 0.538 | 0.559 | 4.00% | 1.45 |
| 109 | 0.502 | 0.523 | 0.544 | 4.03% | 1.47 |
| 110 | 0.489 | 0.508 | 0.529 | 4.05% | 1.49 |
| 111 | 0.475 | 0.495 | 0.515 | 4.08% | 1.50 |
| 112 | 0.462 | 0.481 | 0.501 | 4.11% | 1.52 |
| 113 | 0.449 | 0.468 | 0.487 | 4.14% | 1.54 |
| 114 | 0.437 | 0.456 | 0.474 | 4.17% | 1.56 |
| 115 | 0.425 | 0.443 | 0.462 | 4.20% | 1.58 |
| 116 | 0.414 | 0.432 | 0.450 | 4.22% | 1.60 |
| 117 | 0.403 | 0.420 | 0.438 | 4.25% | 1.62 |
| 118 | 0.392 | 0.409 | 0.427 | 4.28% | 1.63 |
| 119 | 0.382 | 0.399 | 0.416 | 4.31% | 1.65 |
| 120 | 0.372 | 0.388 | 0.405 | 4.34% | 1.67 |
| 121 | 0.362 | 0.378 | 0.395 | 4.36% | 1.69 |
| 122 | 0.353 | 0.368 | 0.385 | 4.39% | 1.71 |
| 123 | 0.344 | 0.359 | 0.375 | 4.42% | 1.73 |
| 124 | 0.335 | 0.350 | 0.365 | 4.44% | 1.75 |
| 125 | 0.326 | 0.341 | 0.356 | 4.47% | 1.77 |