

产品承认书

客户名称: _____

产品名称: 多层片式陶瓷电容器 (MLCC)

客户料号: _____

芯声料号: _____

| 芯声/博睿通 | | | 客户 | | |
|--------|--|--|----|----|----|
| | | | 检查 | 审核 | 核准 |
| | | | | | |

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1. 范围及介质分类

此规格书适用于下面列出的所有系列的片式多层陶瓷电容器（英文缩写 MLCC）：

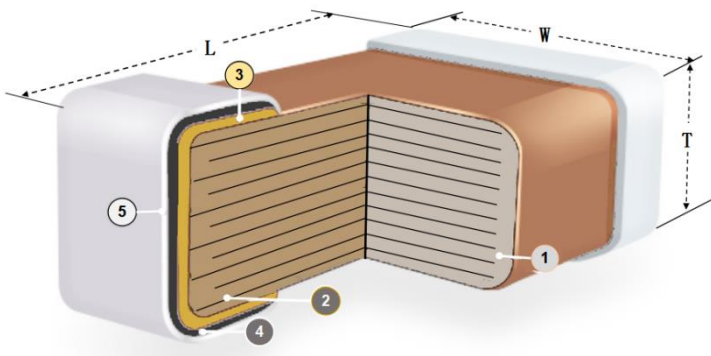
产品尺寸规格：0201、0402、0603、0805、1206、1210；

介质分类：NP0(COG)、X7R、X5R、X6S；

I 类电容器：NP0 系列，此类介质材料的电容器电性能稳定，容值几乎不随温度、电压和时间的变化而变化。包括常规、中高压 NP0 产品。适用于低损耗，稳定性要求高的电路中，如滤波器、谐振器和计时电路等。

II 类电容器：X7R、X5R、X6S 系列，此类介质材料的电容器具有较高的介电常数，容量相比 I 类电容器高，具有较稳定的温度特性，适用于容量范围广，如隔直、耦合、旁路等电路中。

2. 产品结构示意图



| 序号 | 名称 |
|----|------|
| 1 | 陶瓷介质 |
| 2 | 内电极 |
| 3 | 外电极 |
| 4 | 镍层 |
| 5 | 锡层 |

3. 产品型号命名规则

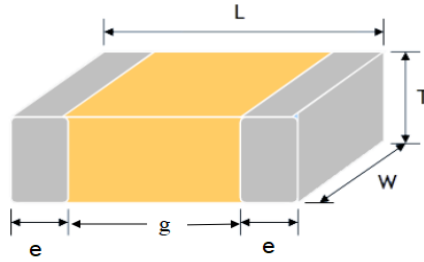
C
①
SA
②
0402
③
X7R
④
104
⑤
K
⑥
500
⑦
G
⑧
T
⑨

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|------------------------|-----------------------|------------------------|-----------------------|----------------|--------------|--------------|---------------|---------------|------------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|--|--|--|
| ① | C: MLCC | | | | | | | | | | | | | | | | | | | | | | | | |
| ② | <p>特殊应用</p> <p>SA: 一般品</p> <p>IA: 工业级产品</p> <p>AA: 车用</p> <p>QA: Microwave</p> <p>FA: High Q</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| ③ | <p>产品尺寸: EIA</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>01R5 (0402)</td> <td>0201 (0603)</td> <td>0402 (1005)</td> <td>0603 (1608)</td> <td>0805 (2012)</td> </tr> <tr> <td>1206 (3216)</td> <td>1210 (3225)</td> <td></td> <td></td> <td></td> </tr> </table> | 01R5 (0402) | 0201 (0603) | 0402 (1005) | 0603 (1608) | 0805 (2012) | 1206 (3216) | 1210 (3225) | | | | | | | | | | | | | | | | | |
| 01R5 (0402) | 0201 (0603) | 0402 (1005) | 0603 (1608) | 0805 (2012) | | | | | | | | | | | | | | | | | | | | | |
| 1206 (3216) | 1210 (3225) | | | | | | | | | | | | | | | | | | | | | | | | |
| ④ | <p>电容温度特性</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>NPO (BME)</td> <td>X7R (BME)</td> <td>X5R (BME)</td> <td>X6S (BME)</td> </tr> </table> | NPO (BME) | X7R (BME) | X5R (BME) | X6S (BME) | | | | | | | | | | | | | | | | | | | | |
| NPO (BME) | X7R (BME) | X5R (BME) | X6S (BME) | | | | | | | | | | | | | | | | | | | | | | |
| ⑤ | <p>电容容值</p> <p>容值$\geq 10\text{pF}$ 的表示方式:</p> <p>First Two $\times 10^{\text{third}}$</p> <p>104=10$\times 10^4\text{pF}$=100nF</p> <p>123=12$\times 10^3\text{pF}$=12nF</p> <p>容值$< 10\text{pF}$ 的表示方式: 0R2=0.2pF</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| ⑥ | <p>容值误差值</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>A: $\pm 0.05\text{pF}$</td> <td>B: $\pm 0.1\text{pF}$</td> <td>C: $\pm 0.25\text{pF}$</td> <td>D: $\pm 0.5\text{pF}$</td> <td>F: $\pm 1.0\%$</td> </tr> <tr> <td>G: $\pm 2\%$</td> <td>J: $\pm 5\%$</td> <td>K: $\pm 10\%$</td> <td>M: $\pm 20\%$</td> <td>Z: 80/-20%</td> </tr> </table> | A: $\pm 0.05\text{pF}$ | B: $\pm 0.1\text{pF}$ | C: $\pm 0.25\text{pF}$ | D: $\pm 0.5\text{pF}$ | F: $\pm 1.0\%$ | G: $\pm 2\%$ | J: $\pm 5\%$ | K: $\pm 10\%$ | M: $\pm 20\%$ | Z: 80/-20% | | | | | | | | | | | | | | |
| A: $\pm 0.05\text{pF}$ | B: $\pm 0.1\text{pF}$ | C: $\pm 0.25\text{pF}$ | D: $\pm 0.5\text{pF}$ | F: $\pm 1.0\%$ | | | | | | | | | | | | | | | | | | | | | |
| G: $\pm 2\%$ | J: $\pm 5\%$ | K: $\pm 10\%$ | M: $\pm 20\%$ | Z: 80/-20% | | | | | | | | | | | | | | | | | | | | | |
| ⑦ | <p>额定电压: (单位: V)</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>2R5: 2.5</td> <td>4R0: 4</td> <td>6R3: 6.3</td> <td>100: 10</td> <td>160: 16</td> <td>250: 25</td> <td>350: 35</td> <td>500: 50</td> </tr> <tr> <td>630: 63</td> <td>800: 80</td> <td>101: 100</td> <td>201: 200</td> <td>251: 250</td> <td>401: 400</td> <td>451: 450</td> <td>501: 500</td> </tr> <tr> <td>631: 630</td> <td>102: 1000</td> <td>202: 2000</td> <td>302: 3000</td> <td>402: 4000</td> <td></td> <td></td> <td></td> </tr> </table> | 2R5: 2.5 | 4R0: 4 | 6R3: 6.3 | 100: 10 | 160: 16 | 250: 25 | 350: 35 | 500: 50 | 630: 63 | 800: 80 | 101: 100 | 201: 200 | 251: 250 | 401: 400 | 451: 450 | 501: 500 | 631: 630 | 102: 1000 | 202: 2000 | 302: 3000 | 402: 4000 | | | |
| 2R5: 2.5 | 4R0: 4 | 6R3: 6.3 | 100: 10 | 160: 16 | 250: 25 | 350: 35 | 500: 50 | | | | | | | | | | | | | | | | | | |
| 630: 63 | 800: 80 | 101: 100 | 201: 200 | 251: 250 | 401: 400 | 451: 450 | 501: 500 | | | | | | | | | | | | | | | | | | |
| 631: 630 | 102: 1000 | 202: 2000 | 302: 3000 | 402: 4000 | | | | | | | | | | | | | | | | | | | | | |
| ⑧ | <p>产品厚度 (单位: mm)</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>A: 0.125</td> <td>B: 0.130</td> <td>C: 0.180</td> <td>D: 0.200</td> <td>E: 0.300</td> <td>F: 0.450</td> <td>G: 0.500</td> <td>H: 0.600</td> </tr> <tr> <td>J: 0.800</td> <td>K: 0.850</td> <td>L: 1.150</td> <td>M: 1.250</td> <td>N: 1.600</td> <td>P: 1.900</td> <td>Q: 2.000</td> <td>R: 2.500</td> </tr> </table> | A: 0.125 | B: 0.130 | C: 0.180 | D: 0.200 | E: 0.300 | F: 0.450 | G: 0.500 | H: 0.600 | J: 0.800 | K: 0.850 | L: 1.150 | M: 1.250 | N: 1.600 | P: 1.900 | Q: 2.000 | R: 2.500 | | | | | | | | |
| A: 0.125 | B: 0.130 | C: 0.180 | D: 0.200 | E: 0.300 | F: 0.450 | G: 0.500 | H: 0.600 | | | | | | | | | | | | | | | | | | |
| J: 0.800 | K: 0.850 | L: 1.150 | M: 1.250 | N: 1.600 | P: 1.900 | Q: 2.000 | R: 2.500 | | | | | | | | | | | | | | | | | | |
| ⑨ | <p>包装方式</p> <p>B= 散装/袋装</p> <p>T= 编带/卷装 (默认 7inch 卷盘)</p> <p>S= 特殊包装 (按客户要求)</p> | | | | | | | | | | | | | | | | | | | | | | | | |

4. 产品尺寸和温度系数/特性

| | | |
|------------|------|---------|
| 版本日期 | 版序 | 页次 |
| 2022/03/17 | V1.1 | 4 / 111 |

4.1 产品尺寸



| 规格 EIA | 尺寸 说明 | L (mm) | W (mm) | e (mm) | g min (mm) | T (mm) | 代码 |
|-----------|----------|-----------------|-----------------|-----------|---------------|-----------------|----|
| 0201 | standard | 0.60±0.03 | 0.30±0.03 | 0.1~0.2 | 0.2 | 0.30±0.03 | E |
| | * | 0.60-0.03/+0.1 | 0.30-0.03/+0.1 | 0.1~0.25 | 0.2 | 0.30-0.03/+0.1 | E |
| 0402 | standard | 1.00±0.10 | 0.50±0.10 | 0.15~0.3 | 0.4 | 0.50±0.10 | G |
| | * | 1.00-0.05/+0.20 | 0.50-0.05/+0.20 | 0.15~0.35 | 0.4 | 0.50-0.05/+0.20 | G |
| 0603 | standard | 1.60±0.10 | 0.80±0.10 | 0.2~0.6 | 0.5 | 0.80±0.10 | J |
| | * | 1.60±0.20 | 0.80±0.20 | 0.2~0.65 | 0.5 | 0.80±0.20 | J |
| 0805 | standard | 2.00±0.10 | 1.25±0.10 | 0.2~0.7 | 0.7 | 0.60±0.10 | H |
| | | | | | | 0.85±0.10 | K |
| | | | | | | 1.25±0.20 | M |
| | * | 2.00±0.20 | 1.25±0.20 | 0.2~0.7 | 0.7 | 0.60±0.10 | H |
| | | | | | | 0.85±0.20 | K |
| | | | | | | 1.25±0.20 | M |
| 1206 | standard | 3.20±0.20 | 1.60±0.20 | 0.3~0.8 | 1.6 | 0.85±0.10 | K |
| | | | | | | 1.25±0.20 | M |
| | | | | | | 1.6±0.20 | N |
| | * | 3.20±0.30 | 1.60±0.30 | 0.3~0.8 | 1.6 | 0.85±0.10 | K |
| | | | | | | 1.25±0.20 | M |
| | | | | | | 1.6±0.30 | N |
| 1210 | standard | 3.20±0.30 | 2.5±0.20 | 0.3~0.8 | 1.6 | 0.85±0.10 | K |
| | | | | | | 1.25±0.20 | M |
| | | | | | | 1.6±0.20 | N |
| | | | | | | 2.0±0.20 | Q |
| | * | 3.20±0.40 | 2.5±0.30 | 0.3~0.8 | 1.6 | 2.5±0.30 | R |
| | | | | | | 0.85±0.10 | K |
| | | | | | | 1.25±0.20 | M |
| | | | | | | 1.6±0.30 | N |
| | | | | | | 2.0±0.20 | Q |
| | | | | | | 2.5±0.30 | R |

* 标识为产品特殊尺寸规格

4.2 产品材质温度系数/特性

| 材质 | 工作温度范围 | 温度系数/特性 |
|----|--------|---------|
|----|--------|---------|

| | | |
|--------|------------|-----------|
| NPO 系列 | -55℃~+125℃ | 0±30ppm/℃ |
| X7R 系列 | -55℃~+125℃ | ±15% |
| X5R 系列 | -55℃~+85℃ | ±15% |
| X6S 系列 | -55℃~+105℃ | ±22% |

5. 产品容值范围及电压

| 尺寸 EIA (mm) | 额定 电压 | 容值范围 | | | | 厚度 (mm) | 代码 |
|----------------|-------------|------------|-------------|-------------|-----------------|-------------------|----------|
| | | NPO 系列 | X7R 系列 | X5R 系列 | X6S 系列 | | |
| 0201 (0603) | 6.3V | — | 15nF~100nF | 220nF~2.2μF | 220nF~1.0μF | 0.3-0.03/ + 0.1 | E |
| | | | 100pF~10nF | 12nF~100nF | 150pF~100nF | 0.3±0.03 | E |
| | 10V | — | 15nF~100nF | 220nF~2.2μF | 220nF | 0.3-0.03/ + 0.1 | E |
| | | | 100pF~10nF | 150nF~470nF | 150pF~100nF | 0.3±0.03 | E |
| | 16V | — | — | 220nF~1.0μF | — | 0.3-0.03/ + 0.1 | E |
| | | | 100pF~10nF | 3.3nF~100nF | 100pF~100nF | 0.3±0.03 | E |
| 25V | — | — | 220nF~470nF | — | 0.3-0.03/ + 0.1 | E | |
| 50V | 0.1pF~470pF | 100pF~10nF | 100pF~100nF | 100pF~22nF | 0.3±0.03 | E | |
| 0402 (1005) | 6.3V | — | 100pF~1.0μF | 2.2μF~4.7μF | 2.2μF~4.7μF | 0.50-0.05/ + 0.20 | G |
| | | | | 100pF~1.0μF | 100pF~1.0μF | 0.5±0.10 | G |
| | 10V | — | 100pF~470nF | 2.2μF~4.7μF | 2.2μF~4.7μF | 0.50-0.05/ + 0.20 | G |
| | | | | 100pF~1.0μF | 100pF~1.0μF | 0.5±0.10 | G |
| | 16V | — | 220nF~470nF | 2.2μF | 2.2μF | 0.50-0.05/ + 0.20 | G |
| | | | 100pF~100nF | 100pF~1.0μF | 100pF~1.0μF | 0.5±0.10 | G |
| | 25V | — | — | 2.2μF | 2.2μF | 0.50-0.05/ + 0.20 | G |
| | | | | 0.5pF~1.0nF | 100pF~220nF | 100pF~1.0uF | 0.5±0.10 |
| | 50V | — | — | 1.0μF | 1.0μF | 0.50-0.05/ + 0.20 | G |
| | | | | 0.5pF~1.0nF | 100pF~100nF | 100pF~470nF | 0.5±0.10 |

| 尺寸 EIA (mm) | 额定 电压 | 容值范围 | | | | 厚度 (mm) | 代码 |
|----------------|----------|--------|--------|--------|--------|------------|----|
| | | NPO 系列 | X7R 系列 | X5R 系列 | X6S 系列 | | |



| | | | | | | | |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|
| 0603 (1608) | 6.3V | — | 470nF~10μF | 4.7μF~10μF | 4.7μF~10μF | 0.8±0.20 | J |
| | | | 100pF~100nF | 220pF~2.2μF | 220pF~2.2μF | 0.8±0.10 | J |
| | 10V | — | 220nF~4.7μF | 4.7μF~10μF | 4.7μF~10μF | 0.8±0.20 | J |
| | | | 100pF~100nF | 220pF~2.2μF | 220pF~2.2μF | 0.8±0.10 | J |
| | 16V | — | 220nF~2.2μF | 2.2μF~4.7μF | 2.2μF~4.7μF | 0.8±0.20 | J |
| | | | 100pF~180nF | 220pF~1.0μF | 220pF~1.0μF | 0.8±0.10 | J |
| | 25V | — | 120nF~1.0μF | 330nF~2.2μF | 330nF~2.2μF | 0.8±0.20 | J |
| | | | 0.5pF~2.2nF | 100pF~100nF | 220pF~220nF | 220pF~220nF | 0.8±0.10 |
| 50V | — | 33nF~470nF | 220nF~1.0μF | 220nF~1.0μF | 0.8±0.20 | J | |
| | | 0.5pF~1.5nF | 100pF~27nF | 220pF~100nF | 220pF~100nF | 0.8±0.10 | J |
| 100V | 0.5pF~820pF | 100pF~22nF | — | — | 0.8±0.10 | J | |
| 200V | 0.5pF~470pF | 100pF~6.8nF | — | — | 0.8±0.10 | J | |
| 250V | 0.5pF~470pF | 100pF~6.8nF | — | — | 0.8±0.10 | J | |
| 0805 (2012) | 6.3V | — | 2.2μF~22μF | 2.2μF~22μF | 2.2μF~22μF | 1.25±0.20 | M |
| | | | 1.5nF~1.0μF | 1.5nF~1.0μF | 1.5nF~1.0μF | 0.85±0.10 | K |
| | | | 330pF~1.0nF | 330pF~1.0nF | 330pF~1.0nF | 0.85±0.10 | K |
| | | | | | | 0.60±0.10 | H |
| | | | 220pF~270pF | 220pF~270pF | 220pF~270pF | 0.85±0.10 | K |
| | | | | | | 0.60±0.10 | |
| | 10V | — | 2.2μF~22μF | 2.2μF~22μF | 2.2μF~22μF | 1.25±0.20 | M |
| | | | 1.5nF~1.0μF | 1.5nF~1.0μF | 1.5nF~1.0μF | 0.85±0.10 | K |
| | | | 330pF~1.0nF | 330pF~1.0nF | 330pF~1.0nF | 0.85±0.10 | K |
| | | | | | | 0.60±0.10 | H |
| | | | 220pF~270pF | 220pF~270pF | 220pF~270pF | 0.85±0.10 | K |
| | | | 0.5pF~2.7nF | | | 0.60±0.10 | H |
| | 16V | — | 4.7μF~10μF | 4.7μF~10μF | 4.7μF~10μF | 1.25±0.20 | M |
| | | | 470nF~2.2μF | 470nF~2.2μF | 470nF~2.2μF | 1.25±0.20 | M |
| | | | 1.5nF~330nF | 1.5nF~330nF | 1.5nF~330nF | 0.85±0.10 | K |
| | | | 330pF~1.0nF | 330pF~1.0nF | 330pF~1.0nF | 0.60±0.10 | H |
| | | | | | | 0.85±0.10 | K |
| | | | 3.3nF~6.8nF | 220pF~270pF | 220pF~270pF | 220pF~270pF | 0.85±0.10 |
| 0.5pF~2.7nF | 220pF~270pF | 220pF~270pF | 220pF~270pF | 0.60±0.10 | H | | |

| 尺寸 EIA | 额定 | 容值范围 | 厚度 | 代码 |
|--------|----|------|----|----|
|--------|----|------|----|----|



| (mm) | 电压 | NPO 系列 | X7R 系列 | X5R 系列 | X6S 系列 | (mm) | | |
|----------------|----------------|--------|-------------|-------------|-------------|-------------|------------|-----------|
| 0805 (2012) | 25V | — | 2.2μF~4.7μF | 2.2μF~4.7μF | 2.2μF~4.7μF | 1.25±0.20 | M | |
| | | | 470nF~1.0μF | 470nF~1.0μF | 470nF~1.0μF | 0.85±0.10 | K | |
| | | | 1.5nF~330nF | 1.5nF~330nF | 1.5nF~330nF | 1.25±0.20 | M | |
| | | | 330pF~1nF | 330pF~1nF | 330pF~1nF | 0.85±0.10 | K | |
| | | | 3.3nF~5.6nF | 220pF~270pF | 220pF~270pF | 0.85±0.10 | K | |
| | | | 0.5pF~2.7nF | 220pF~270pF | 220pF~270pF | 0.60±0.10 | H | |
| | 50V | — | 1.0μF | 1.0μF | 1.0μF | 1.25±0.20 | M | |
| | | | 680nF | 680nF | 680nF | 0.85±0.10 | K | |
| | | | 220nF~470nF | 220nF~470nF | 220nF~470nF | 0.85±0.10 | K | |
| | | | 1.5nF~180nF | 1.5nF~180nF | 1.5nF~180nF | 1.25±0.20 | M | |
| | | | 330pF~1nF | 330pF~1nF | 330pF~1nF | 0.85±0.10 | K | |
| | | | 220pF~270pF | 220pF~270pF | 220pF~270pF | 0.60±0.10 | H | |
| | 100V | — | 0.5pF~2.2nF | 330pF~100nF | — | — | 0.85±0.10 | K |
| | | | | 220pF~270nF | — | — | 1.25±0.20 | M |
| | | | | 100pF~200pF | — | — | 0.85±0.10 | K |
| | | | | — | — | — | 0.60±0.10 | H |
| | 250V | — | 0.5pF~1.5nF | 15nF~47nF | — | — | 1.25±0.20 | M |
| | | | | 330pF~10nF | — | — | 0.85±0.10 | K |
| | | | | 220pF~270nF | — | — | 1.25±0.20 | M |
| | | | | 100pF~200pF | — | — | 0.85±0.10 | K |
| | 1206 (3216) | 6.3V | — | 4.7μF~100μF | 4.7μF~100μF | 4.7μF~100μF | 1.60±0.30 | N |
| | | | | 470nF~2.2μF | 470nF~2.2μF | 470nF~2.2μF | 1.60±0.20 | N |
| | | | | 220pF~330nF | 220pF~330nF | 220pF~330nF | 1.25±0.20 | M |
| | | 10V | — | — | 4.7μF~22μF | 4.7μF~22μF | 4.7μF~22μF | 0.85±0.10 |
| 470nF~2.2μF | | | | | 470nF~2.2μF | 470nF~2.2μF | 1.60±0.30 | N |
| 220pF~330nF | | | | | 220pF~330nF | 220pF~330nF | 1.60±0.20 | N |
| 16V | | — | — | 4.7μF~10μF | 4.7μF~10μF | 4.7μF~10μF | 1.25±0.20 | M |
| | | | | 470nF~2.2μF | 470nF~2.2μF | 470nF~2.2μF | 1.60±0.30 | N |
| | | | | 220pF~330nF | 220pF~330nF | 220pF~330nF | 1.60±0.20 | N |
| 16V | 10nF | — | 470nF~2.2μF | 470nF~2.2μF | 470nF~2.2μF | 1.25±0.20 | M | |
| | | | 220pF~330nF | 220pF~330nF | 220pF~330nF | 0.85±0.10 | K | |
| | | | 0.5pF~6.8nF | 220pF~330nF | 220pF~330nF | 0.85±0.10 | K | |



| 尺寸 EIA (mm) | 额定 电压 | 容值范围 | | | | 厚度 (mm) | 代码 |
|----------------|----------|-------------|-------------|-------------|-------------|------------|----|
| | | NPO 系列 | X7R 系列 | X5R 系列 | X6S 系列 | | |
| 1206 (3216) | 25V | — | 4.7μF | 4.7μF | 4.7μF | 1.60±0.30 | N |
| | | — | — | — | — | 1.60±0.20 | N |
| | | 10nF | 470nF~2.2uF | 470nF~2.2uF | 470nF~2.2uF | 1.25±0.20 | M |
| | | 0.5pF~6.8nF | 220pF~330nF | 220pF~330nF | 220pF~330nF | 0.85±0.15 | K |
| | 50V | — | 680nF~1.0uF | 680nF~1.0uF | 680nF~1.0uF | 1.60±0.20 | N |
| | | — | — | — | — | 1.25±0.20 | M |
| | | 0.5pF~5.6nF | 220pF~330nF | 220pF~330nF | 220pF~330nF | 0.85±0.10 | K |
| | 100V | — | 680nF~1.0μF | — | — | 1.60±0.20 | N |
| | | — | 470nF | — | — | 1.25±0.20 | M |
| | | 0.5pF~5.6nF | 220pF~330nF | — | — | 0.85±0.15 | K |
| | 250V | — | 100pF~100nF | — | — | 1.25±0.20 | M |
| | | 0.5pF~1.5nF | — | — | — | 0.85±0.15 | K |
| | 500V | — | 100pF~22nF | — | — | 1.25±0.20 | M |
| | | 0.5pF~1.5nF | — | — | — | 0.85±0.15 | K |
| | 630V | — | 100pF~22nF | — | — | 1.25±0.20 | M |
| | | 0.5pF~1.5nF | — | — | — | 0.85±0.15 | K |
| | 1000V | 100pF~470pF | 100pF~10nF | — | — | 1.25±0.20 | M |
| | | 0.5pF~82pF | — | — | — | 0.85±0.15 | K |
| | 2000V | 22pf~120pF | 100pF~1.0nF | — | — | 1.25±0.20 | M |
| | | 0.5pF~20pF | — | — | — | 0.85±0.15 | K |
| 1210 (3225) | 6.3V | — | 10μF~100μF | 10μF~100μF | 10μF~100μF | 2.50±0.30 | R |
| | | — | 680nF~4.7μF | 680nF~4.7μF | 680nF~4.7μF | 1.60±0.20 | N |
| | | — | 470nF | 470nF | 470nF | 2.0±0.20 | Q |
| | 10V | — | 10μF~47μF | 10μF~47μF | 10μF~47μF | 2.50±0.30 | R |
| | | — | 680nF~4.7μF | 680nF~4.7μF | 680nF~4.7μF | 1.60±0.20 | N |
| | | — | 470nF | 470nF | 470nF | 2.0±0.20 | Q |
| | 16V | — | 22μF | 22μF | 22μF | 2.50±0.30 | R |
| | | — | 10μF | 10μF | 10μF | 2.0±0.20 | Q |
| | | — | 680nF~4.7μF | 680nF~4.7μF | 680nF~4.7μF | 1.60±0.20 | N |
| | | — | 470nF | 470nF | 470nF | 2.0±0.20 | Q |
| | 25V | — | 10μF | 10μF | 10μF | 2.50±0.30 | R |
| | | — | 4.7μF | 4.7μF | 4.7μF | 2.0±0.20 | Q |
| | | — | 680nF~2.2μF | 680nF~2.2μF | 680nF~2.2μF | 1.60±0.20 | N |
| | | — | 470nF | 470nF | 470nF | 2.0±0.20 | Q |

| 尺寸 EIA (mm) | 额定 电压 | 容值范围 | | | | 厚度 (mm) | 代码 | | |
|----------------|----------|-------------|-------------|-------------|-------------|------------|------------|-----------|---|
| | | NP0 系列 | X7R 系列 | X5R 系列 | X6S 系列 | | | | |
| 1210 (3225) | 50V | — | 680nF~2.2μF | 680nF~2.2μF | 680nF~2.2μF | 1.60±0.20 | N | | |
| | | — | 470nF | 470nF | 470nF | 2.0±0.20 | Q | | |
| | | 100pF~3.3nF | — | — | — | 0.85±0.10 | K | | |
| | 100V | — | — | 68nF~1.0μF | — | — | 2.0±0.20 | Q | |
| | | | | 330nF~470nF | | | 2.0±0.20 | Q | |
| | | | | 150nF~220nF | | | 1.60±0.20 | N | |
| | | | | 220pF~100nF | | | 1.25±0.20 | M | |
| | 250V | — | — | 220nF | — | — | 2.0±0.20 | Q | |
| | | | | 150nF | | | 1.60±0.20 | N | |
| | | | | 220pF~100nF | | | 1.25±0.20 | M | |
| | 500V | — | — | 47nF | — | — | 2.0±0.20 | Q | |
| | | | | 22nF~33nF | | | 1.60±0.20 | N | |
| | | | | 2.7nF | | | 220pF~15nF | 1.25±0.20 | M |
| | | | | 100pF~2.2nF | | | — | 0.85±0.10 | K |
| | 630V | — | — | 47nF | — | — | 2.0±0.20 | Q | |
| | | | | 22nF~33nF | | | 1.60±0.20 | N | |
| | | | | 220pF~15nF | | | 1.25±0.20 | M | |
| | 1000V | — | — | 560pF~1.0nF | — | — | 1.25±0.20 | M | |
| | | | | 100pF~470pF | | | — | 0.85±0.10 | K |
| | 2000V | — | — | 120pf~220pF | — | — | 1.25±0.20 | M | |
| 10pF~100pF | | | | — | | | 0.85±0.10 | K | |

注:

- 1) X7R、X5R、X6S 组别采用 E12 系列, NP0(C0G)组别采用 E24 系列, 10pF 以下规格允许使用整数标称值, 如:1.0pF、2.0pF、3.0pF 等。
- 2) 对于同尺寸、材质、容量的产品, 额定电压可以由高往低覆盖。

X5R 系列产品

| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|------|---------------------|-----|-------|------|-----|
| 0201 | CSA0201X5R101K500ET | X5R | 100pF | ±10% | 50V |
| | CSA0201X5R121K500ET | X5R | 120pF | ±10% | 50V |
| | CSA0201X5R151K500ET | X5R | 150pF | ±10% | 50V |
| | CSA0201X5R181K500ET | X5R | 180pF | ±10% | 50V |
| | CSA0201X5R221K500ET | X5R | 220pF | ±10% | 50V |
| | CSA0201X5R271K500ET | X5R | 270pF | ±10% | 50V |
| | CSA0201X5R331K500ET | X5R | 330pF | ±10% | 50V |
| | CSA0201X5R391K500ET | X5R | 390pF | ±10% | 50V |
| | CSA0201X5R471K500ET | X5R | 470pF | ±10% | 50V |
| | CSA0201X5R561K500ET | X5R | 560pF | ±10% | 50V |
| | CSA0201X5R681K500ET | X5R | 680pF | ±10% | 50V |
| | CSA0201X5R821K500ET | X5R | 820pF | ±10% | 50V |
| | CSA0201X5R102K500ET | X5R | 1.0nF | ±10% | 50V |
| | CSA0201X5R152K500ET | X5R | 1.5nF | ±10% | 50V |
| | CSA0201X5R182K500ET | X5R | 1.8nF | ±10% | 50V |
| | CSA0201X5R222K500ET | X5R | 2.2nF | ±10% | 50V |
| | CSA0201X5R272K500ET | X5R | 2.7nF | ±10% | 50V |
| | CSA0201X5R332K500ET | X5R | 3.3nF | ±10% | 50V |
| | CSA0201X5R472K500ET | X5R | 4.7nF | ±10% | 50V |
| | CSA0201X5R562K500ET | X5R | 5.6nF | ±10% | 50V |
| | CSA0201X5R103K500ET | X5R | 10nF | ±10% | 50V |
| | CSA0201X5R151K250ET | X5R | 150pF | ±10% | 25V |
| | CSA0201X5R181K250ET | X5R | 180pF | ±10% | 25V |
| | CSA0201X5R221K250ET | X5R | 220pF | ±10% | 25V |
| | CSA0201X5R271K250ET | X5R | 270pF | ±10% | 25V |
| | CSA0201X5R331K250ET | X5R | 330pF | ±10% | 25V |
| | CSA0201X5R391K250ET | X5R | 390pF | ±10% | 25V |
| | CSA0201X5R471K250ET | X5R | 470pF | ±10% | 25V |
| | CSA0201X5R561K250ET | X5R | 560pF | ±10% | 25V |
| | CSA0201X5R681K250ET | X5R | 680pF | ±10% | 25V |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0201 | CSA0201X5R821K250ET | X5R | 820pF | ±10% | 25V |
| | CSA0201X5R102K250ET | X5R | 1.0nF | ±10% | 25V |
| | CSA0201X5R152K250ET | X5R | 1.5nF | ±10% | 25V |
| | CSA0201X5R182K250ET | X5R | 1.8nF | ±10% | 25V |
| | CSA0201X5R222K250ET | X5R | 2.2nF | ±10% | 25V |
| | CSA0201X5R272K250ET | X5R | 2.7nF | ±10% | 25V |
| | CSA0201X5R332K250ET | X5R | 3.3nF | ±10% | 25V |
| | CSA0201X5R472K250ET | X5R | 4.7nF | ±10% | 25V |
| | CSA0201X5R562K250ET | X5R | 5.6nF | ±10% | 25V |
| | CSA0201X5R103K250ET | X5R | 10nF | ±10% | 25V |
| | CSA0201X5R153K250ET | X5R | 15nF | ±10% | 25V |
| | CSA0201X5R223K250ET | X5R | 22nF | ±10% | 25V |
| | CSA0201X5R333K250ET | X5R | 33nF | ±10% | 25V |
| | CSA0201X5R473K250ET | X5R | 47nF | ±10% | 25V |
| | CSA0201X5R563K250ET | X5R | 56nF | ±10% | 25V |
| | CSA0201X5R683K250ET | X5R | 68nF | ±10% | 25V |
| | CSA0201X5R823K250ET | X5R | 82nF | ±10% | 25V |
| | CSA0201X5R104K250ET | X5R | 100nF | ±10% | 25V |
| | CSA0201X5R151K160ET | X5R | 150pF | ±10% | 16V |
| | CSA0201X5R181K160ET | X5R | 180pF | ±10% | 16V |
| | CSA0201X5R221K160ET | X5R | 220pF | ±10% | 16V |
| | CSA0201X5R271K160ET | X5R | 270pF | ±10% | 16V |
| | CSA0201X5R331K160ET | X5R | 330pF | ±10% | 16V |
| | CSA0201X5R391K160ET | X5R | 390pF | ±10% | 16V |
| | CSA0201X5R471K160ET | X5R | 470pF | ±10% | 16V |
| | CSA0201X5R561K160ET | X5R | 560pF | ±10% | 16V |
| | CSA0201X5R681K160ET | X5R | 680pF | ±10% | 16V |
| | CSA0201X5R821K160ET | X5R | 820pF | ±10% | 16V |
| | CSA0201X5R102K160ET | X5R | 1.0nF | ±10% | 16V |
| | CSA0201X5R152K160ET | X5R | 1.5nF | ±10% | 16V |
| | CSA0201X5R182K160ET | X5R | 1.8nF | ±10% | 16V |
| | CSA0201X5R222K160ET | X5R | 2.2nF | ±10% | 16V |
| | CSA0201X5R272K160ET | X5R | 2.7nF | ±10% | 16V |
| CSA0201X5R332K160ET | X5R | 3.3nF | ±10% | 16V | |
| CSA0201X5R472K160ET | X5R | 4.7nF | ±10% | 16V | |
| CSA0201X5R562K160ET | X5R | 5.6nF | ±10% | 16V | |
| CSA0201X5R103K160ET | X5R | 10nF | ±10% | 16V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0201 | CSA0201X5R153K160ET | X5R | 15nF | ±10% | 16V |
| | CSA0201X5R223K160ET | X5R | 22nF | ±10% | 16V |
| | CSA0201X5R333K160ET | X5R | 33nF | ±10% | 16V |
| | CSA0201X5R473K160ET | X5R | 47nF | ±10% | 16V |
| | CSA0201X5R563K160ET | X5R | 56nF | ±10% | 16V |
| | CSA0201X5R683K160ET | X5R | 68nF | ±10% | 16V |
| | CSA0201X5R823K160ET | X5R | 82nF | ±10% | 16V |
| | CSA0201X5R104K160ET | X5R | 100nF | ±10% | 16V |
| | CSA0201X5R151K100ET | X5R | 150pF | ±10% | 10V |
| | CSA0201X5R181K100ET | X5R | 180pF | ±10% | 10V |
| | CSA0201X5R221K100ET | X5R | 220pF | ±10% | 10V |
| | CSA0201X5R271K100ET | X5R | 270pF | ±10% | 10V |
| | CSA0201X5R331K100ET | X5R | 330pF | ±10% | 10V |
| | CSA0201X5R391K100ET | X5R | 390pF | ±10% | 10V |
| | CSA0201X5R471K100ET | X5R | 470pF | ±10% | 10V |
| | CSA0201X5R561K100ET | X5R | 560pF | ±10% | 10V |
| | CSA0201X5R681K100ET | X5R | 680pF | ±10% | 10V |
| | CSA0201X5R821K100ET | X5R | 820pF | ±10% | 10V |
| | CSA0201X5R102K100ET | X5R | 1.0nF | ±10% | 10V |
| | CSA0201X5R152K100ET | X5R | 1.5nF | ±10% | 10V |
| | CSA0201X5R182K100ET | X5R | 1.8nF | ±10% | 10V |
| | CSA0201X5R222K100ET | X5R | 2.2nF | ±10% | 10V |
| | CSA0201X5R272K100ET | X5R | 2.7nF | ±10% | 10V |
| | CSA0201X5R332K100ET | X5R | 3.3nF | ±10% | 10V |
| | CSA0201X5R472K100ET | X5R | 4.7nF | ±10% | 10V |
| | CSA0201X5R562K100ET | X5R | 5.6nF | ±10% | 10V |
| | CSA0201X5R103K100ET | X5R | 10nF | ±10% | 10V |
| | CSA0201X5R153K100ET | X5R | 15nF | ±10% | 10V |
| | CSA0201X5R223K100ET | X5R | 22nF | ±10% | 10V |
| | CSA0201X5R333K100ET | X5R | 33nF | ±10% | 10V |
| | CSA0201X5R473K100ET | X5R | 47nF | ±10% | 10V |
| | CSA0201X5R563K100ET | X5R | 56nF | ±10% | 10V |
| | CSA0201X5R683K100ET | X5R | 68nF | ±10% | 10V |
| | CSA0201X5R823K100ET | X5R | 82nF | ±10% | 10V |
| CSA0201X5R104K100ET | X5R | 100nF | ±10% | 10V | |
| CSA0201X5R151K6R3ET | X5R | 150pF | ±10% | 6.3V | |
| CSA0201X5R181K6R3ET | X5R | 180pF | ±10% | 6.3V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 0201 | CSA0201X5R221K6R3ET | X5R | 220pF | ±10% | 6.3V |
| | CSA0201X5R271K6R3ET | X5R | 270pF | ±10% | 6.3V |
| | CSA0201X5R331K6R3ET | X5R | 330pF | ±10% | 6.3V |
| | CSA0201X5R391K6R3ET | X5R | 390pF | ±10% | 6.3V |
| | CSA0201X5R471K6R3ET | X5R | 470pF | ±10% | 6.3V |
| | CSA0201X5R561K6R3ET | X5R | 560pF | ±10% | 6.3V |
| | CSA0201X5R681K6R3ET | X5R | 680pF | ±10% | 6.3V |
| | CSA0201X5R821K6R3ET | X5R | 820pF | ±10% | 6.3V |
| | CSA0201X5R102K6R3ET | X5R | 1.0nF | ±10% | 6.3V |
| | CSA0201X5R152K6R3ET | X5R | 1.5nF | ±10% | 6.3V |
| | CSA0201X5R182K6R3ET | X5R | 1.8nF | ±10% | 6.3V |
| | CSA0201X5R222K6R3ET | X5R | 2.2nF | ±10% | 6.3V |
| | CSA0201X5R272K6R3ET | X5R | 2.7nF | ±10% | 6.3V |
| | CSA0201X5R332K6R3ET | X5R | 3.3nF | ±10% | 6.3V |
| | CSA0201X5R472K6R3ET | X5R | 4.7nF | ±10% | 6.3V |
| | CSA0201X5R562K6R3ET | X5R | 5.6nF | ±10% | 6.3V |
| | CSA0201X5R103K6R3ET | X5R | 10nF | ±10% | 6.3V |
| | CSA0201X5R153K6R3ET | X5R | 15nF | ±10% | 6.3V |
| | CSA0201X5R223K6R3ET | X5R | 22nF | ±10% | 6.3V |
| | CSA0201X5R333K6R3ET | X5R | 33nF | ±10% | 6.3V |
| | CSA0201X5R473K6R3ET | X5R | 47nF | ±10% | 6.3V |
| | CSA0201X5R563K6R3ET | X5R | 56nF | ±10% | 6.3V |
| | CSA0201X5R683K6R3ET | X5R | 68nF | ±10% | 6.3V |
| | CSA0201X5R823K6R3ET | X5R | 82nF | ±10% | 6.3V |
| | CSA0201X5R104K6R3ET | X5R | 100nF | ±10% | 6.3V |
| | CSA0201X5R224K6R3ET | X5R | 220nF | ±10% | 6.3V |
| | CSA0201X5R334K6R3ET | X5R | 330nF | ±10% | 6.3V |
| | CSA0201X5R474K6R3ET | X5R | 470nF | ±10% | 6.3V |
| CSA0201X5R105K6R3ET | X5R | 1.0uF | ±10% | 6.3V | |
| 0402 | CSA0402X5R101K500GT | X5R | 100pF | ±10% | 50V |
| | CSA0402X5R121K500GT | X5R | 120pF | ±10% | 50V |
| | CSA0402X5R151K500GT | X5R | 150pF | ±10% | 50V |
| | CSA0402X5R181K500GT | X5R | 180pF | ±10% | 50V |
| | CSA0402X5R201K500GT | X5R | 200pF | ±10% | 50V |
| | CSA0402X5R221K500GT | X5R | 220pF | ±10% | 50V |
| | CSA0402X5R271K500GT | X5R | 270pF | ±10% | 50V |
| | CSA0402X5R331K500GT | X5R | 330pF | ±10% | 50V |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0402 | CSA0402X5R391K500GT | X5R | 390pF | ±10% | 50V |
| | CSA0402X5R471K500GT | X5R | 470pF | ±10% | 50V |
| | CSA0402X5R561K500GT | X5R | 560pF | ±10% | 50V |
| | CSA0402X5R681K500GT | X5R | 680pF | ±10% | 50V |
| | CSA0402X5R821K500GT | X5R | 820pF | ±10% | 50V |
| | CSA0402X5R102K500GT | X5R | 1.0nF | ±10% | 50V |
| | CSA0402X5R152K500GT | X5R | 1.5nF | ±10% | 50V |
| | CSA0402X5R182K500GT | X5R | 1.8nF | ±10% | 50V |
| | CSA0402X5R222K500GT | X5R | 2.2nF | ±10% | 50V |
| | CSA0402X5R272K500GT | X5R | 2.7nF | ±10% | 50V |
| | CSA0402X5R332K500GT | X5R | 3.3nF | ±10% | 50V |
| | CSA0402X5R472K500GT | X5R | 4.7nF | ±10% | 50V |
| | CSA0402X5R562K500GT | X5R | 5.6nF | ±10% | 50V |
| | CSA0402X5R103K500GT | X5R | 10nF | ±10% | 50V |
| | CSA0402X5R153K500GT | X5R | 15nF | ±10% | 50V |
| | CSA0402X5R101K250GT | X5R | 100pF | ±10% | 25V |
| | CSA0402X5R121K250GT | X5R | 120pF | ±10% | 25V |
| | CSA0402X5R151K250GT | X5R | 150pF | ±10% | 25V |
| | CSA0402X5R181K250GT | X5R | 180pF | ±10% | 25V |
| | CSA0402X5R201K250GT | X5R | 200pF | ±10% | 25V |
| | CSA0402X5R221K250GT | X5R | 220pF | ±10% | 25V |
| | CSA0402X5R271K250GT | X5R | 270pF | ±10% | 25V |
| | CSA0402X5R331K250GT | X5R | 330pF | ±10% | 25V |
| | CSA0402X5R391K250GT | X5R | 390pF | ±10% | 25V |
| | CSA0402X5R471K250GT | X5R | 470pF | ±10% | 25V |
| | CSA0402X5R561K250GT | X5R | 560pF | ±10% | 25V |
| | CSA0402X5R681K250GT | X5R | 680pF | ±10% | 25V |
| | CSA0402X5R821K250GT | X5R | 820pF | ±10% | 25V |
| | CSA0402X5R102K250GT | X5R | 1.0nF | ±10% | 25V |
| | CSA0402X5R152K250GT | X5R | 1.5nF | ±10% | 25V |
| | CSA0402X5R182K250GT | X5R | 1.8nF | ±10% | 25V |
| | CSA0402X5R222K250GT | X5R | 2.2nF | ±10% | 25V |
| | CSA0402X5R272K250GT | X5R | 2.7nF | ±10% | 25V |
| CSA0402X5R332K250GT | X5R | 3.3nF | ±10% | 25V | |
| CSA0402X5R472K250GT | X5R | 4.7nF | ±10% | 25V | |
| CSA0402X5R562K250GT | X5R | 5.6nF | ±10% | 25V | |
| CSA0402X5R103K250GT | X5R | 10nF | ±10% | 25V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0402 | CSA0402X5R153K250GT | X5R | 15nF | ±10% | 25V |
| | CSA0402X5R333K250GT | X5R | 33nF | ±10% | 25V |
| | CSA0402X5R393K250GT | X5R | 39nF | ±10% | 25V |
| | CSA0402X5R473K250GT | X5R | 47nF | ±10% | 25V |
| | CSA0402X5R563K250GT | X5R | 56nF | ±10% | 25V |
| | CSA0402X5R683K250GT | X5R | 68nF | ±10% | 25V |
| | CSA0402X5R101K160GT | X5R | 100pF | ±10% | 16V |
| | CSA0402X5R121K160GT | X5R | 120pF | ±10% | 16V |
| | CSA0402X5R151K160GT | X5R | 150pF | ±10% | 16V |
| | CSA0402X5R181K160GT | X5R | 180pF | ±10% | 16V |
| | CSA0402X5R201K160GT | X5R | 200pF | ±10% | 16V |
| | CSA0402X5R221K160GT | X5R | 220pF | ±10% | 16V |
| | CSA0402X5R271K160GT | X5R | 270pF | ±10% | 16V |
| | CSA0402X5R331K160GT | X5R | 330pF | ±10% | 16V |
| | CSA0402X5R391K160GT | X5R | 390pF | ±10% | 16V |
| | CSA0402X5R471K160GT | X5R | 470pF | ±10% | 16V |
| | CSA0402X5R561K160GT | X5R | 560pF | ±10% | 16V |
| | CSA0402X5R681K160GT | X5R | 680pF | ±10% | 16V |
| | CSA0402X5R821K160GT | X5R | 820pF | ±10% | 16V |
| | CSA0402X5R102K160GT | X5R | 1.0nF | ±10% | 16V |
| | CSA0402X5R152K160GT | X5R | 1.5nF | ±10% | 16V |
| | CSA0402X5R182K160GT | X5R | 1.8nF | ±10% | 16V |
| | CSA0402X5R222K160GT | X5R | 2.2nF | ±10% | 16V |
| | CSA0402X5R272K160GT | X5R | 2.7nF | ±10% | 16V |
| | CSA0402X5R332K160GT | X5R | 3.3nF | ±10% | 16V |
| | CSA0402X5R472K160GT | X5R | 4.7nF | ±10% | 16V |
| | CSA0402X5R562K160GT | X5R | 5.6nF | ±10% | 16V |
| | CSA0402X5R103K160GT | X5R | 10nF | ±10% | 16V |
| | CSA0402X5R153K160GT | X5R | 15nF | ±10% | 16V |
| | CSA0402X5R333K160GT | X5R | 33nF | ±10% | 16V |
| | CSA0402X5R393K160GT | X5R | 39nF | ±10% | 16V |
| | CSA0402X5R473K160GT | X5R | 47nF | ±10% | 16V |
| | CSA0402X5R563K160GT | X5R | 56nF | ±10% | 16V |
| | CSA0402X5R683K160GT | X5R | 68nF | ±10% | 16V |
| CSA0402X5R104K160GT | X5R | 100nF | ±10% | 16V | |
| CSA0402X5R154K160GT | X5R | 150nF | ±10% | 16V | |
| CSA0402X5R101K100GT | X5R | 100pF | ±10% | 10V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 0402 | CSA0402X5R121K100GT | X5R | 120pF | ±10% | 10V |
| | CSA0402X5R151K100GT | X5R | 150pF | ±10% | 10V |
| | CSA0402X5R181K100GT | X5R | 180pF | ±10% | 10V |
| | CSA0402X5R201K100GT | X5R | 200pF | ±10% | 10V |
| | CSA0402X5R221K100GT | X5R | 220pF | ±10% | 10V |
| | CSA0402X5R271K100GT | X5R | 270pF | ±10% | 10V |
| | CSA0402X5R331K100GT | X5R | 330pF | ±10% | 10V |
| | CSA0402X5R391K100GT | X5R | 390pF | ±10% | 10V |
| | CSA0402X5R471K100GT | X5R | 470pF | ±10% | 10V |
| | CSA0402X5R561K100GT | X5R | 560pF | ±10% | 10V |
| | CSA0402X5R681K100GT | X5R | 680pF | ±10% | 10V |
| | CSA0402X5R821K100GT | X5R | 820pF | ±10% | 10V |
| | CSA0402X5R102K100GT | X5R | 1.0nF | ±10% | 10V |
| | CSA0402X5R152K100GT | X5R | 1.5nF | ±10% | 10V |
| | CSA0402X5R182K100GT | X5R | 1.8nF | ±10% | 10V |
| | CSA0402X5R222K100GT | X5R | 2.2nF | ±10% | 10V |
| | CSA0402X5R272K100GT | X5R | 2.7nF | ±10% | 10V |
| | CSA0402X5R332K100GT | X5R | 3.3nF | ±10% | 10V |
| | CSA0402X5R472K100GT | X5R | 4.7nF | ±10% | 10V |
| | CSA0402X5R562K100GT | X5R | 5.6nF | ±10% | 10V |
| | CSA0402X5R103K100GT | X5R | 10nF | ±10% | 10V |
| | CSA0402X5R153K100GT | X5R | 15nF | ±10% | 10V |
| | CSA0402X5R333K100GT | X5R | 33nF | ±10% | 10V |
| | CSA0402X5R393K100GT | X5R | 39nF | ±10% | 10V |
| | CSA0402X5R473K100GT | X5R | 47nF | ±10% | 10V |
| | CSA0402X5R563K100GT | X5R | 56nF | ±10% | 10V |
| | CSA0402X5R683K100GT | X5R | 68nF | ±10% | 10V |
| | CSA0402X5R104K100GT | X5R | 100nF | ±10% | 10V |
| | CSA0402X5R154K100GT | X5R | 150nF | ±10% | 10V |
| | CSA0402X5R184K100GT | X5R | 180nF | ±10% | 10V |
| | CSA0402X5R224K100GT | X5R | 220nF | ±10% | 10V |
| | CSA0402X5R101K6R3GT | X5R | 100pF | ±10% | 6.3V |
| | CSA0402X5R121K6R3GT | X5R | 120pF | ±10% | 6.3V |
| CSA0402X5R151K6R3GT | X5R | 150pF | ±10% | 6.3V | |
| CSA0402X5R181K6R3GT | X5R | 180pF | ±10% | 6.3V | |
| CSA0402X5R201K6R3GT | X5R | 200pF | ±10% | 6.3V | |
| CSA0402X5R221K6R3GT | X5R | 220pF | ±10% | 6.3V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 0402 | CSA0402X5R271K6R3GT | X5R | 270pF | ±10% | 6.3V |
| | CSA0402X5R331K6R3GT | X5R | 330pF | ±10% | 6.3V |
| | CSA0402X5R391K6R3GT | X5R | 390pF | ±10% | 6.3V |
| | CSA0402X5R471K6R3GT | X5R | 470pF | ±10% | 6.3V |
| | CSA0402X5R561K6R3GT | X5R | 560pF | ±10% | 6.3V |
| | CSA0402X5R681K6R3GT | X5R | 680pF | ±10% | 6.3V |
| | CSA0402X5R821K6R3GT | X5R | 820pF | ±10% | 6.3V |
| | CSA0402X5R102K6R3GT | X5R | 1.0nF | ±10% | 6.3V |
| | CSA0402X5R152K6R3GT | X5R | 1.5nF | ±10% | 6.3V |
| | CSA0402X5R182K6R3GT | X5R | 1.8nF | ±10% | 6.3V |
| | CSA0402X5R222K6R3GT | X5R | 2.2nF | ±10% | 6.3V |
| | CSA0402X5R272K6R3GT | X5R | 2.7nF | ±10% | 6.3V |
| | CSA0402X5R332K6R3GT | X5R | 3.3nF | ±10% | 6.3V |
| | CSA0402X5R472K6R3GT | X5R | 4.7nF | ±10% | 6.3V |
| | CSA0402X5R562K6R3GT | X5R | 5.6nF | ±10% | 6.3V |
| | CSA0402X5R103K6R3GT | X5R | 10nF | ±10% | 6.3V |
| | CSA0402X5R153K6R3GT | X5R | 15nF | ±10% | 6.3V |
| | CSA0402X5R333K6R3GT | X5R | 33nF | ±10% | 6.3V |
| | CSA0402X5R393K6R3GT | X5R | 39nF | ±10% | 6.3V |
| | CSA0402X5R473K6R3GT | X5R | 47nF | ±10% | 6.3V |
| | CSA0402X5R563K6R3GT | X5R | 56nF | ±10% | 6.3V |
| | CSA0402X5R683K6R3GT | X5R | 68nF | ±10% | 6.3V |
| | CSA0402X5R104K6R3GT | X5R | 100nF | ±10% | 6.3V |
| | CSA0402X5R154K6R3GT | X5R | 150nF | ±10% | 6.3V |
| | CSA0402X5R184K6R3GT | X5R | 180nF | ±10% | 6.3V |
| | CSA0402X5R224K6R3GT | X5R | 220nF | ±10% | 6.3V |
| | CSA0402X5R274K6R3GT | X5R | 270nF | ±10% | 6.3V |
| | CSA0402X5R334K6R3GT | X5R | 330nF | ±10% | 6.3V |
| | CSA0402X5R474K6R3GT | X5R | 470nF | ±10% | 6.3V |
| | CSA0402X5R684K6R3GT | X5R | 680nF | ±10% | 6.3V |
| CSA0402X5R105K6R3GT | X5R | 1.0uF | ±10% | 6.3V | |
| CSA0402X5R225K6R3GT | X5R | 2.2uF | ±10% | 6.3V | |
| CSA0402X5R475M6R3GT | X5R | 4.7uF | ±20% | 6.3V | |
| 0603 | CSA0603X5R221K500JT | X5R | 220pF | ±10% | 50V |
| | CSA0603X5R271K500JT | X5R | 270pF | ±10% | 50V |
| | CSA0603X5R331K500JT | X5R | 330pF | ±10% | 50V |
| | CSA0603X5R391K500JT | X5R | 390pF | ±10% | 50V |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0603 | CSA0603X5R471K500JT | X5R | 470pF | ±10% | 50V |
| | CSA0603X5R561K500JT | X5R | 560pF | ±10% | 50V |
| | CSA0603X5R681K500JT | X5R | 680pF | ±10% | 50V |
| | CSA0603X5R821K500JT | X5R | 820pF | ±10% | 50V |
| | CSA0603X5R102K500JT | X5R | 1.0nF | ±10% | 50V |
| | CSA0603X5R152K500JT | X5R | 1.5nF | ±10% | 50V |
| | CSA0603X5R182K500JT | X5R | 1.8nF | ±10% | 50V |
| | CSA0603X5R222K500JT | X5R | 2.2nF | ±10% | 50V |
| | CSA0603X5R272K500JT | X5R | 2.7nF | ±10% | 50V |
| | CSA0603X5R332K500JT | X5R | 3.3nF | ±10% | 50V |
| | CSA0603X5R472K500JT | X5R | 4.7nF | ±10% | 50V |
| | CSA0603X5R562K500JT | X5R | 5.6nF | ±10% | 50V |
| | CSA0603X5R682K500JT | X5R | 6.8nF | ±10% | 50V |
| | CSA0603X5R103K500JT | X5R | 10nF | ±10% | 50V |
| | CSA0603X5R153K500JT | X5R | 15nF | ±10% | 50V |
| | CSA0603X5R183K500JT | X5R | 18nF | ±10% | 50V |
| | CSA0603X5R223K500JT | X5R | 22nF | ±10% | 50V |
| | CSA0603X5R273K500JT | X5R | 27nF | ±10% | 50V |
| | CSA0603X5R333K500JT | X5R | 33nF | ±10% | 50V |
| | CSA0603X5R393K500JT | X5R | 39nF | ±10% | 50V |
| | CSA0603X5R473K500JT | X5R | 47nF | ±10% | 50V |
| | CSA0603X5R563K500JT | X5R | 56nF | ±10% | 50V |
| | CSA0603X5R683K500JT | X5R | 68nF | ±10% | 50V |
| | CSA0603X5R104K500JT | X5R | 100nF | ±10% | 50V |
| | CSA0603X5R154K500JT | X5R | 150nF | ±10% | 50V |
| | CSA0603X5R184K500JT | X5R | 180nF | ±10% | 50V |
| | CSA0603X5R224K500JT | X5R | 220nF | ±10% | 50V |
| | CSA0603X5R274K500JT | X5R | 270nF | ±10% | 50V |
| | CSA0603X5R334K500JT | X5R | 330nF | ±10% | 50V |
| | CSA0603X5R474K500JT | X5R | 470nF | ±10% | 50V |
| | CSA0603X5R221K250JT | X5R | 220pF | ±10% | 25V |
| | CSA0603X5R271K250JT | X5R | 270pF | ±10% | 25V |
| | CSA0603X5R331K250JT | X5R | 330pF | ±10% | 25V |
| CSA0603X5R391K250JT | X5R | 390pF | ±10% | 25V | |
| CSA0603X5R471K250JT | X5R | 470pF | ±10% | 25V | |
| CSA0603X5R561K250JT | X5R | 560pF | ±10% | 25V | |
| CSA0603X5R681K250JT | X5R | 680pF | ±10% | 25V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0603 | CSA0603X5R821K250JT | X5R | 820pF | ±10% | 25V |
| | CSA0603X5R102K250JT | X5R | 1.0nF | ±10% | 25V |
| | CSA0603X5R152K250JT | X5R | 1.5nF | ±10% | 25V |
| | CSA0603X5R182K250JT | X5R | 1.8nF | ±10% | 25V |
| | CSA0603X5R222K250JT | X5R | 2.2nF | ±10% | 25V |
| | CSA0603X5R272K250JT | X5R | 2.7nF | ±10% | 25V |
| | CSA0603X5R332K250JT | X5R | 3.3nF | ±10% | 25V |
| | CSA0603X5R472K250JT | X5R | 4.7nF | ±10% | 25V |
| | CSA0603X5R562K250JT | X5R | 5.6nF | ±10% | 25V |
| | CSA0603X5R682K250JT | X5R | 6.8nF | ±10% | 25V |
| | CSA0603X5R103K250JT | X5R | 10nF | ±10% | 25V |
| | CSA0603X5R153K250JT | X5R | 15nF | ±10% | 25V |
| | CSA0603X5R183K250JT | X5R | 18nF | ±10% | 25V |
| | CSA0603X5R223K250JT | X5R | 22nF | ±10% | 25V |
| | CSA0603X5R273K250JT | X5R | 27nF | ±10% | 25V |
| | CSA0603X5R333K250JT | X5R | 33nF | ±10% | 25V |
| | CSA0603X5R393K250JT | X5R | 39nF | ±10% | 25V |
| | CSA0603X5R473K250JT | X5R | 47nF | ±10% | 25V |
| | CSA0603X5R563K250JT | X5R | 56nF | ±10% | 25V |
| | CSA0603X5R683K250JT | X5R | 68nF | ±10% | 25V |
| | CSA0603X5R104K250JT | X5R | 100nF | ±10% | 25V |
| | CSA0603X5R154K250JT | X5R | 150nF | ±10% | 25V |
| | CSA0603X5R184K250JT | X5R | 180nF | ±10% | 25V |
| | CSA0603X5R224K250JT | X5R | 220nF | ±10% | 25V |
| | CSA0603X5R274K250JT | X5R | 270nF | ±10% | 25V |
| | CSA0603X5R334K250JT | X5R | 330nF | ±10% | 25V |
| | CSA0603X5R474K250JT | X5R | 470nF | ±10% | 25V |
| | CSA0603X5R684K250JT | X5R | 680nF | ±10% | 25V |
| | CSA0603X5R105K250JT | X5R | 1.0uF | ±10% | 25V |
| | CSA0603X5R221K160JT | X5R | 220pF | ±10% | 16V |
| | CSA0603X5R271K160JT | X5R | 270pF | ±10% | 16V |
| | CSA0603X5R331K160JT | X5R | 330pF | ±10% | 16V |
| | CSA0603X5R391K160JT | X5R | 390pF | ±10% | 16V |
| | CSA0603X5R471K160JT | X5R | 470pF | ±10% | 16V |
| | CSA0603X5R561K160JT | X5R | 560pF | ±10% | 16V |
| | CSA0603X5R681K160JT | X5R | 680pF | ±10% | 16V |
| CSA0603X5R821K160JT | X5R | 820pF | ±10% | 16V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0603 | CSA0603X5R102K160JT | X5R | 1.0nF | ±10% | 16V |
| | CSA0603X5R152K160JT | X5R | 1.5nF | ±10% | 16V |
| | CSA0603X5R182K160JT | X5R | 1.8nF | ±10% | 16V |
| | CSA0603X5R222K160JT | X5R | 2.2nF | ±10% | 16V |
| | CSA0603X5R272K160JT | X5R | 2.7nF | ±10% | 16V |
| | CSA0603X5R332K160JT | X5R | 3.3nF | ±10% | 16V |
| | CSA0603X5R472K160JT | X5R | 4.7nF | ±10% | 16V |
| | CSA0603X5R562K160JT | X5R | 5.6nF | ±10% | 16V |
| | CSA0603X5R682K160JT | X5R | 6.8nF | ±10% | 16V |
| | CSA0603X5R103K160JT | X5R | 10nF | ±10% | 16V |
| | CSA0603X5R153K160JT | X5R | 15nF | ±10% | 16V |
| | CSA0603X5R183K160JT | X5R | 18nF | ±10% | 16V |
| | CSA0603X5R223K160JT | X5R | 22nF | ±10% | 16V |
| | CSA0603X5R273K160JT | X5R | 27nF | ±10% | 16V |
| | CSA0603X5R333K160JT | X5R | 33nF | ±10% | 16V |
| | CSA0603X5R393K160JT | X5R | 39nF | ±10% | 16V |
| | CSA0603X5R473K160JT | X5R | 47nF | ±10% | 16V |
| | CSA0603X5R563K160JT | X5R | 56nF | ±10% | 16V |
| | CSA0603X5R683K160JT | X5R | 68nF | ±10% | 16V |
| | CSA0603X5R104K160JT | X5R | 100nF | ±10% | 16V |
| | CSA0603X5R154K160JT | X5R | 150nF | ±10% | 16V |
| | CSA0603X5R184K160JT | X5R | 180nF | ±10% | 16V |
| | CSA0603X5R224K160JT | X5R | 220nF | ±10% | 16V |
| | CSA0603X5R274K160JT | X5R | 270nF | ±10% | 16V |
| | CSA0603X5R334K160JT | X5R | 330nF | ±10% | 16V |
| | CSA0603X5R474K160JT | X5R | 470nF | ±10% | 16V |
| | CSA0603X5R684K160JT | X5R | 680nF | ±10% | 16V |
| | CSA0603X5R105K160JT | X5R | 1.0uF | ±10% | 16V |
| | CSA0603X5R225K100JT | X5R | 2.2uF | ±10% | 16V |
| | CSA0603X5R221K100JT | X5R | 220pF | ±10% | 10V |
| | CSA0603X5R271K100JT | X5R | 270pF | ±10% | 10V |
| | CSA0603X5R331K100JT | X5R | 330pF | ±10% | 10V |
| | CSA0603X5R391K100JT | X5R | 390pF | ±10% | 10V |
| | CSA0603X5R471K100JT | X5R | 470pF | ±10% | 10V |
| CSA0603X5R561K100JT | X5R | 560pF | ±10% | 10V | |
| CSA0603X5R681K100JT | X5R | 680pF | ±10% | 10V | |
| CSA0603X5R821K100JT | X5R | 820pF | ±10% | 10V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 0603 | CSA0603X5R102K100JT | X5R | 1.0nF | ±10% | 10V |
| | CSA0603X5R152K100JT | X5R | 1.5nF | ±10% | 10V |
| | CSA0603X5R182K100JT | X5R | 1.8nF | ±10% | 10V |
| | CSA0603X5R222K100JT | X5R | 2.2nF | ±10% | 10V |
| | CSA0603X5R272K100JT | X5R | 2.7nF | ±10% | 10V |
| | CSA0603X5R332K100JT | X5R | 3.3nF | ±10% | 10V |
| | CSA0603X5R472K100JT | X5R | 4.7nF | ±10% | 10V |
| | CSA0603X5R562K100JT | X5R | 5.6nF | ±10% | 10V |
| | CSA0603X5R682K100JT | X5R | 6.8nF | ±10% | 10V |
| | CSA0603X5R103K100JT | X5R | 10nF | ±10% | 10V |
| | CSA0603X5R153K100JT | X5R | 15nF | ±10% | 10V |
| | CSA0603X5R183K100JT | X5R | 18nF | ±10% | 10V |
| | CSA0603X5R223K100JT | X5R | 22nF | ±10% | 10V |
| | CSA0603X5R273K100JT | X5R | 27nF | ±10% | 10V |
| | CSA0603X5R333K100JT | X5R | 33nF | ±10% | 10V |
| | CSA0603X5R393K100JT | X5R | 39nF | ±10% | 10V |
| | CSA0603X5R473K100JT | X5R | 47nF | ±10% | 10V |
| | CSA0603X5R563K100JT | X5R | 56nF | ±10% | 10V |
| | CSA0603X5R683K100JT | X5R | 68nF | ±10% | 10V |
| | CSA0603X5R104K100JT | X5R | 100nF | ±10% | 10V |
| | CSA0603X5R154K100JT | X5R | 150nF | ±10% | 10V |
| | CSA0603X5R184K100JT | X5R | 180nF | ±10% | 10V |
| | CSA0603X5R224K100JT | X5R | 220nF | ±10% | 10V |
| | CSA0603X5R274K100JT | X5R | 270nF | ±10% | 10V |
| | CSA0603X5R334K100JT | X5R | 330nF | ±10% | 10V |
| | CSA0603X5R474K100JT | X5R | 470nF | ±10% | 10V |
| | CSA0603X5R684K100JT | X5R | 680nF | ±10% | 10V |
| | CSA0603X5R105K100JT | X5R | 1.0uF | ±10% | 10V |
| | CSA0603X5R225K100JT | X5R | 2.2uF | ±10% | 10V |
| | CSA0603X5R475K100JT | X5R | 4.7uF | ±10% | 10V |
| | CSA0603X5R221K6R3JT | X5R | 220pF | ±10% | 6.3V |
| | CSA0603X5R271K6R3JT | X5R | 270pF | ±10% | 6.3V |
| | CSA0603X5R331K6R3JT | X5R | 330pF | ±10% | 6.3V |
| | CSA0603X5R391K6R3JT | X5R | 390pF | ±10% | 6.3V |
| CSA0603X5R471K6R3JT | X5R | 470pF | ±10% | 6.3V | |
| CSA0603X5R561K6R3JT | X5R | 560pF | ±10% | 6.3V | |
| CSA0603X5R681K6R3JT | X5R | 680pF | ±10% | 6.3V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 0603 | CSA0603X5R821K6R3JT | X5R | 820pF | ±10% | 6.3V |
| | CSA0603X5R102K6R3JT | X5R | 1.0nF | ±10% | 6.3V |
| | CSA0603X5R152K6R3JT | X5R | 1.5nF | ±10% | 6.3V |
| | CSA0603X5R182K6R3JT | X5R | 1.8nF | ±10% | 6.3V |
| | CSA0603X5R222K6R3JT | X5R | 2.2nF | ±10% | 6.3V |
| | CSA0603X5R272K6R3JT | X5R | 2.7nF | ±10% | 6.3V |
| | CSA0603X5R332K6R3JT | X5R | 3.3nF | ±10% | 6.3V |
| | CSA0603X5R472K6R3JT | X5R | 4.7nF | ±10% | 6.3V |
| | CSA0603X5R562K6R3JT | X5R | 5.6nF | ±10% | 6.3V |
| | CSA0603X5R682K6R3JT | X5R | 6.8nF | ±10% | 6.3V |
| | CSA0603X5R103K6R3JT | X5R | 10nF | ±10% | 6.3V |
| | CSA0603X5R153K6R3JT | X5R | 15nF | ±10% | 6.3V |
| | CSA0603X5R183K6R3JT | X5R | 18nF | ±10% | 6.3V |
| | CSA0603X5R223K6R3JT | X5R | 22nF | ±10% | 6.3V |
| | CSA0603X5R273K6R3JT | X5R | 27nF | ±10% | 6.3V |
| | CSA0603X5R333K6R3JT | X5R | 33nF | ±10% | 6.3V |
| | CSA0603X5R393K6R3JT | X5R | 39nF | ±10% | 6.3V |
| | CSA0603X5R473K6R3JT | X5R | 47nF | ±10% | 6.3V |
| | CSA0603X5R563K6R3JT | X5R | 56nF | ±10% | 6.3V |
| | CSA0603X5R683K6R3JT | X5R | 68nF | ±10% | 6.3V |
| | CSA0603X5R104K6R3JT | X5R | 100nF | ±10% | 6.3V |
| | CSA0603X5R154K6R3JT | X5R | 150nF | ±10% | 6.3V |
| | CSA0603X5R184K6R3JT | X5R | 180nF | ±10% | 6.3V |
| | CSA0603X5R224K6R3JT | X5R | 220nF | ±10% | 6.3V |
| | CSA0603X5R274K6R3JT | X5R | 270nF | ±10% | 6.3V |
| | CSA0603X5R334K6R3JT | X5R | 330nF | ±10% | 6.3V |
| | CSA0603X5R474K6R3JT | X5R | 470nF | ±10% | 6.3V |
| | CSA0603X5R684K6R3JT | X5R | 680nF | ±10% | 6.3V |
| | CSA0603X5R105K6R3JT | X5R | 1.0uF | ±10% | 6.3V |
| | CSA0603X5R225K6R3JT | X5R | 2.2uF | ±10% | 6.3V |
| CSA0603X5R475K6R3JT | X5R | 4.7uF | ±10% | 6.3V | |
| CSA0603X5R106M6R3JT | X5R | 10uF | ±20% | 6.3V | |
| 0805 | CSA0805X5R221K500KT | X5R | 220pF | ±10% | 50V |
| | CSA0805X5R271K500KT | X5R | 270pF | ±10% | 50V |
| | CSA0805X5R331K500KT | X5R | 330pF | ±10% | 50V |
| | CSA0805X5R391K500KT | X5R | 390pF | ±10% | 50V |
| | CSA0805X5R471K500KT | X5R | 470pF | ±10% | 50V |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0805 | CSA0805X5R561K500KT | X5R | 560pF | ±10% | 50V |
| | CSA0805X5R681K500KT | X5R | 680pF | ±10% | 50V |
| | CSA0805X5R821K500KT | X5R | 820pF | ±10% | 50V |
| | CSA0805X5R102K500KT | X5R | 1.0nF | ±10% | 50V |
| | CSA0805X5R152K500KT | X5R | 1.5nF | ±10% | 50V |
| | CSA0805X5R182K500KT | X5R | 1.8nF | ±10% | 50V |
| | CSA0805X5R222K500KT | X5R | 2.2nF | ±10% | 50V |
| | CSA0805X5R272K500KT | X5R | 2.7nF | ±10% | 50V |
| | CSA0805X5R332K500KT | X5R | 3.3nF | ±10% | 50V |
| | CSA0805X5R472K500KT | X5R | 4.7nF | ±10% | 50V |
| | CSA0805X5R562K500KT | X5R | 5.6nF | ±10% | 50V |
| | CSA0805X5R682K500KT | X5R | 6.8nF | ±10% | 50V |
| | CSA0805X5R103K500KT | X5R | 10nF | ±10% | 50V |
| | CSA0805X5R153K500KT | X5R | 15nF | ±10% | 50V |
| | CSA0805X5R183K500KT | X5R | 18nF | ±10% | 50V |
| | CSA0805X5R223K500KT | X5R | 22nF | ±10% | 50V |
| | CSA0805X5R273K500KT | X5R | 27nF | ±10% | 50V |
| | CSA0805X5R333K500KT | X5R | 33nF | ±10% | 50V |
| | CSA0805X5R393K500KT | X5R | 39nF | ±10% | 50V |
| | CSA0805X5R473K500KT | X5R | 47nF | ±10% | 50V |
| | CSA0805X5R563K500KT | X5R | 56nF | ±10% | 50V |
| | CSA0805X5R683K500KT | X5R | 68nF | ±10% | 50V |
| | CSA0805X5R104K500KT | X5R | 100nF | ±10% | 50V |
| | CSA0805X5R154K500KT | X5R | 150nF | ±10% | 50V |
| | CSA0805X5R184K500KT | X5R | 180nF | ±10% | 50V |
| | CSA0805X5R224K500KT | X5R | 220nF | ±10% | 50V |
| | CSA0805X5R274K500KT | X5R | 270nF | ±10% | 50V |
| | CSA0805X5R334K500KT | X5R | 330nF | ±10% | 50V |
| | CSA0805X5R474K500KT | X5R | 470nF | ±10% | 50V |
| | CSA0805X5R684K500KT | X5R | 680nF | ±10% | 50V |
| | CSA0805X5R105K500MT | X5R | 1.0uF | ±10% | 50V |
| | CSA0805X5R221K250KT | X5R | 220pF | ±10% | 25V |
| | CSA0805X5R271K250KT | X5R | 270pF | ±10% | 25V |
| CSA0805X5R331K250KT | X5R | 330pF | ±10% | 25V | |
| CSA0805X5R391K250KT | X5R | 390pF | ±10% | 25V | |
| CSA0805X5R471K250KT | X5R | 470pF | ±10% | 25V | |
| CSA0805X5R561K250KT | X5R | 560pF | ±10% | 25V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0805 | CSA0805X5R681K250KT | X5R | 680pF | ±10% | 25V |
| | CSA0805X5R821K250KT | X5R | 820pF | ±10% | 25V |
| | CSA0805X5R102K250KT | X5R | 1.0nF | ±10% | 25V |
| | CSA0805X5R152K250KT | X5R | 1.5nF | ±10% | 25V |
| | CSA0805X5R182K250KT | X5R | 1.8nF | ±10% | 25V |
| | CSA0805X5R222K250KT | X5R | 2.2nF | ±10% | 25V |
| | CSA0805X5R272K250KT | X5R | 2.7nF | ±10% | 25V |
| | CSA0805X5R332K250KT | X5R | 3.3nF | ±10% | 25V |
| | CSA0805X5R472K250KT | X5R | 4.7nF | ±10% | 25V |
| | CSA0805X5R562K250KT | X5R | 5.6nF | ±10% | 25V |
| | CSA0805X5R682K250KT | X5R | 6.8nF | ±10% | 25V |
| | CSA0805X5R103K250KT | X5R | 10nF | ±10% | 25V |
| | CSA0805X5R153K250KT | X5R | 15nF | ±10% | 25V |
| | CSA0805X5R183K250KT | X5R | 18nF | ±10% | 25V |
| | CSA0805X5R223K250KT | X5R | 22nF | ±10% | 25V |
| | CSA0805X5R273K250KT | X5R | 27nF | ±10% | 25V |
| | CSA0805X5R333K250KT | X5R | 33nF | ±10% | 25V |
| | CSA0805X5R393K250KT | X5R | 39nF | ±10% | 25V |
| | CSA0805X5R473K250KT | X5R | 47nF | ±10% | 25V |
| | CSA0805X5R563K250KT | X5R | 56nF | ±10% | 25V |
| | CSA0805X5R683K250KT | X5R | 68nF | ±10% | 25V |
| | CSA0805X5R104K250KT | X5R | 100nF | ±10% | 25V |
| | CSA0805X5R154K250KT | X5R | 150nF | ±10% | 25V |
| | CSA0805X5R184K250KT | X5R | 180nF | ±10% | 25V |
| | CSA0805X5R224K250KT | X5R | 220nF | ±10% | 25V |
| | CSA0805X5R274K250KT | X5R | 270nF | ±10% | 25V |
| | CSA0805X5R334K250KT | X5R | 330nF | ±10% | 25V |
| | CSA0805X5R474K250MT | X5R | 470nF | ±10% | 25V |
| | CSA0805X5R684K250MT | X5R | 680nF | ±10% | 25V |
| | CSA0805X5R105K250MT | X5R | 1.0uF | ±10% | 25V |
| | CSA0805X5R225K250MT | X5R | 2.2uF | ±10% | 25V |
| | CSA0805X5R475K250MT | X5R | 4.7uF | ±10% | 25V |
| | CSA0805X5R221K160KT | X5R | 220pF | ±10% | 16V |
| CSA0805X5R271K160KT | X5R | 270pF | ±10% | 16V | |
| CSA0805X5R331K160KT | X5R | 330pF | ±10% | 16V | |
| CSA0805X5R391K160KT | X5R | 390pF | ±10% | 16V | |
| CSA0805X5R471K160KT | X5R | 470pF | ±10% | 16V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0805 | CSA0805X5R561K160KT | X5R | 560pF | ±10% | 16V |
| | CSA0805X5R681K160KT | X5R | 680pF | ±10% | 16V |
| | CSA0805X5R821K160KT | X5R | 820pF | ±10% | 16V |
| | CSA0805X5R102K160KT | X5R | 1.0nF | ±10% | 16V |
| | CSA0805X5R152K160KT | X5R | 1.5nF | ±10% | 16V |
| | CSA0805X5R182K160KT | X5R | 1.8nF | ±10% | 16V |
| | CSA0805X5R222K160KT | X5R | 2.2nF | ±10% | 16V |
| | CSA0805X5R272K160KT | X5R | 2.7nF | ±10% | 16V |
| | CSA0805X5R332K160KT | X5R | 3.3nF | ±10% | 16V |
| | CSA0805X5R472K160KT | X5R | 4.7nF | ±10% | 16V |
| | CSA0805X5R562K160KT | X5R | 5.6nF | ±10% | 16V |
| | CSA0805X5R682K160KT | X5R | 6.8nF | ±10% | 16V |
| | CSA0805X5R103K160KT | X5R | 10nF | ±10% | 16V |
| | CSA0805X5R153K160KT | X5R | 15nF | ±10% | 16V |
| | CSA0805X5R183K160KT | X5R | 18nF | ±10% | 16V |
| | CSA0805X5R223K160KT | X5R | 22nF | ±10% | 16V |
| | CSA0805X5R273K160KT | X5R | 27nF | ±10% | 16V |
| | CSA0805X5R333K160KT | X5R | 33nF | ±10% | 16V |
| | CSA0805X5R393K160KT | X5R | 39nF | ±10% | 16V |
| | CSA0805X5R473K160KT | X5R | 47nF | ±10% | 16V |
| | CSA0805X5R563K160KT | X5R | 56nF | ±10% | 16V |
| | CSA0805X5R683K160KT | X5R | 68nF | ±10% | 16V |
| | CSA0805X5R104K160KT | X5R | 100nF | ±10% | 16V |
| | CSA0805X5R154K160KT | X5R | 150nF | ±10% | 16V |
| | CSA0805X5R184K160KT | X5R | 180nF | ±10% | 16V |
| | CSA0805X5R224K160KT | X5R | 220nF | ±10% | 16V |
| | CSA0805X5R274K160KT | X5R | 270nF | ±10% | 16V |
| | CSA0805X5R334K160KT | X5R | 330nF | ±10% | 16V |
| | CSA0805X5R474K160MT | X5R | 470nF | ±10% | 16V |
| | CSA0805X5R684K160MT | X5R | 680nF | ±10% | 16V |
| | CSA0805X5R105K160MT | X5R | 1.0uF | ±10% | 16V |
| | CSA0805X5R225K160MT | X5R | 2.2uF | ±10% | 16V |
| | CSA0805X5R475K160MT | X5R | 4.7uF | ±10% | 16V |
| | CSA0805X5R106M160MT | X5R | 10uF | ±20% | 16V |
| | CSA0805X5R221K100KT | X5R | 220pF | ±10% | 10V |
| CSA0805X5R271K100KT | X5R | 270pF | ±10% | 10V | |
| CSA0805X5R331K100KT | X5R | 330pF | ±10% | 10V | |

| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 0805 | CSA0805X5R391K100KT | X5R | 390pF | ±10% | 10V |
| | CSA0805X5R471K100KT | X5R | 470pF | ±10% | 10V |
| | CSA0805X5R561K100KT | X5R | 560pF | ±10% | 10V |
| | CSA0805X5R681K100KT | X5R | 680pF | ±10% | 10V |
| | CSA0805X5R821K100KT | X5R | 820pF | ±10% | 10V |
| | CSA0805X5R102K100KT | X5R | 1.0nF | ±10% | 10V |
| | CSA0805X5R152K100KT | X5R | 1.5nF | ±10% | 10V |
| | CSA0805X5R182K100KT | X5R | 1.8nF | ±10% | 10V |
| | CSA0805X5R222K100KT | X5R | 2.2nF | ±10% | 10V |
| | CSA0805X5R272K100KT | X5R | 2.7nF | ±10% | 10V |
| | CSA0805X5R332K100KT | X5R | 3.3nF | ±10% | 10V |
| | CSA0805X5R472K100KT | X5R | 4.7nF | ±10% | 10V |
| | CSA0805X5R562K100KT | X5R | 5.6nF | ±10% | 10V |
| | CSA0805X5R682K100KT | X5R | 6.8nF | ±10% | 10V |
| | CSA0805X5R103K100KT | X5R | 10nF | ±10% | 10V |
| | CSA0805X5R153K100KT | X5R | 15nF | ±10% | 10V |
| | CSA0805X5R183K100KT | X5R | 18nF | ±10% | 10V |
| | CSA0805X5R223K100KT | X5R | 22nF | ±10% | 10V |
| | CSA0805X5R273K100KT | X5R | 27nF | ±10% | 10V |
| | CSA0805X5R333K100KT | X5R | 33nF | ±10% | 10V |
| | CSA0805X5R393K100KT | X5R | 39nF | ±10% | 10V |
| | CSA0805X5R473K100KT | X5R | 47nF | ±10% | 10V |
| | CSA0805X5R563K100KT | X5R | 56nF | ±10% | 10V |
| | CSA0805X5R683K100KT | X5R | 68nF | ±10% | 10V |
| | CSA0805X5R104K100KT | X5R | 100nF | ±10% | 10V |
| | CSA0805X5R154K100KT | X5R | 150nF | ±10% | 10V |
| | CSA0805X5R184K100KT | X5R | 180nF | ±10% | 10V |
| | CSA0805X5R224K100KT | X5R | 220nF | ±10% | 10V |
| | CSA0805X5R274K100KT | X5R | 270nF | ±10% | 10V |
| | CSA0805X5R334K100KT | X5R | 330nF | ±10% | 10V |
| | CSA0805X5R474K100KT | X5R | 470nF | ±10% | 10V |
| | CSA0805X5R684K100KT | X5R | 680nF | ±10% | 10V |
| | CSA0805X5R105K100KT | X5R | 1.0uF | ±10% | 10V |
| CSA0805X5R225K100MT | X5R | 2.2uF | ±10% | 10V | |
| CSA0805X5R475K100MT | X5R | 4.7uF | ±10% | 10V | |
| CSA0805X5R106M100MT | X5R | 10uF | ±20% | 10V | |
| CSA0805X5R226M100MT | X5R | 22uF | ±20% | 10V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 0805 | CSA0805X5R221K6R3KT | X5R | 220pF | ±10% | 6.3V |
| | CSA0805X5R271K6R3KT | X5R | 270pF | ±10% | 6.3V |
| | CSA0805X5R331K6R3KT | X5R | 330pF | ±10% | 6.3V |
| | CSA0805X5R391K6R3KT | X5R | 390pF | ±10% | 6.3V |
| | CSA0805X5R471K6R3KT | X5R | 470pF | ±10% | 6.3V |
| | CSA0805X5R561K6R3KT | X5R | 560pF | ±10% | 6.3V |
| | CSA0805X5R681K6R3KT | X5R | 680pF | ±10% | 6.3V |
| | CSA0805X5R821K6R3KT | X5R | 820pF | ±10% | 6.3V |
| | CSA0805X5R102K6R3KT | X5R | 1.0nF | ±10% | 6.3V |
| | CSA0805X5R152K6R3KT | X5R | 1.5nF | ±10% | 6.3V |
| | CSA0805X5R182K6R3KT | X5R | 1.8nF | ±10% | 6.3V |
| | CSA0805X5R222K6R3KT | X5R | 2.2nF | ±10% | 6.3V |
| | CSA0805X5R272K6R3KT | X5R | 2.7nF | ±10% | 6.3V |
| | CSA0805X5R332K6R3KT | X5R | 3.3nF | ±10% | 6.3V |
| | CSA0805X5R472K6R3KT | X5R | 4.7nF | ±10% | 6.3V |
| | CSA0805X5R562K6R3KT | X5R | 5.6nF | ±10% | 6.3V |
| | CSA0805X5R682K6R3KT | X5R | 6.8nF | ±10% | 6.3V |
| | CSA0805X5R103K6R3KT | X5R | 10nF | ±10% | 6.3V |
| | CSA0805X5R153K6R3KT | X5R | 15nF | ±10% | 6.3V |
| | CSA0805X5R183K6R3KT | X5R | 18nF | ±10% | 6.3V |
| | CSA0805X5R223K6R3KT | X5R | 22nF | ±10% | 6.3V |
| | CSA0805X5R273K6R3KT | X5R | 27nF | ±10% | 6.3V |
| | CSA0805X5R333K6R3KT | X5R | 33nF | ±10% | 6.3V |
| | CSA0805X5R393K6R3KT | X5R | 39nF | ±10% | 6.3V |
| | CSA0805X5R473K6R3KT | X5R | 47nF | ±10% | 6.3V |
| | CSA0805X5R563K6R3KT | X5R | 56nF | ±10% | 6.3V |
| | CSA0805X5R683K6R3KT | X5R | 68nF | ±10% | 6.3V |
| | CSA0805X5R104K6R3KT | X5R | 100nF | ±10% | 6.3V |
| | CSA0805X5R154K6R3KT | X5R | 150nF | ±10% | 6.3V |
| | CSA0805X5R184K6R3KT | X5R | 180nF | ±10% | 6.3V |
| | CSA0805X5R224K6R3KT | X5R | 220nF | ±10% | 6.3V |
| | CSA0805X5R274K6R3KT | X5R | 270nF | ±10% | 6.3V |
| | CSA0805X5R334K6R3KT | X5R | 330nF | ±10% | 6.3V |
| | CSA0805X5R474K6R3KT | X5R | 470nF | ±10% | 6.3V |
| CSA0805X5R684K6R3KT | X5R | 680nF | ±10% | 6.3V | |
| CSA0805X5R105K6R3KT | X5R | 1.0uF | ±10% | 6.3V | |
| CSA0805X5R225K6R3MT | X5R | 2.2uF | ±10% | 6.3V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 0805 | CSA0805X5R475K6R3MT | X5R | 4.7uF | ±10% | 6.3V |
| | CSA0805X5R106M6R3MT | X5R | 10uF | ±20% | 6.3V |
| | CSA0805X5R226M6R3MT | X5R | 22uF | ±20% | 6.3V |
| | CSA0805X5R476M6R3MT | X5R | 47uF | ±20% | 6.3V |
| 1206 | CSA1206X5R221K500KT | X5R | 220pF | ±10% | 50V |
| | CSA1206X5R271K500KT | X5R | 270pF | ±10% | 50V |
| | CSA1206X5R331K500KT | X5R | 330pF | ±10% | 50V |
| | CSA1206X5R391K500KT | X5R | 390pF | ±10% | 50V |
| | CSA1206X5R471K500KT | X5R | 470pF | ±10% | 50V |
| | CSA1206X5R561K500KT | X5R | 560pF | ±10% | 50V |
| | CSA1206X5R681K500KT | X5R | 680pF | ±10% | 50V |
| | CSA1206X5R821K500KT | X5R | 820pF | ±10% | 50V |
| | CSA1206X5R102K500KT | X5R | 1.0nF | ±10% | 50V |
| | CSA1206X5R152K500KT | X5R | 1.5nF | ±10% | 50V |
| | CSA1206X5R182K500KT | X5R | 1.8nF | ±10% | 50V |
| | CSA1206X5R222K500KT | X5R | 2.2nF | ±10% | 50V |
| | CSA1206X5R272K500KT | X5R | 2.7nF | ±10% | 50V |
| | CSA1206X5R332K500KT | X5R | 3.3nF | ±10% | 50V |
| | CSA1206X5R472K500KT | X5R | 4.7nF | ±10% | 50V |
| | CSA1206X5R562K500KT | X5R | 5.6nF | ±10% | 50V |
| | CSA1206X5R682K500KT | X5R | 6.8nF | ±10% | 50V |
| | CSA1206X5R103K500KT | X5R | 10nF | ±10% | 50V |
| | CSA1206X5R153K500KT | X5R | 15nF | ±10% | 50V |
| | CSA1206X5R183K500KT | X5R | 18nF | ±10% | 50V |
| | CSA1206X5R223K500KT | X5R | 22nF | ±10% | 50V |
| | CSA1206X5R273K500KT | X5R | 27nF | ±10% | 50V |
| | CSA1206X5R333K500KT | X5R | 33nF | ±10% | 50V |
| | CSA1206X5R393K500KT | X5R | 39nF | ±10% | 50V |
| | CSA1206X5R473K500KT | X5R | 47nF | ±10% | 50V |
| | CSA1206X5R563K500KT | X5R | 56nF | ±10% | 50V |
| | CSA1206X5R683K500KT | X5R | 68nF | ±10% | 50V |
| | CSA1206X5R104K500KT | X5R | 100nF | ±10% | 50V |
| | CSA1206X5R154K500KT | X5R | 150nF | ±10% | 50V |
| | CSA1206X5R184K500KT | X5R | 180nF | ±10% | 50V |
| | CSA1206X5R224K500KT | X5R | 220nF | ±10% | 50V |
| | CSA1206X5R274K500KT | X5R | 270nF | ±10% | 50V |
| CSA1206X5R334K500KT | X5R | 330nF | ±10% | 50V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 1206 | CSA1206X5R474K500MT | X5R | 470nF | ±10% | 50V |
| | CSA1206X5R684K500NT | X5R | 680nF | ±10% | 50V |
| | CSA1206X5R105K500NT | X5R | 1.0uF | ±10% | 50V |
| | CSA1206X5R221K250KT | X5R | 220pF | ±10% | 25V |
| | CSA1206X5R271K250KT | X5R | 270pF | ±10% | 25V |
| | CSA1206X5R331K250KT | X5R | 330pF | ±10% | 25V |
| | CSA1206X5R391K250KT | X5R | 390pF | ±10% | 25V |
| | CSA1206X5R471K250KT | X5R | 470pF | ±10% | 25V |
| | CSA1206X5R561K250KT | X5R | 560pF | ±10% | 25V |
| | CSA1206X5R681K250KT | X5R | 680pF | ±10% | 25V |
| | CSA1206X5R821K250KT | X5R | 820pF | ±10% | 25V |
| | CSA1206X5R102K250KT | X5R | 1.0nF | ±10% | 25V |
| | CSA1206X5R152K250KT | X5R | 1.5nF | ±10% | 25V |
| | CSA1206X5R182K250KT | X5R | 1.8nF | ±10% | 25V |
| | CSA1206X5R222K250KT | X5R | 2.2nF | ±10% | 25V |
| | CSA1206X5R272K250KT | X5R | 2.7nF | ±10% | 25V |
| | CSA1206X5R332K250KT | X5R | 3.3nF | ±10% | 25V |
| | CSA1206X5R472K250KT | X5R | 4.7nF | ±10% | 25V |
| | CSA1206X5R562K250KT | X5R | 5.6nF | ±10% | 25V |
| | CSA1206X5R682K250KT | X5R | 6.8nF | ±10% | 25V |
| | CSA1206X5R103K250KT | X5R | 10nF | ±10% | 25V |
| | CSA1206X5R153K250KT | X5R | 15nF | ±10% | 25V |
| | CSA1206X5R183K250KT | X5R | 18nF | ±10% | 25V |
| | CSA1206X5R223K250KT | X5R | 22nF | ±10% | 25V |
| | CSA1206X5R273K250KT | X5R | 27nF | ±10% | 25V |
| | CSA1206X5R333K250KT | X5R | 33nF | ±10% | 25V |
| | CSA1206X5R393K250KT | X5R | 39nF | ±10% | 25V |
| | CSA1206X5R473K250KT | X5R | 47nF | ±10% | 25V |
| | CSA1206X5R563K250KT | X5R | 56nF | ±10% | 25V |
| | CSA1206X5R683K250KT | X5R | 68nF | ±10% | 25V |
| | CSA1206X5R104K250KT | X5R | 100nF | ±10% | 25V |
| | CSA1206X5R154K250KT | X5R | 150nF | ±10% | 25V |
| | CSA1206X5R184K250KT | X5R | 180nF | ±10% | 25V |
| | CSA1206X5R224K250KT | X5R | 220nF | ±10% | 25V |
| CSA1206X5R274K250KT | X5R | 270nF | ±10% | 25V | |
| CSA1206X5R334K250KT | X5R | 330nF | ±10% | 25V | |
| CSA1206X5R474K250MT | X5R | 470nF | ±10% | 25V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 1206 | CSA1206X5R684K250MT | X5R | 680nF | ±10% | 25V |
| | CSA1206X5R105K250MT | X5R | 1.0uF | ±10% | 25V |
| | CSA1206X5R225K250MT | X5R | 2.2uF | ±10% | 25V |
| | CSA1206X5R475K250NT | X5R | 4.7uF | ±10% | 25V |
| | CSA1206X5R221K160KT | X5R | 220pF | ±10% | 16V |
| | CSA1206X5R271K160KT | X5R | 270pF | ±10% | 16V |
| | CSA1206X5R331K160KT | X5R | 330pF | ±10% | 16V |
| | CSA1206X5R391K160KT | X5R | 390pF | ±10% | 16V |
| | CSA1206X5R471K160KT | X5R | 470pF | ±10% | 16V |
| | CSA1206X5R561K160KT | X5R | 560pF | ±10% | 16V |
| | CSA1206X5R681K160KT | X5R | 680pF | ±10% | 16V |
| | CSA1206X5R821K160KT | X5R | 820pF | ±10% | 16V |
| | CSA1206X5R102K160KT | X5R | 1.0nF | ±10% | 16V |
| | CSA1206X5R152K160KT | X5R | 1.5nF | ±10% | 16V |
| | CSA1206X5R182K160KT | X5R | 1.8nF | ±10% | 16V |
| | CSA1206X5R222K160KT | X5R | 2.2nF | ±10% | 16V |
| | CSA1206X5R272K160KT | X5R | 2.7nF | ±10% | 16V |
| | CSA1206X5R332K160KT | X5R | 3.3nF | ±10% | 16V |
| | CSA1206X5R472K160KT | X5R | 4.7nF | ±10% | 16V |
| | CSA1206X5R562K160KT | X5R | 5.6nF | ±10% | 16V |
| | CSA1206X5R682K160KT | X5R | 6.8nF | ±10% | 16V |
| | CSA1206X5R103K160KT | X5R | 10nF | ±10% | 16V |
| | CSA1206X5R153K160KT | X5R | 15nF | ±10% | 16V |
| | CSA1206X5R183K160KT | X5R | 18nF | ±10% | 16V |
| | CSA1206X5R223K160KT | X5R | 22nF | ±10% | 16V |
| | CSA1206X5R273K160KT | X5R | 27nF | ±10% | 16V |
| | CSA1206X5R333K160KT | X5R | 33nF | ±10% | 16V |
| | CSA1206X5R393K160KT | X5R | 39nF | ±10% | 16V |
| | CSA1206X5R473K160KT | X5R | 47nF | ±10% | 16V |
| | CSA1206X5R563K160KT | X5R | 56nF | ±10% | 16V |
| | CSA1206X5R683K160KT | X5R | 68nF | ±10% | 16V |
| | CSA1206X5R104K160KT | X5R | 100nF | ±10% | 16V |
| | CSA1206X5R154K160KT | X5R | 150nF | ±10% | 16V |
| CSA1206X5R184K160KT | X5R | 180nF | ±10% | 16V | |
| CSA1206X5R224K160KT | X5R | 220nF | ±10% | 16V | |
| CSA1206X5R274K160KT | X5R | 270nF | ±10% | 16V | |
| CSA1206X5R334K160KT | X5R | 330nF | ±10% | 16V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|-----|
| 1206 | CSA1206X5R474K160MT | X5R | 470nF | ±10% | 16V |
| | CSA1206X5R684K160MT | X5R | 680nF | ±10% | 16V |
| | CSA1206X5R105K160MT | X5R | 1.0uF | ±10% | 16V |
| | CSA1206X5R225K160MT | X5R | 2.2uF | ±10% | 16V |
| | CSA1206X5R475K160NT | X5R | 4.7uF | ±10% | 16V |
| | CSA1206X5R106M160NT | X5R | 10uF | ±20% | 16V |
| | CSA1206X5R221K100KT | X5R | 220pF | ±10% | 10V |
| | CSA1206X5R271K100KT | X5R | 270pF | ±10% | 10V |
| | CSA1206X5R331K100KT | X5R | 330pF | ±10% | 10V |
| | CSA1206X5R391K100KT | X5R | 390pF | ±10% | 10V |
| | CSA1206X5R471K100KT | X5R | 470pF | ±10% | 10V |
| | CSA1206X5R561K100KT | X5R | 560pF | ±10% | 10V |
| | CSA1206X5R681K100KT | X5R | 680pF | ±10% | 10V |
| | CSA1206X5R821K100KT | X5R | 820pF | ±10% | 10V |
| | CSA1206X5R102K100KT | X5R | 1.0nF | ±10% | 10V |
| | CSA1206X5R152K100KT | X5R | 1.5nF | ±10% | 10V |
| | CSA1206X5R182K100KT | X5R | 1.8nF | ±10% | 10V |
| | CSA1206X5R222K100KT | X5R | 2.2nF | ±10% | 10V |
| | CSA1206X5R272K100KT | X5R | 2.7nF | ±10% | 10V |
| | CSA1206X5R332K100KT | X5R | 3.3nF | ±10% | 10V |
| | CSA1206X5R472K100KT | X5R | 4.7nF | ±10% | 10V |
| | CSA1206X5R562K100KT | X5R | 5.6nF | ±10% | 10V |
| | CSA1206X5R682K100KT | X5R | 6.8nF | ±10% | 10V |
| | CSA1206X5R103K100KT | X5R | 10nF | ±10% | 10V |
| | CSA1206X5R153K100KT | X5R | 15nF | ±10% | 10V |
| | CSA1206X5R183K100KT | X5R | 18nF | ±10% | 10V |
| | CSA1206X5R223K100KT | X5R | 22nF | ±10% | 10V |
| | CSA1206X5R273K100KT | X5R | 27nF | ±10% | 10V |
| | CSA1206X5R333K100KT | X5R | 33nF | ±10% | 10V |
| | CSA1206X5R393K100KT | X5R | 39nF | ±10% | 10V |
| | CSA1206X5R473K100KT | X5R | 47nF | ±10% | 10V |
| | CSA1206X5R563K100KT | X5R | 56nF | ±10% | 10V |
| | CSA1206X5R683K100KT | X5R | 68nF | ±10% | 10V |
| | CSA1206X5R104K100KT | X5R | 100nF | ±10% | 10V |
| CSA1206X5R154K100KT | X5R | 150nF | ±10% | 10V | |
| CSA1206X5R184K100KT | X5R | 180nF | ±10% | 10V | |
| CSA1206X5R224K100KT | X5R | 220nF | ±10% | 10V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|-------|-------|------|------|
| 1206 | CSA1206X5R274K100KT | X5R | 270nF | ±10% | 10V |
| | CSA1206X5R334K100KT | X5R | 330nF | ±10% | 10V |
| | CSA1206X5R474K100MT | X5R | 470nF | ±10% | 10V |
| | CSA1206X5R684K100MT | X5R | 680nF | ±10% | 10V |
| | CSA1206X5R105K100MT | X5R | 1.0uF | ±10% | 10V |
| | CSA1206X5R225K100MT | X5R | 2.2uF | ±10% | 10V |
| | CSA1206X5R475K100NT | X5R | 4.7uF | ±10% | 10V |
| | CSA1206X5R106M100NT | X5R | 10uF | ±20% | 10V |
| | CSA1206X5R226M100NT | X5R | 22uF | ±20% | 10V |
| | CSA1206X5R221K6R3KT | X5R | 220pF | ±10% | 6.3V |
| | CSA1206X5R271K6R3KT | X5R | 270pF | ±10% | 6.3V |
| | CSA1206X5R331K6R3KT | X5R | 330pF | ±10% | 6.3V |
| | CSA1206X5R391K6R3KT | X5R | 390pF | ±10% | 6.3V |
| | CSA1206X5R471K6R3KT | X5R | 470pF | ±10% | 6.3V |
| | CSA1206X5R561K6R3KT | X5R | 560pF | ±10% | 6.3V |
| | CSA1206X5R681K6R3KT | X5R | 680pF | ±10% | 6.3V |
| | CSA1206X5R821K6R3KT | X5R | 820pF | ±10% | 6.3V |
| | CSA1206X5R102K6R3KT | X5R | 1.0nF | ±10% | 6.3V |
| | CSA1206X5R152K6R3KT | X5R | 1.5nF | ±10% | 6.3V |
| | CSA1206X5R182K6R3KT | X5R | 1.8nF | ±10% | 6.3V |
| | CSA1206X5R222K6R3KT | X5R | 2.2nF | ±10% | 6.3V |
| | CSA1206X5R272K6R3KT | X5R | 2.7nF | ±10% | 6.3V |
| | CSA1206X5R332K6R3KT | X5R | 3.3nF | ±10% | 6.3V |
| | CSA1206X5R472K6R3KT | X5R | 4.7nF | ±10% | 6.3V |
| | CSA1206X5R562K6R3KT | X5R | 5.6nF | ±10% | 6.3V |
| | CSA1206X5R682K6R3KT | X5R | 6.8nF | ±10% | 6.3V |
| | CSA1206X5R103K6R3KT | X5R | 10nF | ±10% | 6.3V |
| | CSA1206X5R153K6R3KT | X5R | 15nF | ±10% | 6.3V |
| | CSA1206X5R183K6R3KT | X5R | 18nF | ±10% | 6.3V |
| | CSA1206X5R223K6R3KT | X5R | 22nF | ±10% | 6.3V |
| | CSA1206X5R273K6R3KT | X5R | 27nF | ±10% | 6.3V |
| | CSA1206X5R333K6R3KT | X5R | 33nF | ±10% | 6.3V |
| | CSA1206X5R393K6R3KT | X5R | 39nF | ±10% | 6.3V |
| | CSA1206X5R473K6R3KT | X5R | 47nF | ±10% | 6.3V |
| | CSA1206X5R563K6R3KT | X5R | 56nF | ±10% | 6.3V |
| | CSA1206X5R683K6R3KT | X5R | 68nF | ±10% | 6.3V |
| CSA1206X5R104K6R3KT | X5R | 100nF | ±10% | 6.3V | |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|---------------------|---------------------|---------------------|-------|-------|------|
| 1206 | CSA1206X5R154K6R3KT | X5R | 150nF | ±10% | 6.3V |
| | CSA1206X5R184K6R3KT | X5R | 180nF | ±10% | 6.3V |
| | CSA1206X5R224K6R3KT | X5R | 220nF | ±10% | 6.3V |
| | CSA1206X5R274K6R3KT | X5R | 270nF | ±10% | 6.3V |
| | CSA1206X5R334K6R3KT | X5R | 330nF | ±10% | 6.3V |
| | CSA1206X5R474K6R3MT | X5R | 470nF | ±10% | 6.3V |
| | CSA1206X5R684K6R3MT | X5R | 680nF | ±10% | 6.3V |
| | CSA1206X5R105K6R3MT | X5R | 1.0uF | ±10% | 6.3V |
| | CSA1206X5R225K6R3MT | X5R | 2.2uF | ±10% | 6.3V |
| | CSA1206X5R475K6R3NT | X5R | 4.7uF | ±10% | 6.3V |
| | CSA1206X5R106M6R3NT | X5R | 10uF | ±20% | 6.3V |
| | CSA1206X5R226M6R3NT | X5R | 22uF | ±20% | 6.3V |
| | CSA1206X5R476M6R3NT | X5R | 47uF | ±20% | 6.3V |
| | 1210 | CSA1210X5R474K500QT | X5R | 470nF | ±10% |
| CSA1210X5R684K500NT | | X5R | 680nF | ±10% | 50V |
| CSA1210X5R105K500NT | | X5R | 1.0uF | ±10% | 50V |
| CSA1210X5R225K500NT | | X5R | 2.2uF | ±10% | 50V |
| CSA1210X5R474K250QT | | X5R | 470nF | ±10% | 25V |
| CSA1210X5R684K250QT | | X5R | 680nF | ±10% | 25V |
| CSA1210X5R105K250NT | | X5R | 1.0uF | ±10% | 25V |
| CSA1210X5R225K250NT | | X5R | 2.2uF | ±10% | 25V |
| CSA1210X5R475K250NT | | X5R | 4.7uF | ±10% | 25V |
| CSA1210X5R106K250RT | | X5R | 10uF | ±10% | 25V |
| CSA1210X5R474K160QT | | X5R | 470nF | ±10% | 16V |
| CSA1210X5R684K160NT | | X5R | 680nF | ±10% | 16V |
| CSA1210X5R105K160NT | | X5R | 1.0uF | ±10% | 16V |
| CSA1210X5R225K160NT | | X5R | 2.2uF | ±10% | 16V |
| CSA1210X5R475K160NT | | X5R | 4.7uF | ±10% | 16V |
| CSA1210X5R106K160QT | | X5R | 10uF | ±10% | 16V |
| CSA1210X5R226K160RT | | X5R | 22uF | ±10% | 16V |
| CSA1210X5R474K100QT | | X5R | 470nF | ±10% | 10V |
| CSA1210X5R684K100NT | | X5R | 680nF | ±10% | 10V |
| CSA1210X5R105K100NT | | X5R | 1.0uF | ±10% | 10V |
| CSA1210X5R225K100NT | | X5R | 2.2uF | ±10% | 10V |
| CSA1210X5R475K100NT | | X5R | 4.7uF | ±10% | 10V |
| CSA1210X5R106K100RT | | X5R | 10uF | ±10% | 10V |
| CSA1210X5R226K100RT | | X5R | 22uF | ±10% | 10V |



| 尺寸 | HRE 料号 | 材质 | 容值 | 容差 | 耐压 |
|------|---------------------|-----|-------|------|------|
| 1210 | CSA1210X5R476K100RT | X5R | 47uF | ±10% | 10V |
| | CSA1210X5R474K6R3QT | X5R | 470nF | ±10% | 6.3V |
| | CSA1210X5R684K6R3NT | X5R | 680nF | ±10% | 6.3V |
| | CSA1210X5R105K6R3NT | X5R | 1.0uF | ±10% | 6.3V |
| | CSA1210X5R225K6R3NT | X5R | 2.2uF | ±10% | 6.3V |
| | CSA1210X5R475K6R3NT | X5R | 4.7uF | ±10% | 6.3V |
| | CSA1210X5R106K6R3RT | X5R | 10uF | ±10% | 6.3V |
| | CSA1210X5R226K6R3RT | X5R | 22uF | ±10% | 6.3V |
| | CSA1210X5R476K6R3RT | X5R | 47uF | ±10% | 6.3V |
| | CSA1210X5R107M6R3RT | X5R | 100uF | ±20% | 6.3V |

6. 技术要求和测试条件:

6.1 外观:

6.1.1 要求: 电容陶瓷本体和端电极无明显伤痕。

6.1.2 测试方法: 在 10 倍显微镜下目测。

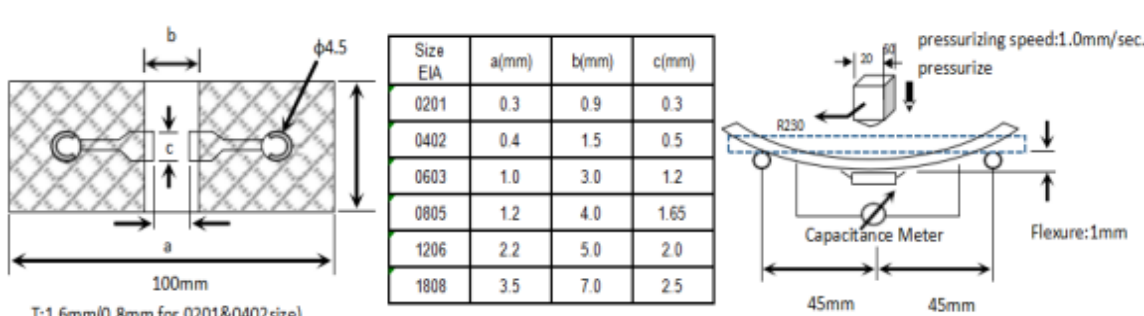
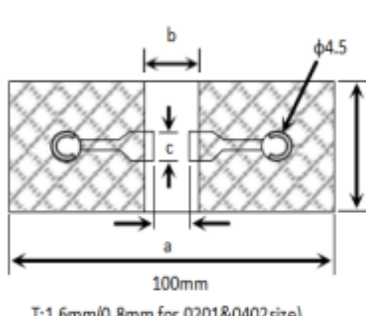
6.2 尺寸规格

6.2.1 要求: 产品的外形和尺寸应符合 4.1 图表要求。

6.2.2 测试方法: 使用精度不低于 0.01 mm 的量具测量。

6.3 电性能和测试条件:

| 序号 | 项目 | 技术规格 | | | | 测试条件 | |
|-----------|-------------------|---|--|------------|------------------|--|------|
| 1 | 电容量 (C) | 符合标称电容量及其允许偏差范围 (二类材质 (X7R、X5R、X6S) 电容量测前, 需对样品进行 150℃±10 °C, 1 小时热处理, 再常温静置 24 小时) | | | | 测试温度: 25℃±3℃ 测试湿度: <70%RH NP0(C0G): C≤1000pF, 测试频率: 1MHz±10% 测试电压: 1.0Vrms±0.2Vrms C>1000pF, 测试频率: 1KHz±10% 测试电压: 1.0Vrms±0.2Vrms X7R/X5R/X6S C≤10μF 测试频率: 1KHz±10% 测试电压: 1.0Vrms±0.2Vrms C>10μF 测试频率: 120Hz±24Hz 测试电压: 0.5Vrms±0.1Vrms | |
| 2 | 损耗 DF/Tan δ | NP0 | Cap<30pF, DF≤1/(400+20°C)(C:pF); Cap≥30pF, DF≤10*10 ⁻⁴ | | | | |
| | | | 尺寸 | 电压 | 容值范围 | | DF |
| | | X5R& X7R& X6S | 0201 | ≤25V | Cap≤0.47uF | | ≤10% |
| | | | | >25V | Cap≤0.01uF | | ≤7% |
| | | | 0402 | ≤25V | Cap≤0.47uF | | ≤7% |
| | | | | >25V | Cap>0.47uF | | ≤10% |
| | | | 0603 | ≤25V | Cap≤0.47uF | | ≤7% |
| | | | | >25V | 0.1uF<Cap≤0.22uF | | ≤7% |
| | | 0805 | ≤25V | Cap>0.22uF | ≤10% | | |
| | | | | Cap≤1uF | ≤7% | | |
| | | | >25V | Cap>1uF | ≤10% | | |
| | | | | Cap≤0.47uF | ≤7% | | |
| | | 1206 | ≤25V | Cap>0.47uF | ≤10% | | |
| Cap<2.2uF | ≤7% | | | | | | |
| >25V | 2.2uF≤Cap≤47uF | | ≤10% | | | | |
| | Cap<1uF | | ≤7% | | | | |
| 1210 | -- | 1uF≤Cap<47uF | ≤10% | | | | |
| | | Cap<2.2uF | ≤7% | | | | |
| | | 2.2uF≤Cap≤47uF | ≤10% | | | | |

| 序号 | 项目 | 技术规格 | | 测试条件 | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--------------|--|--|--|--|-------|-------|-------|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|------|------|-----|-----|-----|------|
| 3 | 绝缘阻抗 I.R. | $UR \leq 50V$, $Ri \geq 10G\Omega$ 或 $Ri \cdot C \geq 100\Omega \cdot F$ (大于其中较小的数值) $UR > 50V$, $Ri \geq 4G\Omega$ 或 $Ri \cdot C \geq 100\Omega \cdot F$ (大于其中较小的数值) | | 测试温度: $25^\circ C \pm 3^\circ C$ $U_{测} = U_R$ 直流电压 充电时间: 60 ± 5 秒 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 耐电压 | 不应有电介质被击穿或损伤 | | $U_R \leq 50V$ NP0/C0G: $3 \cdot U_R$, 5 秒, 最大电流不超过 50mA X5R/X7R: $2.5 \cdot U_R$, 5 秒, 最大电流不超过 50mA. $100V \leq U_R < 200V$ $2.5 \cdot U_R$, 5 秒, 最大电流不超过 50mA. $200V \leq U_R \leq 1000V$ $1.5 \cdot U_R$, 5 秒, 最大电流不超过 50mA. $U_R > 1000V$ $1.2 \cdot U_R$, 5 秒, 最大电流不超过 50mA. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 温度特性 | NP0(C0G) | 容量变化在 $\pm 30ppm/^\circ C$ 以内 | X5R/X7R/X6S 先 $150^\circ C$ 预处理 1 小时, 放置 24h 后进行测量。 在 t_1 、 $25^\circ C$ 、 t_2 下测量电容量, 符合相应的容量变化特性 NP0: $t_1-55^\circ C, t_2 125^\circ C$ X5R: $t_1-55^\circ C, t_2 285^\circ C$ X7R: $t_1-55^\circ C, t_2 125^\circ C$ | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | X7R/X5R | 容量变化在 $\pm 15\%$ 以内 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | X6S | 容量变化在 $\pm 22\%$ 以内 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 附着力 | 外观无可见损伤 | | 施加 5N 的平行推力, 并保持 10 ± 1 秒。 *2N for 0603(EIA 0201). | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 端电极的结合强度 | 当按如下所示板子弯曲 1mm 时: 外观: 无可见损伤; 容量变化: NP0 (C0G): $\Delta C/C \leq \pm 5\%$ 或 $\pm 0.5pF$ (取较大值); X7R/X5R/X6S: $\Delta C/C \leq \pm 12.5\%$; | | |  | | | | | | | | | | | | | | | | | | | | | | | | |
| | |  | <table border="1"> <thead> <tr> <th>Size EIA</th> <th>a(mm)</th> <th>b(mm)</th> <th>c(mm)</th> </tr> </thead> <tbody> <tr> <td>0201</td> <td>0.3</td> <td>0.9</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> <tr> <td>1206</td> <td>2.2</td> <td>5.0</td> <td>2.0</td> </tr> <tr> <td>1808</td> <td>3.5</td> <td>7.0</td> <td>2.5</td> </tr> </tbody> </table> | Size EIA | | a(mm) | b(mm) | c(mm) | 0201 | 0.3 | 0.9 | 0.3 | 0402 | 0.4 | 1.5 | 0.5 | 0603 | 1.0 | 3.0 | 1.2 | 0805 | 1.2 | 4.0 | 1.65 | 1206 | 2.2 | 5.0 | 2.0 | 1808 |
| Size EIA | a(mm) | b(mm) | c(mm) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0201 | 0.3 | 0.9 | 0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0402 | 0.4 | 1.5 | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0603 | 1.0 | 3.0 | 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0805 | 1.2 | 4.0 | 1.65 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1206 | 2.2 | 5.0 | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1808 | 3.5 | 7.0 | 2.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 序号 | 项目 | 技术规格 | 测试条件 |
|----|--------|--|---|
| 8 | 端头可焊性 | 上锡良好，端头润湿率大于 90% | 将测试电容浸入含松香的乙醇溶液 3-5 秒，在 80~140℃ 预热 30~60 秒，浸入 235±5℃ 的熔融锡液 2.0±0.2 秒，浸入 10mm。 |
| 9 | 耐焊接热 | 外观无明显损伤异常 NP0(C0G): 容量变化在±2.5%或±0.25pF (取较大值) X7R/X5R: 容量变化在±15%以内; X6S: 容量变化在±22%以内; DF&IR 符合初值的要求 | II类材质 150℃、1 小时预热处理后放置 24±1 小时初始值测量。然后 110~140℃ 预热 30~60 秒，浸入 260±5℃ 的锡槽中 10±1 秒，浸入深度 10mm；然后在室温放置 24±2 小时 NP0(C0G)或 48±4 小时 (X7R、X5R) 后进行外观检查与电性测试。 |
| 10 | 温度快速变化 | 外观无明显损伤异常 NP0(C0G): 容量变化在±2.5%或±0.25pF (取较大值) X7R/X5R: 容量变化在±15%以内; X6S: 容量变化在±22%以内; DF&IR 符合初值的要求 | 按下列步骤进行 5 次循环: 步骤 温度(°C) 时间 1 t ₁ 30 min. 2 25 2~5min. 3 t ₂ 30 min. 4 25 2~5 min. NP0:t ₁ -55℃,t ₂ 125℃ X5R:t ₁ -55℃,t ₂ 85℃ X7R:t ₁ -55℃,t ₂ 125℃ 然后在室温放置 24±2 小时 NP0(C0G)或 48±4 小时 (X7R、X5R) 后进行外观检查与电性测试。 II类材质 150℃、1 小时预热处理后放置 24±1 小时初始值测量。 |
| 11 | 稳态湿热 | 外观无明显可见损伤 NP0(C0G): 容量变化在±5%或 ±0.5pF (取较大值) 以内 C<10pF, Q≥200+10°C; 10≤C<30pF, Q≥275+2.5°C C≥30pF, Q≥350 IR: >1GΩ 或 Ri°C ≧ 10Ω·F(取较小值) X5R/X7R/X6S: 容量变化在±12.5%以内 DF 为初始值的 2 倍以下 IR:大于 1000MΩ 或 10Ω·F(取较小值) | 测试温度: 40±2℃ 湿度: 90~95% RH 测试时间: 500 ±12hrs 在室温下放置 24±2 (NP0) 或 48±4(X7R、X5R) 小时以后测量。 II类材质 150℃、1 小时预热处理后放置 24±1 小时初始值测量。 |

| 序号 | 项目 | 技术规格 | 测试条件 |
|----|------|--|--|
| 12 | 耐湿负荷 | 外观无明显可见损伤 NP0(C0G): 容量变化在 $\pm 7.5\%$ 或 $\pm 0.75\text{pF}$ (取较大值) 以内 $C < 30\text{pF}$, $Q \geq 100 + 10/3 \cdot C_p$; $C \geq 30\text{pF}$, $Q \geq 350$ IR: $> 500\text{M}\Omega$ 或 $R_i \cdot C \geq 5\Omega \cdot \text{F}$ (取较小值) X5R/X7R/X6S 容量变化在 $\pm 12.5\%$ 以内 DF 为初始值的 2 倍以下 IR: 大于 $500\text{M}\Omega$ 或 $5\Omega \cdot \text{F}$ (取较小值) | 测试温度: $40 \pm 2^\circ\text{C}$ 湿度: 90~95% RH 电压: 额定电压 测试时间: $500 \pm 12\text{hrs}$ 在室温下放置 24 ± 2 (NP0) 或 48 ± 4 (X7R/X5R) 小时以后测量 * II 类材质在 $40 \pm 2^\circ\text{C}$ 温度下, 将电容加额定直流电压 1hrs. 去掉电压, 将电容器在室温下放置 $48 \pm 4\text{hrs}$ 测量初始电容值。 |
| 13 | 寿命试验 | 外观无明显可见损伤 NP0(C0G): 容量变化在 $\pm 3\%$ 或 $\pm 0.3\text{pF}$ (取较大值) 以内 $C < 10\text{pF}$, $Q \geq 200 + 10 \cdot C$; $10 \leq C_p < 30\text{pF}$, $Q \geq 275 + 2.5 \cdot C$ $C \geq 30\text{pF}$, $Q \geq 350$ IR: $> 1\text{G}\Omega$ 或 $R_i \cdot C \geq 5\Omega \cdot \text{F}$ (取较小值) X5R/X7R/X6S: 容量变化在 $\pm 12.5\%$ 以内 DF 为初始值的 2 倍以下 IR: 大于 $1000\text{M}\Omega$ 或 $5\Omega \cdot \text{F}$ (取较小值) | 测试温度: NP0/X7R: 125°C ; X5R: 85°C 温度 $\pm 3^\circ\text{C}$ 电压: $U_R < 100\text{V}$ 1.5 倍额定电压 测试时间: 1000 小时 在室温下放置 24 ± 2 (NP0) 或 48 ± 4 (X7R/X5R) 小时后测量 * II 类材质电容器的初始值测量在限类别温度 $\pm 3^\circ\text{C}$, 将电容器加 1.5 倍额定直流电压 1 小时去掉电压, 将电容器在室温下放置 $48 \pm 4\text{hrs}$ 测量初始电容值 |

7. 产品包装

7.1 载带卷盘包装是目前最常见的包装方式, 一个直径为 180mm (7") 的卷轴可包含 1000~15000 个电容, 也可按照客户的要求进行卷盘包装。

7.2 编带式包装 (尺寸与对应数量)

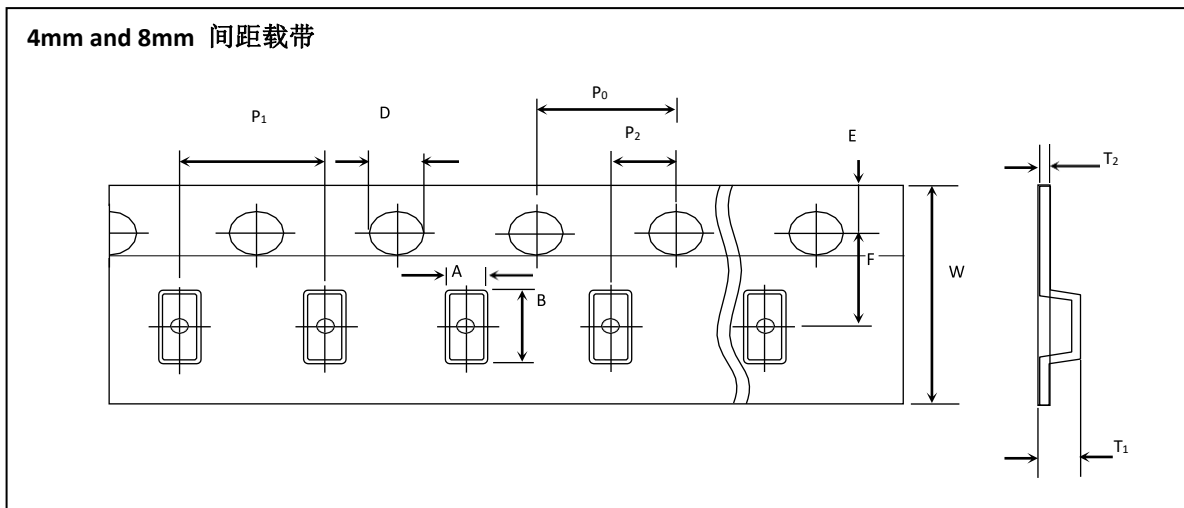
| 规格 Type | 尺寸 Size (mm) | | | 编带规格 | |
|---------|--------------|------|------|------------|-----------------|
| | 长度 L | 宽度 W | 厚度 T | 包装数量 (pcs) | 包材 (默认卷盘 7inch) |
| 0201 | 0.60 | 0.30 | 0.30 | 15,000 | 纸带 |
| 0402 | 1.00 | 0.50 | 0.50 | 10,000 | 纸带 |
| 0603 | 1.60 | 0.80 | 0.80 | 4,000 | 纸带 |
| 0805 | 2.00 | 1.25 | 0.60 | 4,000 | 纸带 |
| | | | 0.85 | 4,000 | 纸带 |
| | | | 1.25 | 3,000 | 塑胶带 |
| 1206 | 3.20 | 1.60 | 0.85 | 4,000 | 纸带 |
| | | | 1.25 | 3,000 | 塑胶带 |
| | | | 1.60 | 2,000 | 塑胶带 |
| 1210 | 3.20 | 2.50 | 1.25 | 2,000 | 塑胶带 |
| | | | 1.60 | 2,000 | 塑胶带 |
| | | | 2.00 | 1,000 | 塑胶带 |
| | | | 2.50 | 1,000 | 塑胶带 |

7.3 纸带尺寸



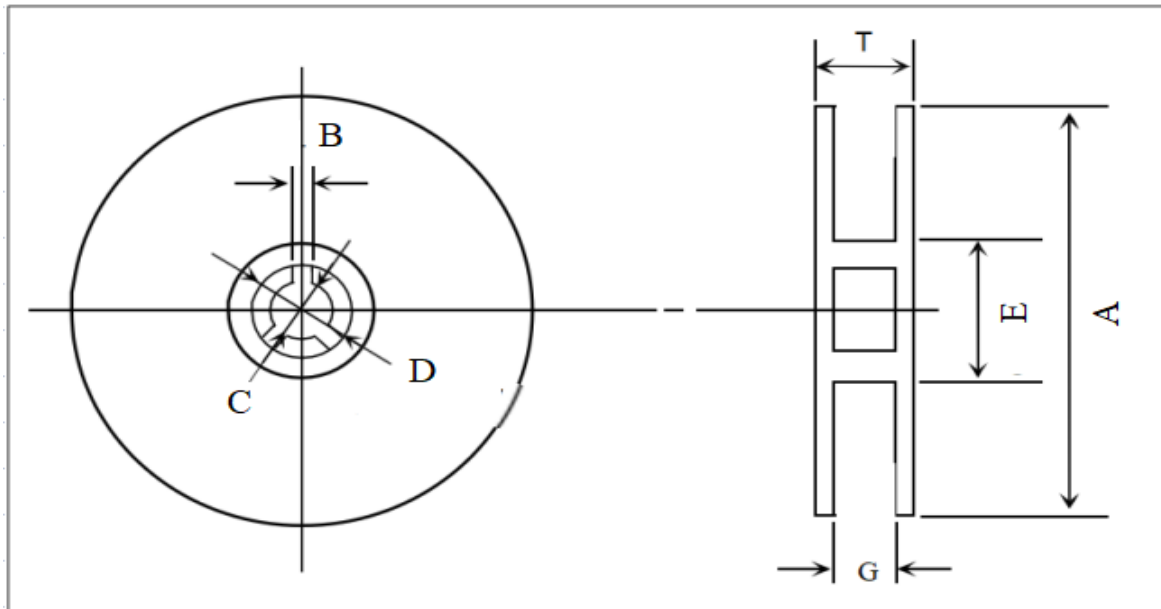
| Type | A (mm) | B (mm) | C (mm) | D (mm) | T (mm) |
|------|-----------|-----------|----------|----------|---------|
| 0201 | 0.36±0.03 | 0.67±0.03 | 2.0±0.10 | 2.0±0.05 | 0.42max |
| 0402 | 0.65±0.10 | 1.15±0.10 | 2.0±0.05 | 2.0±0.05 | 0.8max |
| 0603 | 1.05±0.10 | 1.85±0.10 | 4.0±0.10 | 2.0±0.10 | 1.1max |
| 0805 | 1.55±0.15 | 2.3±0.15 | 4.0±0.10 | 2.0±0.10 | 1.1max |
| 1206 | 1.95±0.15 | 3.5±0.15 | 4.0±0.10 | 2.0±0.10 | 1.1max |

7.4 塑料带尺寸



| 标注代码 | 4 mm 间距 (mm) | | | |
|------|--------------------|--------------------|--------------------|--------------------|
| | 0603 (1608) | 0805 (2012) | 1206 (3216) | 1210 (3225) |
| P1 | 4±0.1 | 4±0.1 | 4±0.1 | 4±0.1 |
| P0 | 4±0.1 | 4±0.1 | 4±0.1 | 4±0.1 |
| P2 | 2±0.05 | 2±0.05 | 2±0.05 | 2±0.05 |
| A | 1.2±0.2 | 1.45±0.2 | 1.9±0.2 | 2.8±0.2 |
| B | 2.0±0.2 | 2.3±0.2 | 3.5±0.2 | 3.6±0.2 |
| W | 8±0.3 | 8±0.2 | 8±0.2 | 8±0.2 |
| E | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 |
| F | 3.5±0.05 | 3.5±0.05 | 3.5±0.05 | 3.5±0.05 |
| D | 1.5 (+0.1/-0.0) | 1.5 (+0.1/-0.0) | 1.5 (+0.1/-0.0) | 1.5 (+0.1/-0.0) |
| T1 | 1.4 max. | 2.5 max. | 2.5 max. | 2.5 max. |
| T2 | 0.25±0.1 | 0.305±0.1 | 0.30±0.1 | 0.30±0.1 |

7.5 圆盘尺寸



| 圆盘尺寸 | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | G (mm) | T (mm) |
|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 7"Reel | Φ178±2.0 | 2.0±0.5 | Φ13±1.0 | Φ21±0.8 | Φ50 或更大 | 10±1.0 | 13±1.0 |

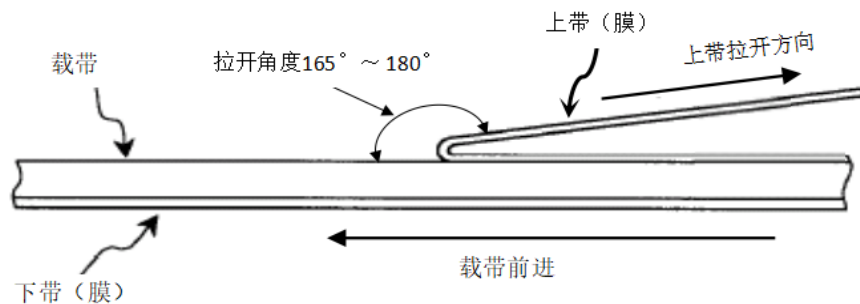
7.6 产品包装方式和规格:

通常情况下使用 $\Phi 180\text{mm}$ (7") 的料盘进行包装, 每 5 盘封装为一盒, 每 12 盒为一整箱。不足整盒的单独用一小盒包装。也可以按照客户的要求进行包装。

| Size EIA | 载带 | 料盘尺寸 | 盘/盒 | 盒/箱 |
|----------|--------|------|-----|-----|
| 0201 | 纸带 | 7" | 5 | 12 |
| 0402 | 纸带 | 7" | 5 | 12 |
| 0603 | 纸带 | 7" | 5 | 12 |
| 0805 | 纸带/塑料带 | 7" | 5 | 12 |
| 1206 | 纸带/塑料带 | 7" | 5 | 12 |
| 1210 | 塑料带 | 7" | 5 | 12 |

7.7 卷装带使用说明

成品在使用时, 上带(膜)以 $300 \pm 10\text{mm}/\text{min}$ 的速度, $165^\circ \sim 180^\circ$ 的角度(如下图)剥离载带时, 剥离强度在 $0.1\text{N} \sim 0.7\text{N}$ 。



8. 运输与储存方法

8.1 运输: 包装的产品适应现代交通工具运输, 在运输过程中要防止雨淋和酸碱腐蚀, 不得重力抛掷和猛力挤压。

8.2 储存: 确保产品可焊性良好的贮存期限为: 自生产之日保存期为一年, 产品使用之前请勿拆开编带(在包装好已交付的情况下), 编带拆开, 产品应在三个月内使用。

储存温度: $5^\circ\text{C} \sim 40^\circ\text{C}$

储存相对湿度: $< 70\%$

9. 使用注意事项:

多层片式瓷介电容器 (MLCC) 在超出本承认书或相关说明书中所述使用频率的恶劣工作环境, 或外界机械力超压作用下, 电容有可能会短路、开路, 或者有可能会冒烟、燃烧甚至爆炸, 所以在使用的时候, 首先应考虑按本承认书的有关说明来进行, 如有不明之处, 请联系我们技术部、品管部或生产部。

| | | |
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9.1 焊接时焊料的用量：

A. 焊料过多这样会因电容端头压力过大而引起电容受损；



B. 焊料太少固定力量不足,可能会引起电容芯片与线路接触不良



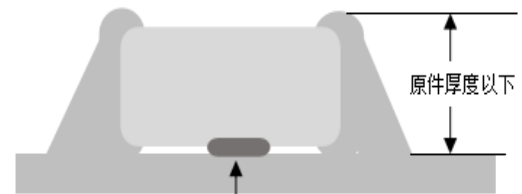
9.1.3 推荐的焊料用量

A. 回流焊接的最佳焊料用量



原件最小厚度的1/3

B 波峰焊接的最佳焊料用量



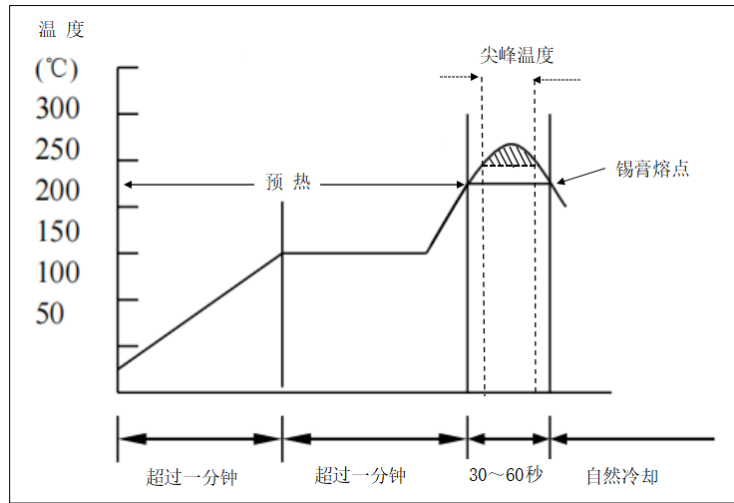
粘合剂

C. 使用烙铁返修时的最佳焊料量



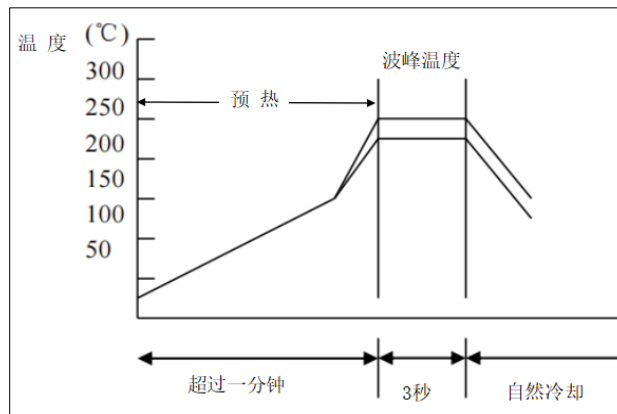
9.2 推荐焊接温度曲线图

9.2.1 回流焊接



| 焊锡类型 | Pb-Sn 焊接 | 无铅焊接 |
|------|-------------|-------------|
| 尖峰温度 | 230°C~250°C | 240°C~260°C |
| 尖峰时间 | 3s~10s | 3s~10s |

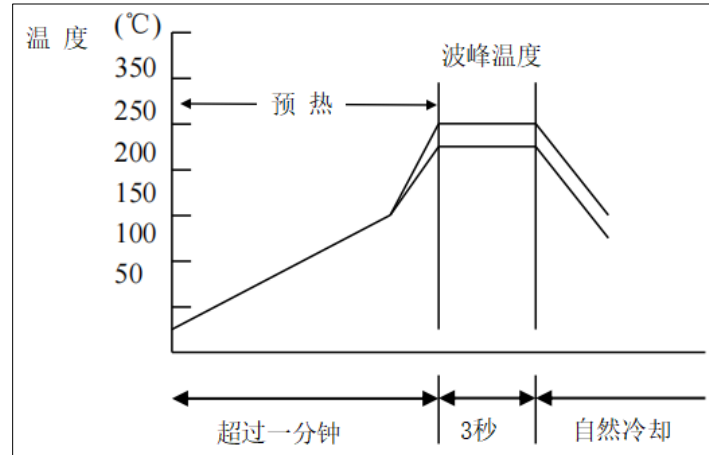
9.2.1 波峰焊接



| 焊锡类型 | Pb-Sn 焊接 | 无铅焊接 |
|------|-------------|-------------|
| 尖峰温度 | 230°C~260°C | 240°C~270°C |
| 尖峰时间 | 3s 内 | 3s 内 |

9.2.3 手工焊接

手工焊接很容易因为电容局部受热不均而引起瓷体微裂或局部爆裂现象。因此,使用电烙铁手工焊接时应仔细操作,并对电烙铁的尖端的选择和尖端温度控制应多加小心.



| 预热 | 烙铁头温度 | 烙铁功率 | 烙铁头直径 | 焊接时间 | 锡膏量 | 注意事项 |
|-----------------------------------|----------------------------|-------------------|--------|------------------|--------------------|--------------|
| $\Delta \leq 130^{\circ}\text{C}$ | $\leq 350^{\circ}\text{C}$ | $\leq 20\text{W}$ | 建议 1mm | $\leq 3\text{s}$ | $\leq 1/2$ 电容高度 | 烙铁头勿直接接触陶瓷本体 |

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*正式版本以最新签核版为准。

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