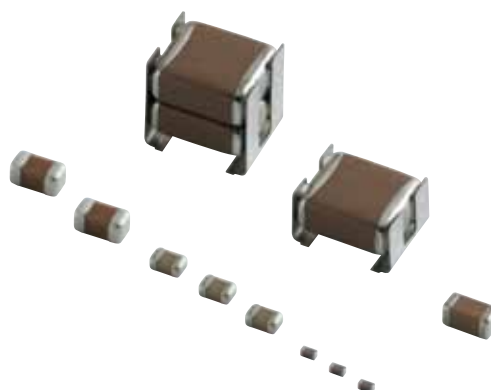


# 汽车用 片状多层陶瓷电容器



## 本目录中的符号说明

**超薄微型** 长 x 宽尺寸：产品（0.6 x 0.3 mm 或更小）

**AEC-Q200** 符合 AEC-Q200 标准的产品

**啸叫对策** 本产品适用于降低啸叫和控制低失真  
本产品通过使用的材料和配置使电容器在使用时减少噪声。

**无故障** 无故障产品  
该电容器可最大限度地防止因短路引起的故障。

**偏转裂纹** 抗偏转裂纹的产品  
该电容器可最大限度地防止电路板出现大幅偏转时因裂纹引起的短路故障。

**焊接裂纹** 可防焊接裂纹的产品  
本电容器配有与芯片相连的金属端子或引线。  
金属端子或引线减轻了焊接时膨胀和收缩形成的应力，从而防止焊接裂纹的形成。  
还包括可通过导电性粘合剂贴装，而不是通过焊接贴装的电容器。

### 关于欧盟 RoHS 指令

- 本产品目录中的所有产品都符合欧盟RoHS指令。
- 欧盟RoHS指令是指欧盟的“关于在电子电气设备中限制使用某些有害物质指令 2011/65/EU。”
- 详情请参见本公司网站“Murata's Approach for EU RoHS” (<http://www.murata.com/info/rohs.html>)。

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产品规格自2014年3月起生效。

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静电容量表

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如果您在手册中找不到所需的产品型号，请查阅村田网站首页  
(<http://www.murata.com>)。

● 品名表示法

汽车用片状多层陶瓷电容器

(品名)

GC

M

18

8

R7

1H

102

K

A37

D

①

②

③

④

⑤

⑥

⑦

⑧

⑨

⑩

① 型号

② 系列

| 型号 | 代号 | 系列                    |
|----|----|-----------------------|
| GC | 3  | 高效电容&允许高纹波电流          |
|    | D  | 专为降低短路不良而设计的产品        |
|    | E  | 专为降低短路不良而设计的产品和树脂电极产品 |
|    | G  | 兼容型导电性粘合剂             |
|    | J  | 树脂外部电极产品              |
|    | M  | 汽车用                   |
| KC | 3  | 金属端子型/高效电容&允许高纹波电流    |
|    | M  | 金属端子型                 |

③ 片状尺寸 (长×宽)

| 代号 | 尺寸 (长×宽)   | EIA  |
|----|------------|------|
| 03 | 0.6×0.3mm  | 0201 |
| 15 | 1.0×0.5mm  | 0402 |
| 18 | 1.6×0.8mm  | 0603 |
| 21 | 2.0×1.25mm | 0805 |
| 31 | 3.2×1.6mm  | 1206 |
| 32 | 3.2×2.5mm  | 1210 |
| 43 | 4.5×3.2mm  | 1812 |
| 55 | 5.7×5.0mm  | 2220 |

⑤ 温度特性

| 温度特性代号 |        |      | 温度特性 |                 |                       | 工作温度范围     | 个别温度下的静电容量变化 (%) |       |      |       |      |       |
|--------|--------|------|------|-----------------|-----------------------|------------|------------------|-------|------|-------|------|-------|
| 代号     | 认证标准代号 | 参考温度 | 温度范围 | 静电容量变化或<br>温度系数 | -55℃                  |            | *3               |       | -10℃ |       |      |       |
|        |        |      |      |                 | 最大                    |            | 最小               | 最大    | 最小   | 最大    | 最小   |       |
| 5C     | C0G    | EIA  | 25℃  | 25 到 125℃       | 0±30ppm/℃             | -55 到 125℃ | 0.58             | -0.24 | 0.4  | -0.17 | 0.25 | -0.11 |
| 5G     | X8G    | *1   | 25℃  | 25 到 150℃       | 0±30ppm/℃             | -55 到 150℃ | 0.58             | -0.24 | 0.4  | -0.17 | 0.25 | -0.11 |
| 7U     | U2J    | EIA  | 25℃  | 25 到 125℃ *2    | -750±120ppm/℃         | -55 到 125℃ | 8.78             | 5.04  | 6.04 | 3.47  | 3.84 | 2.21  |
| 9E     | ZLM    | *1   | 20℃  | -25 到 20℃       | -4700+1000/-2500ppm/℃ | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
|        |        |      |      | 20 到 85℃        | -4700+500/-1000ppm/℃  |            | -                | -     | -    | -     | -    | -     |
| C7     | X7S    | EIA  | 25℃  | -55 到 125℃      | ±22%                  | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
| D7     | X7T    | EIA  | 25℃  | -55 到 125℃      | +22%, -33%            | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
| L8     | X8L    | *1   | 25℃  | -55 到 150℃      | +15%, -40%            | -55 到 150℃ | -                | -     | -    | -     | -    | -     |
| R7     | X7R    | EIA  | 25℃  | -55 到 125℃      | ±15%                  | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
| R9     | X8R    | EIA  | 25℃  | -55 到 150℃      | ±15%                  | -55 到 150℃ | -                | -     | -    | -     | -    | -     |

\*1 村田温度特性代码。  
\*2 Vdc额定电压时的最大值: 25 到 85℃  
\*3 -25℃ (参考温度 20℃) / -30℃ (参考温度 25℃)

接下一页。 

如果您在手册中找不到所需的产品型号，请查阅村田网站首页 (<http://www.murata.com>)。

 接上页。

⑥ 额定电压

| 代号 | 额定电压   |
|----|--------|
| 0J | DC6.3V |
| 1A | DC10V  |
| 1C | DC16V  |
| 1E | DC25V  |
| YA | DC35V  |
| 1H | DC50V  |
| 1J | DC63V  |
| 1K | DC80V  |
| 2A | DC100V |
| 2E | DC250V |
| 2W | DC450V |
| 2J | DC630V |
| 3A | DC1kV  |

⑦ 静电容量

由3位字母数字表示。单位为皮法（pF）。第1位和第2位数字为有效数字，第3位数字表示有效数字后的零个数。  
有小数点时以大写字母“R”表示。此时，所有数字均为有效数字。  
若包含有除“R”之外的任何字母，则表示此专用品名为非标准零件。

例如)

| 代号  | 静电容量    |
|-----|---------|
| R50 | 0.50pF  |
| 1R0 | 1.0pF   |
| 100 | 10pF    |
| 103 | 10000pF |

若发现在本表格中未提供品名，请联系我们。

(品名)

|    |   |    |   |    |    |     |   |     |    |
|----|---|----|---|----|----|-----|---|-----|----|
| GC | M | 18 | 8 | R7 | 1H | 102 | K | A37 | D  |
| 1  | 2 | 3  | 4 | 5  | 6  | 7   | 8 | 9   | 10 |

⑧ 静电容量公差

| 代号 | 静电容量公差  |
|----|---------|
| C  | ±0.25pF |
| D  | ±0.5pF  |
| J  | ±5%     |
| K  | ±10%    |
| M  | ±20%    |

⑨ 个别规格代号

由3位数字表示。

⑩ 包装

| 代号  | 包装         |
|-----|------------|
| L   | ø180mm 压纹带 |
| D/W | ø180mm 纸带  |
| K   | ø330mm 压纹带 |
| J   | ø330mm 纸带  |
| B   | 散装         |
| C   | 散装盒        |

片状多层陶瓷电容器选择指南

|      | 系列                   | 超小型 (小于 0201) | 低损耗/HiQ | 低 ESL | 无故障 | 偏转裂纹对策 | 焊接裂纹对策 | 啸叫对策、低失真 | 粘合用 | 特殊用途 | 安全规格认证型 |
|------|----------------------|---------------|---------|-------|-----|--------|--------|----------|-----|------|---------|
| 汽车用  | GCM <div>页 p16</div> |               |         |       |     |        |        |          |     |      |         |
|      | GCD <div>p23</div>   |               |         |       |     |        |        |          |     |      |         |
|      | GCE <div>p25</div>   |               |         |       |     |        |        |          |     |      |         |
|      | GCG <div>p27</div>   |               |         |       |     |        |        |          |     |      |         |
|      | GCJ <div>p32</div>   |               |         |       |     |        |        |          |     |      |         |
|      | GC3 <div>p38</div>   |               |         |       |     |        |        |          |     |      |         |
|      | KCM <div>p40</div>   |               |         |       |     |        |        |          |     |      |         |
|      | KC3 <div>p43</div>   |               |         |       |     |        |        |          |     |      |         |
| 一般用途 | GRM                  |               |         |       |     |        |        |          |     |      |         |
|      | GA2                  |               |         |       |     |        |        |          |     |      |         |
|      | GA3                  |               |         |       |     |        |        |          |     |      |         |
|      | GJM                  |               |         |       |     |        |        |          |     |      |         |
|      | GJ4                  |               |         |       |     |        |        |          |     |      |         |
|      | GJ8                  |               |         |       |     |        |        |          |     |      |         |
|      | GMA                  |               |         |       |     |        |        |          |     |      |         |
|      | GMD                  |               |         |       |     |        |        |          |     |      |         |
|      | GQM                  |               |         |       |     |        |        |          |     |      |         |
|      | GRJ                  |               |         |       |     |        |        |          |     |      |         |
|      | GR3                  |               |         |       |     |        |        |          |     |      |         |
|      | GR4                  |               |         |       |     |        |        |          |     |      |         |
|      | GR7                  |               |         |       |     |        |        |          |     |      |         |
|      | KRM                  |               |         |       |     |        |        |          |     |      |         |
|      | KR3                  |               |         |       |     |        |        |          |     |      |         |
|      | LLA                  |               |         |       |     |        |        |          |     |      |         |
|      | LLL                  |               |         |       |     |        |        |          |     |      |         |
|      | LLM                  |               |         |       |     |        |        |          |     |      |         |
|      | LLR                  |               |         |       |     |        |        |          |     |      |         |
|      | ZRA                  |               |         |       |     |        |        |          |     |      |         |

电容表

如何读懂静电容量表

|              |         |         |         |     |    |
|--------------|---------|---------|---------|-----|----|
| 长x宽 (mm)     | 0.6×0.3 | 1.0×0.5 | 1.6×0.8 |     |    |
| T 最大值 (mm)   | 0.33    | 0.55    | 0.9     |     |    |
| 额定电压 (Vdc)   | 25      | 50      | 100     | 50  | 10 |
| 静电容量 /温度特性代号 | C0G     | C0G     | C0G     | C0G | C0 |
| 1.0pF        | p17     | p17     | p17     | p17 |    |
| 2.0pF        | p17     | p17     | p17     | p17 |    |
| 3.0pF        | p17     | p17     | p17     | p17 |    |
| 4.0pF        | p17     | p17     | p17     | p17 |    |
| 5.0pF        | p17     | p17     | p17     | p17 |    |

值可按尺寸、额定电压和温度特性降序排列。

请参见产品型号列表。  
根据产品型号列表查找相对应的产品编号。

温度特性表

表中的温度特性代码标有颜色。对于每个代码的含义，请参见下表。

| 温度特性代号 |     | 温度特性 |              |                       | 工作温度范围     | 个别温度下的静电容量变化 (%) |       |      |       |      |       |
|--------|-----|------|--------------|-----------------------|------------|------------------|-------|------|-------|------|-------|
| 认证标准代号 |     | 参考温度 | 温度范围         | 静电容量变化或<br>温度系数       |            | -55℃             |       | *3   |       | -10℃ |       |
|        |     |      |              |                       |            | 最大               | 最小    | 最大   | 最小    | 最大   | 最小    |
| C0G    | EIA | 25℃  | 25 到 125℃    | 0±30ppm/℃             | -55 到 125℃ | 0.58             | -0.24 | 0.4  | -0.17 | 0.25 | -0.11 |
| X8G    | *1  | 25℃  | 25 到 150℃    | 0±30ppm/℃             | -55 到 150℃ | 0.58             | -0.24 | 0.4  | -0.17 | 0.25 | -0.11 |
| U2J    | EIA | 25℃  | 25 到 125℃ *2 | -750±120ppm/℃         | -55 到 125℃ | 8.78             | 5.04  | 6.04 | 3.47  | 3.84 | 2.21  |
| ZLM    | *1  | 20℃  | -25 到 20℃    | -4700+1000/-2500ppm/℃ | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
|        |     |      | 20 到 85℃     | -4700+500/-1000ppm/℃  |            | -                | -     | -    | -     | -    | -     |
| X7S    | EIA | 25℃  | -55 到 125℃   | ±22%                  | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
| X7T    | EIA | 25℃  | -55 到 125℃   | +22%, -33%            | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
| X8L    | *1  | 25℃  | -55 到 150℃   | +15%, -40%            | -55 到 150℃ | -                | -     | -    | -     | -    | -     |
| X7R    | EIA | 25℃  | -55 到 125℃   | ±15%                  | -55 到 125℃ | -                | -     | -    | -     | -    | -     |
| X8R    | EIA | 25℃  | -55 到 150℃   | ±15%                  | -55 到 150℃ | -                | -     | -    | -     | -    | -     |

\*1 村田温度特性代码。  
\*2 Vdc额定电压时的最大值： 25 到 85℃  
\*3 -25℃（参考温度 20℃） / -30℃（参考温度 25℃）

电容表

p00

型号列表中的每个数字表示印在页面底部的页码。

■ GCM 系列温度补偿型

p00

← 产品型号列表

EIA: C0G U2J

村田温度特性: ZLM

| 长x宽 (mm)    | 0.6×<br>0.3 | 1.0×<br>0.5 | 1.6×0.8 |     | 2.0×1.25 |     |      |     |     |     |      |      | 3.2×1.6 |     |     |      |     |     |      |     |     |     |      |     | 3.2×2.5 |      |  |  |
|-------------|-------------|-------------|---------|-----|----------|-----|------|-----|-----|-----|------|------|---------|-----|-----|------|-----|-----|------|-----|-----|-----|------|-----|---------|------|--|--|
| T 最大值 (mm)  | 0.33        | 0.55        | 0.9     |     | 0.7      |     | 0.95 |     | 1.0 | 1.4 | 1.45 | 0.95 |         |     |     | 1.0  |     |     | 1.25 |     |     |     | 1.8  |     | 1.0     | 1.25 |  |  |
| 额定电压 (Vdc)  | 25          | 50          | 100     | 50  | 100      | 50  | 100  | 50  | 250 | 50  | 250  | 100  | 80      | 63  | 50  | 1000 | 630 | 250 | 1000 | 630 | 250 | 50  | 1000 | 630 | 630     | 1000 |  |  |
| 静电容量/温度特性代号 | C0G         | C0G         | C0G     | C0G | C0G      | C0G | ZLM  | C0G | U2J | C0G | U2J  | C0G  | C0G     | C0G | C0G | U2J  | U2J | U2J | U2J  | U2J | U2J | C0G | U2J  | U2J | U2J     | U2J  |  |  |
| 1.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 2.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 3.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 4.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 5.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 6.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 7.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 8.0pF       | p17         | p17         | p17     | p17 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 9.0pF       | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 10pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 12pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 15pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 18pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 22pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 27pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 33pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 39pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 47pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 56pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 68pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 82pF        | p17         | p17         | p17     | p18 |          |     |      |     |     |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 100pF       | p17         | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 120pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 150pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 180pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 220pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 270pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 330pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      | p19 | p19 |      |     |     |     |      |     |         |      |  |  |
| 390pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      |     | p19 | p19  | p19 |     |     |      |     |         |      |  |  |
| 470pF       |             | p17         | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      |     | p19 | p19  | p19 |     |     |      |     |         |      |  |  |
| 560pF       |             |             | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      |     | p19 | p19  | p19 |     |     |      |     |         |      |  |  |
| 680pF       |             |             | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      |     | p19 | p19  | p19 |     |     |      |     |         |      |  |  |
| 820pF       |             |             | p17     | p18 | p18      |     |      |     | p18 |     |      |      |         |     |     |      |     | p19 |      |     |     |     | p19  |     |         |      |  |  |
| 1000pF      |             |             | p17     | p18 | p18      | p18 | p18  |     | p18 |     |      |      |         |     |     |      |     | p19 |      |     |     |     | p19  |     |         |      |  |  |
| 1100pF      |             |             |         |     |          |     |      | p18 |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 1200pF      |             |             | p17     | p18 | p18      | p18 | p18  |     | p18 |     |      |      |         |     |     |      |     | p19 |      |     |     |     |      |     | p19     | p19  |  |  |
| 1300pF      |             |             |         |     |          |     |      | p18 |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 1500pF      |             |             | p17     | p18 | p18      | p18 | p18  |     | p18 |     |      |      |         |     |     |      |     | p19 |      |     |     |     |      |     | p19     |      |  |  |
| 1800pF      |             |             |         | p18 | p18      | p18 |      |     | p18 |     |      |      |         |     | p19 |      |     | p19 |      |     |     |     |      |     | p19     | p19  |  |  |
| 2200pF      |             |             |         | p18 | p18      | p18 |      |     | p18 |     |      |      |         |     | p19 |      |     | p19 |      |     |     |     |      |     | p19     | p19  |  |  |
| 2700pF      |             |             |         | p18 | p18      | p18 |      |     |     | p18 | p19  |      |         |     |     |      |     | p19 | p19  |     |     |     |      |     |         |      |  |  |
| 3300pF      |             |             |         | p18 | p18      | p18 |      |     |     | p18 | p19  |      |         |     |     |      |     | p19 | p19  | p19 |     |     |      |     |         |      |  |  |
| 3900pF      |             |             |         | p18 |          | p18 |      |     |     | p18 | p19  |      |         |     |     |      |     | p19 | p19  |     |     |     | p19  |     |         |      |  |  |
| 4700pF      |             |             |         |     | p18      |     |      |     |     | p18 | p19  |      |         |     |     |      |     | p19 | p19  |     |     |     | p19  |     |         |      |  |  |
| 5600pF      |             |             |         |     |          |     | p18  |     |     | p18 | p19  |      |         |     |     |      |     | p19 |      |     |     |     |      |     |         |      |  |  |
| 6800pF      |             |             |         |     |          |     | p18  |     |     |     | p19  |      |         |     |     |      |     |     |      | p19 |     |     |      |     |         |      |  |  |
| 8200pF      |             |             |         |     |          |     | p18  |     |     |     | p19  |      |         |     |     |      |     |     |      | p19 |     |     |      |     |         |      |  |  |
| 10000pF     |             |             |         |     |          |     | p18  |     |     |     | p19  |      |         |     |     |      |     |     |      | p19 |     |     |      |     |         |      |  |  |
| 12000pF     |             |             |         |     |          |     | p18  |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 15000pF     |             |             |         |     |          |     | p18  |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 18000pF     |             |             |         |     |          |     |      | p18 |     |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 22000pF     |             |             |         |     |          |     |      |     | p18 |     |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 27000pF     |             |             |         |     |          |     |      |     |     | p18 |      |      |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 33000pF     |             |             |         |     |          |     |      |     |     |     | p19  | p19  | p19     |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 39000pF     |             |             |         |     |          |     |      |     |     |     |      | p19  |         |     |     |      |     |     |      |     |     |     |      |     |         |      |  |  |
| 47000pF     |             |             |         |     |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     | p19  |     |         |      |  |  |
| 56000pF     |             |             |         |     |          |     |      |     |     |     |      |      |         |     |     |      |     |     |      |     |     |     | p19  |     |         |      |  |  |

电容表

p00

型号列表中的每个数字表示印在页面底部的页码。

(→ ■ GCM 系列温度补偿型)

p00 ← 产品型号列表

EIA: C0G U2J

村田温度特性: ZLM

| 3.2×2.5 |      |     |      |     | 4.5×3.2 |     |      |     |      | 5.7×5.0 |      |     |      |     | 长×宽 (mm)    |
|---------|------|-----|------|-----|---------|-----|------|-----|------|---------|------|-----|------|-----|-------------|
| 1.25    | 1.5  | 2.0 | 1.5  | 2.0 | 1.5     | 2.0 | 1.5  | 2.0 | 1.5  | 2.0     | 1.5  | 2.0 | 1.5  | 2.0 | T 最大值 (mm)  |
| 630     | 1000 | 630 | 1000 | 630 | 1000    | 630 | 1000 | 630 | 1000 | 630     | 1000 | 630 | 1000 | 630 | 额定电压 (Vdc)  |
| U2J     | U2J  | U2J | U2J  | U2J | U2J     | U2J | U2J  | U2J | U2J  | U2J     | U2J  | U2J | U2J  | U2J | 静电容量/温度特性代号 |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 1.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 2.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 3.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 4.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 5.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 6.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 7.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 8.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 9.0pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 10pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 12pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 15pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 18pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 22pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 27pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 33pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 39pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 47pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 56pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 68pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 82pF        |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 100pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 120pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 150pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 180pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 220pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 270pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 330pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 390pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 470pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 560pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 680pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 820pF       |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 1000pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 1100pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 1200pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 1300pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 1500pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 1800pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 2200pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 2700pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 3300pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 3900pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 4700pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 5600pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 6800pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 8200pF      |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 10000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 12000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 15000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 18000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 22000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 27000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 33000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 39000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 47000pF     |
|         |      |     |      |     |         |     |      |     |      |         |      |     |      |     | 56000pF     |

电容表

p00

型号列表中的每个数字表示印在页面底部的页码。

■ GCM 系列高介电常数型

p00

← 产品型号列表

EIA:

X7S

X7R

| 长x宽 (mm)    | 0.6×0.3 |     |     | 1.0×0.5 |     |     |     | 1.6×0.8 |     |     |     |     | 2.0×1.25 |      |     |     |     |     |     |     |     |     |     |      | 3.2×1.6 |     |
|-------------|---------|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|-----|----------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------|-----|
| T 最大值 (mm)  | 0.33    |     |     | 0.55    |     |     |     | 0.9     |     |     |     |     | 0.7      | 0.95 |     |     |     | 1.4 |     |     |     |     |     | 0.95 | 1.25    |     |
| 额定电压 (Vdc)  | 25      | 16  | 10  | 100     | 50  | 25  | 16  | 100     | 50  | 25  | 16  | 6.3 | 100      | 100  | 50  | 25  | 16  | 100 | 50  | 35  | 25  | 16  | 10  | 6.3  | 100     | 100 |
| 静电容量/温度特性代号 | X7R     | X7R | X7R | X7R     | X7R | X7R | X7R | X7R     | X7R | X7R | X7R | X7R | X7R      | X7R  | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R  | X7R     | X7R |
| 100pF       | p21     |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 150pF       | p21     |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 220pF       | p21     |     |     | p21     | p21 |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 330pF       | p21     |     |     | p21     | p21 |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 470pF       | p21     |     |     | p21     | p21 |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 680pF       | p21     |     |     | p21     | p21 |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 1000pF      | p21     |     |     | p21     | p21 |     |     | p21     | p21 |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 1500pF      | p21     |     |     | p21     | p21 |     |     | p21     | p21 |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 2200pF      |         | p21 |     | p21     | p21 |     |     | p21     | p21 |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 3300pF      |         | p21 |     | p21     | p21 |     |     | p21     | p21 |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 4700pF      |         |     | p21 | p21     | p21 |     |     | p21     | p21 |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 6800pF      |         |     | p21 |         | p21 |     |     | p21     | p21 |     |     |     | p21      |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 10000pF     |         |     | p21 |         | p21 | p21 |     | p21     | p21 |     |     |     | p21      |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 15000pF     |         |     |     |         | p21 | p21 |     | p21     | p21 |     |     |     | p21      |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 22000pF     |         |     |     |         | p21 | p21 |     | p21     | p21 |     |     |     | p21      |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 33000pF     |         |     |     |         | p21 | p21 | p21 |         | p21 | p21 |     |     |          | p22  | p22 |     |     |     |     |     |     |     |     |      |         |     |
| 47000pF     |         |     |     |         | p21 | p21 | p21 |         | p21 | p21 |     |     |          |      |     |     |     | p22 | p22 |     |     |     |     |      |         |     |
| 68000pF     |         |     |     |         | p21 |     | p21 |         | p21 | p21 |     |     |          |      |     |     |     | p22 | p22 |     |     |     |     |      |         |     |
| 0.10μF      |         |     |     |         | p21 |     | p21 |         | p21 | p21 | p21 |     |          |      |     |     |     | p22 | p22 |     |     |     |     |      | p22     |     |
| 0.15μF      |         |     |     |         |     |     | p21 |         | p21 | p21 |     |     |          |      |     |     |     | p22 | p22 |     | p22 |     |     |      |         | p22 |
| 0.22μF      |         |     |     |         |     | p21 |     |         | p21 | p21 |     |     |          |      |     |     |     | p22 | p22 |     | p22 |     |     |      |         | p22 |
| 0.33μF      |         |     |     |         |     |     |     |         |     |     | p21 |     |          |      | p22 |     |     |     | p22 |     | p22 |     |     |      |         |     |
| 0.47μF      |         |     |     |         |     |     |     |         |     | p21 | p21 |     |          |      |     | p22 |     |     | p22 |     |     |     |     |      |         |     |
| 0.68μF      |         |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     | p22 |     | p22 | p22 |     |     |     |      |         |     |
| 1.0μF       |         |     |     |         |     |     |     |         |     | p21 | p21 |     |          |      |     |     | p22 |     | p22 | p22 | p22 |     |     |      |         |     |
| 1.5μF       |         |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     |     | p22 |     |     |     |     |     |      |         |     |
| 2.2μF       |         |     |     |         |     |     |     |         |     |     |     | p21 |          |      |     |     |     |     | p22 | p22 | p22 |     |     |      |         |     |
| 4.7μF       |         |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     | p22 | p22 |     |      |         |     |
| 10μF        |         |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     | p22 | p22 |      |         |     |
| 22μF        |         |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |
| 47μF        |         |     |     |         |     |     |     |         |     |     |     |     |          |      |     |     |     |     |     |     |     |     |     |      |         |     |



电容表

p00

型号列表中的每个数字表示印在页面底部的页码。

(→ ■ GCM 系列高介电常数型)

p00

← 产品型号列表

EIA: 

X7S

X7R

| 3.2×1.6 |     |     |     |     |     |     |     |     | 3.2×2.5 |     |     |     |     |     |     |     | 长×宽 (mm)    |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|-------------|
| 1.25    | 1.3 | 1.8 |     |     |     |     |     | 1.9 | 2.2     |     | 2.7 |     |     |     |     |     | T 最大值 (mm)  |
| 50      | 25  | 100 | 50  | 25  | 16  | 10  | 6.3 | 25  | 25      | 16  | 50  | 35  | 25  | 16  | 10  | 6.3 | 额定电压 (Vdc)  |
| X7R     | X7R | X7R | X7Δ | X7R | X7R | X7R | X7R | X7S | X7R     | X7R | X7Δ | X7S | X7R | X7R | X7R | X7R | 静电容量/温度特性代号 |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 100pF       |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 150pF       |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 220pF       |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 330pF       |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 470pF       |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 680pF       |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 1000pF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 1500pF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 2200pF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 3300pF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 4700pF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 6800pF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 10000pF     |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 15000pF     |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 22000pF     |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 33000pF     |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 47000pF     |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 68000pF     |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 0.10μF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 0.15μF      |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 0.22μF      |
| p22     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 0.33μF      |
| p22     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 0.47μF      |
| p22     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 0.68μF      |
| p22     |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     | 1.0μF       |
|         |     | p22 |     |     |     |     |     |     |         |     |     |     | p22 |     |     |     | 1.5μF       |
|         |     |     |     | p22 |     |     |     |     |         |     |     |     |     |     |     |     | 2.2μF       |
|         |     |     |     | p22 | p22 | p22 |     |     |         |     |     |     |     |     |     |     | 4.7μF       |
|         |     |     |     |     |     | p22 | p22 |     |         |     |     |     |     |     |     |     | 10μF        |
|         |     |     |     |     |     |     | p22 | p22 |         |     |     |     |     |     |     |     | 22μF        |
|         |     |     |     |     |     |     |     |     |         |     |     |     |     |     |     | p22 | 47μF        |

电容表

p00

型号列表中的每个数字表示印在页面底部的页码。

■ GCD 系列高介电常数型

p00

← 产品型号列表

EIA: X7R

| 长x宽 (mm)    | 1.6×0.8 |     |     | 2.0×1.25 |     |      |     |     |
|-------------|---------|-----|-----|----------|-----|------|-----|-----|
| T 最大值 (mm)  | 0.9     |     |     | 0.7      |     | 0.95 | 1.4 |     |
| 额定电压 (Vdc)  | 100     | 50  | 25  | 100      | 50  | 100  | 100 | 50  |
| 静电容量/温度特性代号 | X7R     | X7R | X7R | X7R      | X7R | X7R  | X7R | X7R |
| 1000pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 1200pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 1500pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 1800pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 2200pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 2700pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 3300pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 3900pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 4700pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 5600pF      | p24     | p24 |     | p24      | p24 |      |     |     |
| 6800pF      | p24     | p24 |     |          |     | p24  |     |     |
| 8200pF      | p24     | p24 |     |          |     |      | p24 |     |
| 10000pF     | p24     | p24 |     |          |     |      | p24 |     |
| 12000pF     | p24     | p24 |     |          |     |      | p24 |     |
| 15000pF     | p24     | p24 |     |          |     |      | p24 | p24 |
| 18000pF     | p24     | p24 |     |          |     |      | p24 | p24 |
| 22000pF     | p24     | p24 |     |          |     |      | p24 | p24 |
| 27000pF     |         |     | p24 |          |     |      | p24 | p24 |
| 33000pF     |         |     | p24 |          |     |      | p24 | p24 |
| 39000pF     |         |     | p24 |          |     |      | p24 | p24 |
| 47000pF     |         |     | p24 |          |     |      | p24 | p24 |
| 56000pF     |         |     |     |          |     |      | p24 | p24 |
| 68000pF     |         |     |     |          |     |      | p24 | p24 |
| 82000pF     |         |     |     |          |     |      | p24 | p24 |
| 0.10μF      |         |     |     |          |     |      | p24 | p24 |

■ GCE 系列高介电常数型

p00

← 产品型号列表

EIA: X7R

| 长x宽 (mm)    | 1.6×0.8 |     |     | 2.0×1.25 |     |      |      |     |
|-------------|---------|-----|-----|----------|-----|------|------|-----|
| T 最大值 (mm)  | 0.9     |     |     | 0.7      |     | 0.95 | 1.45 |     |
| 额定电压 (Vdc)  | 100     | 50  | 100 | 50       | 100 | 100  | 100  | 50  |
| 静电容量/温度特性代号 | X7R     | X7R | X7R | X7R      | X7R | X7R  | X7R  | X7R |
| 1000pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 1200pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 1500pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 1800pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 2200pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 2700pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 3300pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 3900pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 4700pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 5600pF      | p26     | p26 | p26 | p26      |     |      |      |     |
| 6800pF      | p26     | p26 |     |          | p26 |      |      |     |
| 8200pF      | p26     | p26 |     |          |     | p26  |      |     |
| 10000pF     | p26     | p26 |     |          |     | p26  |      |     |
| 12000pF     | p26     | p26 |     |          |     | p26  |      |     |
| 15000pF     | p26     | p26 |     |          |     | p26  | p26  |     |
| 18000pF     | p26     | p26 |     |          |     | p26  | p26  |     |
| 22000pF     | p26     | p26 |     |          |     | p26  | p26  |     |
| 27000pF     |         |     |     |          |     | p26  | p26  |     |
| 33000pF     |         |     |     |          |     | p26  | p26  |     |
| 39000pF     |         |     |     |          |     | p26  | p26  |     |
| 47000pF     |         |     |     |          |     | p26  | p26  |     |
| 56000pF     |         |     |     |          |     | p26  | p26  |     |
| 68000pF     |         |     |     |          |     | p26  | p26  |     |
| 82000pF     |         |     |     |          |     | p26  | p26  |     |
| 0.10μF      |         |     |     |          |     | p26  | p26  |     |

电容表

p00

型号列表中的每个数字表示印在页面底部的页码。

■ GCG 系列

温度补偿型

p00

 ← 产品型号列表

村田温度特性: X8G

| 长x宽 (mm)    | 1.0×0.5 | 1.6×0.8 | 2.0×1.25 |      |
|-------------|---------|---------|----------|------|
| T 最大值 (mm)  | 0.55    | 0.9     | 0.7      | 0.95 |
| 额定电压 (Vdc)  | 50      | 50      | 50       | 50   |
| 静电容量/温度特性代号 | X8G     | X8G     | X8G      | X8G  |
| 10pF        |         | p28     |          |      |
| 12pF        |         | p28     |          |      |
| 15pF        |         | p28     |          |      |
| 18pF        |         | p28     |          |      |
| 22pF        |         | p28     |          |      |
| 27pF        |         | p28     |          |      |
| 33pF        |         | p28     |          |      |
| 39pF        |         | p28     |          |      |
| 47pF        |         | p28     |          |      |
| 56pF        |         | p28     |          |      |
| 68pF        |         | p28     |          |      |
| 82pF        |         | p28     |          |      |
| 100pF       |         | p28     | p28      |      |
| 120pF       | p28     | p28     | p28      |      |
| 150pF       | p28     | p28     | p28      |      |
| 180pF       | p28     | p28     | p28      |      |
| 220pF       | p28     | p28     | p28      |      |
| 270pF       | p28     | p28     | p28      |      |
| 330pF       | p28     | p28     | p28      |      |
| 390pF       | p28     | p28     | p28      |      |
| 470pF       | p28     | p28     | p28      |      |
| 560pF       |         | p28     | p28      |      |
| 680pF       |         | p28     | p28      |      |
| 820pF       |         | p28     | p28      |      |
| 1000pF      |         | p28     | p28      |      |
| 1200pF      |         | p28     | p28      |      |
| 1500pF      |         | p28     | p28      |      |
| 1800pF      |         | p28     | p28      |      |
| 2200pF      |         | p28     | p28      |      |
| 2700pF      |         |         | p28      |      |
| 3300pF      |         |         | p28      |      |
| 3900pF      |         |         | p28      |      |
| 4700pF      |         |         | p28      |      |
| 5600pF      |         |         |          | p28  |
| 6800pF      |         |         |          | p28  |
| 8200pF      |         |         |          | p28  |
| 10000pF     |         |         |          | p28  |

高介电常数型

EIA: X7R X8R

村田温度特性: X8L

| 长x宽 (mm)    | 1.0×0.5 |     |     |     |     | 1.6×0.8 |     |     |     |     |     |     |     | 2.0×1.25 |     |
|-------------|---------|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|----------|-----|
| T 最大值 (mm)  | 0.55    |     |     |     |     | 0.9     |     |     |     |     |     |     |     | 0.95     |     |
| 额定电压 (Vdc)  | 50      | 25  | 16  |     |     | 100     | 50  | 25  | 16  |     |     |     |     | 50       | 25  |
| 静电容量/温度特性代号 | X7R     | X8L | X7R | X8L | X7R | X8R     | X8L | X8R | X7R | X8R | X7R | X8L | X8R | X8R      | X8R |
| 220pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 270pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 330pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 390pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 470pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 560pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 680pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 820pF       | p29     |     |     |     |     |         | p29 |     |     |     |     |     |     |          |     |
| 1000pF      | p29     |     |     |     |     |         | p29 | p29 |     |     | p30 |     |     |          |     |
| 1200pF      | p29     |     |     |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 1500pF      | p29     |     |     |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 1800pF      | p29     |     |     |     |     |         | p29 | p29 |     |     | p30 |     |     |          |     |
| 2200pF      | p29     |     |     |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 2700pF      | p29     |     |     |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 3300pF      | p29     |     |     |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 3900pF      | p29     |     |     |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 4700pF      | p29     |     |     |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 5600pF      |         | p29 | p29 |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 6800pF      |         | p29 | p29 |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 8200pF      |         | p29 | p29 |     |     |         | p29 | p29 | p29 |     | p30 |     |     |          |     |
| 10000pF     |         | p29 | p29 |     |     |         | p29 | p29 | p30 |     | p30 |     |     | p30      | p30 |
| 12000pF     |         |     |     |     |     |         | p29 | p29 |     |     |     |     |     |          |     |
| 15000pF     |         |     |     | p29 | p29 | p29     | p29 | p30 |     |     | p30 |     |     | p30      | p30 |
| 18000pF     |         |     |     | p29 | p29 | p29     | p29 |     |     |     |     |     |     | p30      |     |
| 22000pF     |         |     |     | p29 | p29 | p29     | p29 | p30 |     |     | p30 |     |     | p30      | p30 |
| 27000pF     |         |     |     | p29 | p29 | p29     |     |     | p30 |     |     |     |     |          |     |
| 33000pF     |         |     |     | p29 | p29 | p29     |     | p30 | p30 | p30 |     |     |     |          |     |
| 39000pF     |         |     |     | p29 | p29 | p29     |     |     | p30 |     |     |     |     |          |     |
| 47000pF     |         |     |     | p29 | p29 | p29     |     | p30 | p30 | p30 |     |     |     |          |     |
| 56000pF     |         |     |     | p29 | p29 |         |     |     | p30 |     |     |     |     |          |     |
| 68000pF     |         |     |     | p29 | p29 |         |     |     | p30 | p30 |     |     | p30 |          |     |
| 82000pF     |         |     |     | p29 |     |         |     |     | p30 |     |     |     |     |          |     |
| 0.10μF      |         |     |     | p29 |     |         |     | p30 |     |     |     |     |     | p30      |     |
| 0.12μF      |         |     |     |     |     |         |     | p30 |     |     |     | p30 |     |          |     |
| 0.15μF      |         |     |     |     |     |         |     | p30 |     |     |     | p30 | p30 |          |     |
| 0.18μF      |         |     |     |     |     |         |     | p30 |     |     |     | p30 |     |          |     |
| 0.22μF      |         |     |     |     |     |         |     | p30 |     |     |     | p30 | p30 |          |     |
| 0.27μF      |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 0.33μF      |         |     |     |     |     |         |     |     |     | p30 |     |     |     |          |     |
| 0.39μF      |         |     |     |     |     |         |     |     |     | p30 |     |     |     |          |     |
| 0.47μF      |         |     |     |     |     |         |     |     |     | p30 |     |     |     |          |     |
| 0.56μF      |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 0.68μF      |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 0.82μF      |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 1.0μF       |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 1.2μF       |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 1.5μF       |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 2.2μF       |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 3.3μF       |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 3.9μF       |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 4.7μF       |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |
| 10μF        |         |     |     |     |     |         |     |     |     |     |     |     |     |          |     |



电容表

p00 型号列表中的每个数字表示印在页面底部的页码。

(→ ■ GCG 系列高介电常数型)

p00 ← 产品型号列表

EIA: X7R X8R 村田温度特性: X8L

| 长x宽 (mm)    | 2.0×1.25 |     |     |     |     |     |     |     | 3.2×1.6 |     |     |     |     |     |     |     | 3.2×2.5 |     |
|-------------|----------|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|---------|-----|
| T 最大值 (mm)  | 1.45     |     |     |     |     |     |     |     | 1.35    |     |     |     | 1.9 |     |     |     | 2.3     | 2.8 |
| 额定电压 (Vdc)  | 50       |     |     | 25  |     |     | 16  |     | 50      | 25  | 16  | 25  | 16  | 25  | 16  | 25  | 25      |     |
| 静电容量/温度特性代号 | X8L      | X8R | X7R | X8L | X8R | X7R | X8L | X7R | X8R     | X8R | X7R | X8L | X8R | X7R | X8L | X8R | X7R     | X7R |
| 220pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 270pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 330pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 390pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 470pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 560pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 680pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 820pF       |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 1000pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 1200pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 1500pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 1800pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 2200pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 2700pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 3300pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 3900pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 4700pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 5600pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 6800pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 8200pF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 10000pF     |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 12000pF     |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 15000pF     |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 18000pF     |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 22000pF     |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 27000pF     | p30      |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 33000pF     | p30      | p30 |     |     | p30 |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 39000pF     | p30      |     |     |     | p30 |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 47000pF     | p30      | p30 |     |     | p30 |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 56000pF     |          | p30 |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 68000pF     |          | p30 |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 82000pF     |          |     |     |     | p30 |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.10μF      | p30      | p30 |     | p30 | p30 |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.12μF      |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.15μF      |          |     | p30 |     | p30 |     |     |     | p30     | p30 |     |     |     |     |     |     |         |     |
| 0.18μF      |          |     | p30 |     | p30 |     |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.22μF      |          |     | p30 |     | p30 |     |     |     | p30     | p30 |     |     |     |     |     |     |         |     |
| 0.27μF      |          |     |     |     |     | p30 |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.33μF      |          |     | p30 |     | p30 | p30 |     |     | p30     | p30 |     |     |     |     |     |     |         |     |
| 0.39μF      |          |     |     |     | p30 | p30 |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.47μF      |          |     |     |     | p30 | p30 |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.56μF      |          |     |     |     | p30 | p30 |     |     |         |     |     |     |     |     |     |     |         |     |
| 0.68μF      |          |     |     |     | p30 | p30 |     |     |         |     |     | p31 |     |     |     | p31 |         |     |
| 0.82μF      |          |     |     |     | p30 | p30 |     |     |         |     |     |     |     |     |     |     |         |     |
| 1.0μF       |          |     |     |     | p30 |     |     |     |         |     | p30 | p31 |     |     |     | p31 |         |     |
| 1.2μF       |          |     |     |     |     |     |     |     |         |     | p31 |     |     |     |     |     |         |     |
| 1.5μF       |          |     |     |     |     |     |     |     |         |     | p31 | p31 |     |     |     |     |         |     |
| 2.2μF       |          |     |     |     |     |     |     |     |         |     | p31 |     |     |     |     |     |         |     |
| 3.3μF       |          |     |     |     |     |     |     |     |         |     |     |     | p31 | p31 |     |     | p31     |     |
| 3.9μF       |          |     |     |     |     |     |     |     |         |     |     |     |     | p31 |     |     |         |     |
| 4.7μF       |          |     |     |     |     |     |     | p30 |         |     |     |     |     | p31 | p31 |     |         | p31 |
| 10μF        |          |     |     |     |     |     |     |     |         |     |     |     |     |     |     |     |         | p31 |

电容表

p00 型号列表中的每个数字表示印在页面底部的页码。

GCJ 系列高介电常数型

p00 ← 产品型号列表

EIA: X7S X7R X8R

村田温度特性: X8L

| 长x宽 (mm)    | 1.6×0.8 |     |     |     |     |     |     |     |     |     |     |     |     | 2.0×1.25 |     |     |      |     |     |     |     |      |     |     |     |  |
|-------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|--|
| T 最大值 (mm)  | 0.9     |     |     |     |     |     |     |     |     |     |     |     |     | 0.7      |     |     | 0.95 |     |     |     | 1.0 | 1.45 |     |     |     |  |
| 额定电压 (Vdc)  | 100     |     | 50  |     |     | 35  | 25  |     |     | 16  |     | 10  | 6.3 | 100      | 50  | 25  | 100  | 50  | 25  | 16  | 250 | 250  | 100 | 50  | 35  |  |
| 静电容量/温度特性代号 | X8R     | X7R | X8L | X8R | X7R | X8L | X8L | X8R | X7R | X8L | X7R | X7R | X7R | X7R      | X7R | X7R | X7R  | X7R | X7R | X7R | X7R | X7R  | X8L | X7R | X8L |  |
| 220pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     | p35  |     |     |     |     |      |     |     |     |  |
| 270pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     | p35  |     |     |     |     |      |     |     |     |  |
| 330pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 390pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     | p34 | p35  | p35 |     |     |     |      |     |     |     |  |
| 470pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     | p34 | p35  | p35 |     |     |     |      |     |     |     |  |
| 560pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     | p34 | p35  | p35 |     |     |     |      |     |     |     |  |
| 680pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     | p34 | p35  | p35 |     |     |     |      |     |     |     |  |
| 820pF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     | p34 | p35  | p35 |     |     |     |      |     |     |     |  |
| 1000pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     | p35 |      |     |     |     |  |
| 1200pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 1500pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     | p35 |      |     |     |     |  |
| 1800pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 2200pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     | p35 |      |     |     |     |  |
| 2700pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 3300pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     | p35 |      |     |     |     |  |
| 3900pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 4700pF      | p33     | p33 | p33 | p33 | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     | p35 |      |     |     |     |  |
| 5600pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 6800pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     | p35 |      |     |     |     |  |
| 8200pF      | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 10000pF     | p33     | p33 | p33 | p33 | p33 |     |     |     |     |     | p34 |     | p34 |          | p34 | p34 | p35  |     |     |     |     | p35  |     |     |     |  |
| 12000pF     | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 | p35  |     |     |     |     |      |     |     |     |  |
| 15000pF     | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 |      |     |     | p35 |     | p35  |     |     |     |  |
| 18000pF     | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 |      |     |     | p35 |     |      |     |     |     |  |
| 22000pF     | p33     | p33 | p33 |     | p33 |     |     |     |     |     | p34 |     |     |          | p34 | p34 |      |     |     | p35 |     | p35  |     |     |     |  |
| 27000pF     | p33     |     |     |     |     |     |     |     |     |     | p34 |     | p34 |          |     |     |      | p35 | p35 |     |     |      |     | p35 |     |  |
| 33000pF     | p33     |     |     |     | p33 | p33 | p33 |     |     |     | p34 | p34 | p34 |          |     |     |      | p35 | p35 |     |     |      |     | p35 |     |  |
| 39000pF     | p33     |     |     |     | p33 | p33 | p33 |     |     |     | p34 | p34 | p34 |          |     |     |      | p35 | p35 |     |     |      |     | p35 |     |  |
| 47000pF     | p33     |     |     |     | p33 |     |     |     |     |     | p34 | p34 | p34 |          |     |     |      |     |     |     |     | p35  | p35 | p35 |     |  |
| 56000pF     | p33     |     |     |     | p33 | p33 | p33 |     |     |     | p34 | p34 | p34 |          |     |     |      |     |     |     |     | p35  | p35 | p35 |     |  |
| 68000pF     | p33     |     |     |     | p33 | p33 | p33 |     |     |     | p34 | p34 | p34 |          |     |     |      |     |     |     |     | p35  | p35 | p35 |     |  |
| 82000pF     |         |     |     |     | p33 |     | p33 |     |     |     | p34 | p34 | p34 |          |     |     |      |     |     |     |     | p35  | p35 | p35 |     |  |
| 0.10μF      |         | p33 |     | p33 | p33 |     |     |     |     |     | p34 | p34 | p34 |          |     |     |      |     |     |     |     | p35  | p35 | p35 |     |  |
| 0.12μF      |         |     |     | p33 |     |     |     |     |     |     | p34 | p34 | p34 | p34      |     |     |      |     |     |     |     |      |     | p35 | p35 |  |
| 0.15μF      |         |     |     | p33 | p33 |     | p33 |     |     |     | p34 | p34 | p34 | p34      |     |     |      |     |     |     |     |      |     | p35 | p35 |  |
| 0.18μF      |         |     |     | p33 |     |     | p33 |     |     |     | p34 | p34 | p34 | p34      |     |     |      |     |     |     |     |      |     | p35 | p35 |  |
| 0.22μF      |         |     |     | p33 | p33 |     | p33 |     |     |     | p34 | p34 | p34 | p34      |     |     |      |     |     |     |     |      |     | p35 | p35 |  |
| 0.27μF      |         |     |     |     |     |     |     |     |     |     |     |     | p34 |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 0.33μF      |         |     |     |     |     |     |     | p33 |     |     |     |     | p34 |          |     |     |      | p35 | p35 |     |     |      |     |     | p35 |  |
| 0.39μF      |         |     |     |     |     |     |     | p33 |     |     |     |     | p34 |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 0.47μF      |         |     |     |     |     |     |     | p33 |     |     |     |     | p34 |          |     |     |      |     | p35 |     |     |      |     | p35 | p35 |  |
| 0.56μF      |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 0.68μF      |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     | p35 |     |      |     |     |     |  |
| 0.82μF      |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     | p35 |     |      |     |     |     |  |
| 1.0μF       |         |     |     |     |     |     |     |     |     | p34 |     |     |     |          |     |     |      |     |     |     |     |      |     | p35 |     |  |
| 1.5μF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 2.2μF       |         |     |     |     |     |     |     |     |     |     |     |     | p34 |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 3.3μF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 4.7μF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 6.8μF       |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 10μF        |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 22μF        |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |
| 47μF        |         |     |     |     |     |     |     |     |     |     |     |     |     |          |     |     |      |     |     |     |     |      |     |     |     |  |

电容表

p00 型号列表中的每个数字表示印在页面底部的页码。

(→ ■ GCJ 系列高介电常数型)

p00 ← 产品型号列表

EIA: X7S X7R X8R

村田温度特性: X8L

| 长x宽 (mm)    | 2.0×1.25 |     |     |     |     |      |     |      |     |     | 3.2×1.6 |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-------------|----------|-----|-----|-----|-----|------|-----|------|-----|-----|---------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| T 最大值 (mm)  | 1.45     |     |     |     |     | 0.95 |     | 1.25 |     |     | 1.35    |     |     |     | 1.8  |     |     | 1.9 |     |     |     |     |     |     |     |  |  |  |
| 额定电压 (Vdc)  | 25       |     | 16  |     | 10  | 100  | 50  | 1000 | 630 | 250 | 100     | 50  | 25  | 16  | 1000 | 630 | 250 | 100 | 50  | 35  | 25  | 16  | 10  | 6.3 |     |  |  |  |
| 静电容量/温度特性代号 | X8L      | X7R | X8L | X7R | X7R | X7R  | X7R | X7R  | X7R | X7R | X7R     | X7R | X7R | X7R | X7R  | X7R | X7R | X7R | X7Δ | X8L | X8L | X7R | X8L | X7R | X7R |  |  |  |
| 220pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 270pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 330pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 390pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 470pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 560pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 680pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 820pF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 1000pF      |          |     |     |     |     |      |     |      | p36 | p36 |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 1200pF      |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 1500pF      |          |     |     |     |     |      |     |      | p36 | p36 |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 1800pF      |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 2200pF      |          |     |     |     |     |      |     |      | p36 | p36 |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 2700pF      |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 3300pF      |          |     |     |     |     |      |     |      | p36 | p36 |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 3900pF      |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 4700pF      |          |     |     |     |     |      |     |      | p36 | p36 |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 5600pF      |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 6800pF      |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 8200pF      |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 10000pF     |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 12000pF     |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 15000pF     |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 18000pF     |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 22000pF     |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 27000pF     |          | p35 |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 33000pF     |          | p35 |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 39000pF     |          | p35 |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 47000pF     |          | p35 |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 56000pF     |          | p35 |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 68000pF     |          | p35 |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 82000pF     |          | p35 |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.10μF      |          | p35 |     |     |     |      | p36 | p36  |     |     |         |     |     |     |      |     |     | p36 |     |     |     |     |     |     |     |  |  |  |
| 0.12μF      | p35      |     |     |     |     |      |     | p36  |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.15μF      | p35      |     |     |     |     |      |     |      |     |     |         | p36 | p36 | p36 |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.18μF      | p35      |     |     |     |     |      |     |      |     |     |         | p36 | p36 | p36 |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.22μF      | p35      |     |     |     |     |      |     |      |     |     |         | p36 | p36 | p36 |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.27μF      | p35      | p35 |     |     |     |      |     |      |     |     |         |     | p36 |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.33μF      | p35      |     |     |     |     |      |     |      |     |     |         |     | p36 |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.39μF      | p35      | p35 |     |     |     |      |     |      |     |     |         |     | p36 |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.47μF      | p35      |     |     |     |     |      |     |      |     |     |         |     | p36 |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.56μF      |          | p35 | p35 | p36 |     |      |     |      |     |     |         |     | p36 |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.68μF      | p35      | p35 | p36 |     |     |      |     |      |     |     |         |     | p36 |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 0.82μF      | p35      | p35 | p36 |     |     |      |     |      |     |     |         |     | p36 |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 1.0μF       | p35      | p35 | p36 | p36 |     |      |     |      |     |     |         |     | p36 | p36 | p36  |     |     | p36 |     |     |     |     |     |     |     |  |  |  |
| 1.5μF       |          | p35 |     |     |     |      |     |      |     |     |         |     |     | p36 | p36  |     |     |     |     | p36 |     |     |     |     |     |  |  |  |
| 2.2μF       |          | p35 |     |     |     |      |     |      |     |     |         |     |     | p36 |      |     |     |     |     | p36 |     |     |     |     |     |  |  |  |
| 3.3μF       |          |     |     |     |     |      |     |      |     |     |         |     |     | p36 |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 4.7μF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 6.8μF       |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 10μF        |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 22μF        |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |
| 47μF        |          |     |     |     |     |      |     |      |     |     |         |     |     |     |      |     |     |     |     |     |     |     |     |     |     |  |  |  |

电容表

p00 型号列表中的每个数字表示印在页面底部的页码。

(→ ■ GCJ 系列高介电常数型)

p00 ← 产品型号列表

EIA: X7S X7R X8R

村田温度特性: X8L

| 3.2×2.5 |     |     |      |     |     |     |     |     |     |     |     | 4.5×3.2 |      |     |     |      |     | 5.7×5.0 |             |  |  | 长×宽 (mm)   |
|---------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|---------|------|-----|-----|------|-----|---------|-------------|--|--|------------|
| 2.0     |     | 1.5 |      | 2.0 |     | 2.3 |     | 2.8 |     |     |     | 1.5     |      | 2.0 |     |      |     | 2.0     |             |  |  | T 最大值 (mm) |
| 25      | 630 | 250 | 1000 | 630 | 250 | 100 | 50  | 25  | 16  | 6.3 | 630 | 250     | 1000 | 630 | 250 | 1000 | 630 | 250     | 额定电压 (Vdc)  |  |  |            |
| X7S     | X7R | X7R | X7R  | X7R | X7R | X7R | X7Δ | X8L | X7R | X7R | X7R | X7R     | X7R  | X7R | X7R | X7R  | X7R | X7R     | 静电容量/温度特性代号 |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 220pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 270pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 330pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 390pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 470pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 560pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 680pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 820pF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 1000pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 1200pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 1500pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 1800pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 2200pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 2700pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 3300pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 3900pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 4700pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 5600pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 6800pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 8200pF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 10000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 12000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 15000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 18000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 22000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 27000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 33000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 39000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 47000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 56000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 68000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 82000pF     |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.10μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.12μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.15μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.18μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.22μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.27μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.33μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.39μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.47μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.56μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.68μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 0.82μF      |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 1.0μF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 1.5μF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 2.2μF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 3.3μF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 4.7μF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 6.8μF       |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 10μF        |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 22μF        |  |  |            |
|         |     |     |      |     |     |     |     |     |     |     |     |         |      |     |     |      |     |         | 47μF        |  |  |            |

电容表

p00

型号列表中的每个数字表示印在页面底部的页码。

■ GC3 系列高介电常数型

p00

← 产品型号列表

EIA: X7T

| 长x宽 (mm)      | 2.0×1.25 |      |     |      |     | 3.2×1.6 |     |     |     |     | 3.2×2.5 |     |     |     |     | 4.5×3.2 |     |     |     | 5.7×5.0 |     |     |     |     |     |
|---------------|----------|------|-----|------|-----|---------|-----|-----|-----|-----|---------|-----|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|-----|-----|
| T 最大值 (mm)    | 1.0      | 1.45 | 1.0 | 1.25 | 1.8 | 1.5     | 2.0 | 1.5 | 2.0 | 2.0 | 2.7     | 1.5 | 2.0 | 1.5 | 2.0 | 1.5     | 2.0 | 2.0 | 2.7 | 2.0     | 2.7 | 2.0 | 2.7 | 2.0 | 2.7 |
| 额定电压 (Vdc)    | 250      | 250  | 450 | 250  | 630 | 450     | 250 | 630 | 450 | 250 | 630     | 250 | 630 | 450 | 250 | 250     | 630 | 450 | 250 | 630     | 450 | 250 | 630 | 450 | 250 |
| 静电容量 / 温度特性代号 | X7T      | X7T  | X7T | X7T  | X7T | X7T     | X7T | X7T | X7T | X7T | X7T     | X7T | X7T | X7T | X7T | X7T     | X7T | X7T | X7T | X7T     | X7T | X7T | X7T | X7T | X7T |
| 10000pF       | p39      |      | p39 |      | p39 |         |     |     |     |     |         |     |     |     |     |         |     |     |     |         |     |     |     |     |     |
| 15000pF       | p39      |      | p39 |      |     |         | p39 |     |     |     |         |     |     |     |     |         |     |     |     |         |     |     |     |     |     |
| 22000pF       |          | p39  |     |      | p39 |         |     |     | p39 |     |         |     |     |     |     |         |     |     |     |         |     |     |     |     |     |
| 33000pF       |          |      | p39 |      | p39 |         |     |     |     |     |         |     | p39 |     |     |         |     |     |     |         |     |     |     |     |     |
| 47000pF       |          |      |     | p39  |     | p39     |     |     |     |     |         |     | p39 |     |     |         |     |     |     |         |     |     |     |     |     |
| 68000pF       |          |      |     |      |     |         | p39 |     |     |     |         |     |     | p39 |     |         | p39 |     |     |         |     |     |     |     |     |
| 0.10μF        |          |      |     |      |     |         |     | p39 |     |     |         |     | p39 |     |     |         |     | p39 |     |         |     |     |     |     |     |
| 0.15μF        |          |      |     |      |     |         |     |     |     |     |         |     |     | p39 |     |         | p39 |     |     | p39     |     |     |     |     |     |
| 0.22μF        |          |      |     |      |     |         |     |     |     |     |         |     |     |     | p39 |         |     |     | p39 |         | p39 |     |     |     |     |
| 0.27μF        |          |      |     |      |     |         |     |     |     |     |         |     |     |     |     |         |     |     |     |         |     | p39 |     |     |     |
| 0.33μF        |          |      |     |      |     |         |     |     |     |     |         |     |     |     |     |         |     | p39 |     | p39     |     |     |     |     |     |
| 0.47μF        |          |      |     |      |     |         |     |     |     |     |         |     |     |     |     |         |     |     | p39 | p39     |     |     |     |     |     |
| 0.56μF        |          |      |     |      |     |         |     |     |     |     |         |     |     |     |     |         |     |     |     |         |     | p39 |     |     |     |
| 0.68μF        |          |      |     |      |     |         |     |     |     |     |         |     |     |     |     |         |     |     |     |         |     |     |     |     | p39 |
| 1.0μF         |          |      |     |      |     |         |     |     |     |     |         |     |     |     |     |         |     |     |     |         |     |     |     |     | p39 |

■ KCM 系列高介电常数型

p00

← 产品型号列表

EIA: X7R

| 长x宽 (mm)     | 6.1×5.3 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|--------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| T 最大值 (mm)   | 3.0     |     |     |     |     | 3.9 |     |     |     |     | 5.0 |     |     |     |     | 6.7 |     |     |     |  |
| 额定电压 (Vdc)   | 100     | 63  | 50  | 35  | 25  | 100 | 63  | 50  | 35  | 25  | 100 | 50  | 35  | 25  | 100 | 63  | 50  | 35  | 25  |  |
| 静电容量 /温度特性代号 | X7R     | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R | X7R |  |
| 4.7μF        | p42     | p42 | p42 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 6.8μF        |         |     |     |     |     | p42 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| 10μF         |         |     | p42 | p42 |     |     | p42 |     |     |     | p42 |     |     |     |     |     |     |     |     |  |
| 15μF         |         |     |     | p42 | p42 |     |     |     |     |     |     |     |     |     |     | p42 |     |     |     |  |
| 17μF         |         |     |     |     |     |     |     | p42 | p42 |     |     |     |     |     |     |     |     |     |     |  |
| 22μF         |         |     |     |     |     |     |     |     | p42 | p42 |     | p42 | p42 |     |     |     | p42 |     |     |  |
| 33μF         |         |     |     |     |     |     |     |     |     | p42 |     |     | p42 | p42 |     |     |     | p42 |     |  |
| 47μF         |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | p42 | p42 |  |
| 68μF         |         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | p42 |  |

■ KC3 系列高介电常数型

p00

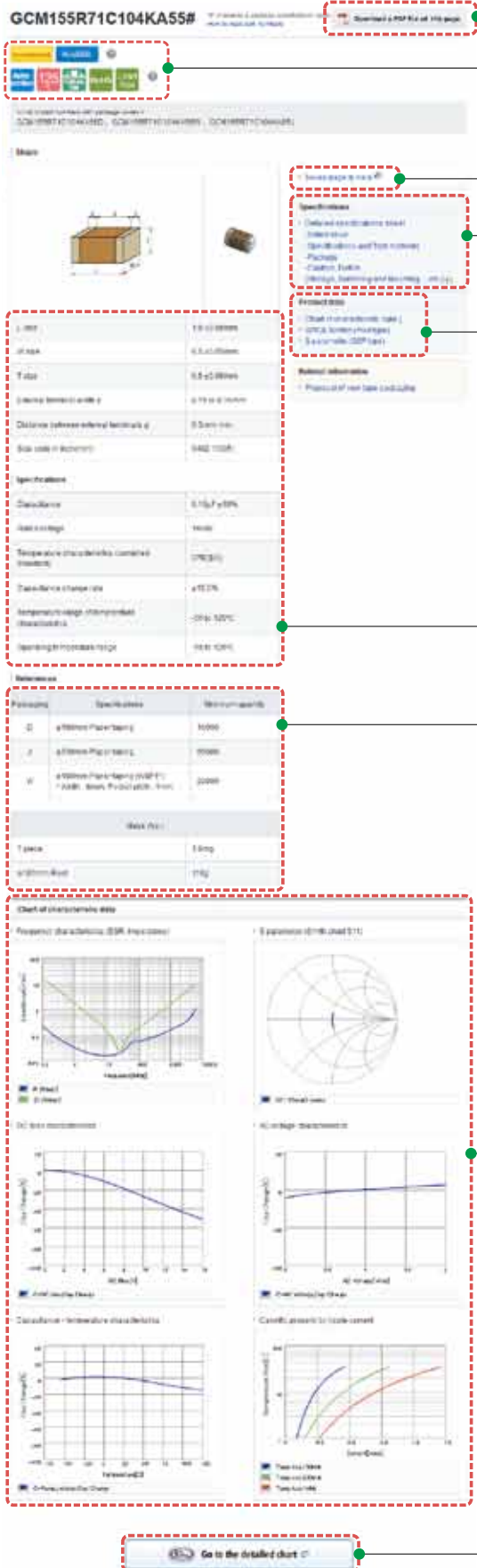
← 产品型号列表

EIA: X7T

| 长x宽 (mm)      | 6.1×5.3 |     |     |     |     |     |     |     |     |     |     |     |
|---------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| T 最大值 (mm)    | 3.0     |     |     | 3.9 |     |     | 5.0 |     |     | 6.7 |     |     |
| 额定电压 (Vdc)    | 630     | 450 | 250 | 630 | 450 | 250 | 450 | 250 | 630 | 450 | 250 | 250 |
| 静电容量 / 温度特性代号 | X7T     | X7T | X7T | X7T | X7T | X7T | X7T | X7T | X7T | X7T | X7T | X7T |
| 0.10μF        | p45     |     |     |     |     |     |     |     |     |     |     |     |
| 0.15μF        | p45     |     |     |     |     |     |     |     |     |     |     |     |
| 0.22μF        |         | p45 |     | p45 |     |     |     |     |     |     |     |     |
| 0.27μF        |         |     | p45 |     |     |     |     |     |     |     |     |     |
| 0.33μF        |         | p45 |     |     |     |     |     |     |     |     |     |     |
| 0.47μF        |         | p45 | p45 |     |     |     |     |     | p45 |     |     |     |
| 0.56μF        |         |     |     | p45 |     |     |     |     | p45 |     |     |     |
| 0.68μF        |         |     | p45 |     |     | p45 |     |     |     |     |     |     |
| 1.0μF         |         |     |     |     | p45 | p45 |     |     |     |     |     |     |
| 1.2μF         |         |     |     |     |     |     |     |     |     | p45 |     |     |
| 1.5μF         |         |     |     |     |     |     | p45 |     |     |     |     |     |
| 2.2μF         |         |     |     |     |     |     |     |     |     |     | p45 |     |

## 搜索电容器

规格和测试方法、包装、特性数据表、请参见搜索页面。  
<http://www.murata.com/products/capacitor/>



### 数据表

产品详细信息页面可以用PDF的形式输出。

### 状态和特点图标

可随时查看产品的状态及特点。单击后，将显示每个图标的描述。

### 特性和用途

此处链接至每一产品系列的简介页面。

### 详细的规格表

- 额定值
- 规格和测试方法
- 包装
- 警告，注意事项  
(存储、焊接和贴装.....等。)

### 特性数据

可获得主要产品的以下特性数据。

- SPICE网表 (Mod 型)
- S参数 (S2P 型)
- 可靠性试验数据\*典型数据

- 形状 (尺寸)
- 额定值

- 包装规格/最小订单量
- 重量 (1 pc/ø180mm 卷装)

### 特性数据表

主要产品附有特性数据表。

- 频率特性 (ESR, 阻抗)
- S 参数 (史密斯图表S11)
- DC偏压特性
- 交流电压特性
- 静电容量 - 温度特性
- 纹波电流发热属性

### 设计工具 SimSurfing

SimSurfing设计工具可用于显示图表、下载CSV数据和覆盖产品编号图。

一般用途产品

GCM 系列



AEC-Q200

汽车用电容器，比如动力传动设备和安全设备。

特性

① 是汽车上的动力传动装置和安全装置的理想产品。

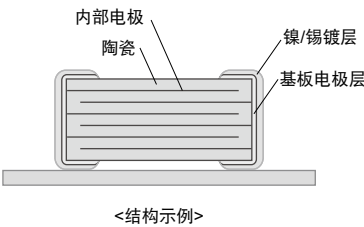
本产品可应用于安全设备，比如发动机ECU驱动系统控制装置、气囊和防锁死制动系统ABS。  
本产品已通过比一般产品（GRM系列）更严苛的试验，甚至已通过温度循环和湿度负载试验。

|      | 一般用途 GRM 系列<br>最大工作温度：85°C/105°C/125°C        | 汽车用 GCM 系列<br>最大工作温度：125°C                                                        |
|------|-----------------------------------------------|-----------------------------------------------------------------------------------|
| 项目   | 测试方法                                          | 测试方法                                                                              |
| 温度循环 | 温度循环：5 个周期                                    | 温度循环：100 个周期<br>(1,000 符合AEC-Q200标准的产品应进行1000次循环)                                 |
| 湿度负载 | 测试温度：40±2°C<br>测试湿度：90 到 95%RH<br>测试时间：500 小时 | 测试温度：85±2°C<br>测试湿度：80 到 85%RH<br>测试时间：500 小时<br>(1,000 符合AEC-Q200标准的产品应负载1000小时) |

② 可在125°C 和150°C温度下使用。

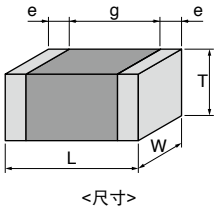
我们还提供可在发动机舱中150°C温度条件下使用的系列产品。

③ 可在电极外部上镀锡，具一流的焊接能力。



规格

|      |                               |
|------|-------------------------------|
| 尺寸   | 0.6×0.3mm 到 5.7×5.0mm         |
| 额定电压 | 6.3Vdc 到 1kVdc                |
| 静电容量 | 0.1pF 到 47μF                  |
| 主要应用 | 发动机ECU驱动系统控制装置、气囊，与ABS相似的安全装置 |



GCM 系列温度补偿型



产品型号列表

■ 0.6×0.3mm



| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差      | 品名                 |
|---------|----------|------------|-------|---------|--------------------|
| 0.33mm  | 25Vdc    | COG        | 1.0pF | ±0.25pF | GCM0335C1E1R0CD03# |
|         |          |            | 2.0pF | ±0.25pF | GCM0335C1E2R0CD03# |
|         |          |            | 3.0pF | ±0.25pF | GCM0335C1E3R0CD03# |
|         |          |            | 4.0pF | ±0.25pF | GCM0335C1E4R0CD03# |
|         |          |            | 5.0pF | ±0.25pF | GCM0335C1E5R0CD03# |
|         |          |            | 6.0pF | ±0.5pF  | GCM0335C1E6R0DD03# |
|         |          |            | 7.0pF | ±0.5pF  | GCM0335C1E7R0DD03# |
|         |          |            | 8.0pF | ±0.5pF  | GCM0335C1E8R0DD03# |
|         |          |            | 9.0pF | ±0.5pF  | GCM0335C1E9R0DD03# |
|         |          |            | 10pF  | ±5%     | GCM0335C1E100JD03# |
|         |          |            | 12pF  | ±5%     | GCM0335C1E120JD03# |
|         |          |            | 15pF  | ±5%     | GCM0335C1E150JD03# |
|         |          |            | 18pF  | ±5%     | GCM0335C1E180JD03# |
|         |          |            | 22pF  | ±5%     | GCM0335C1E220JD03# |
|         |          |            | 27pF  | ±5%     | GCM0335C1E270JD03# |
|         |          |            | 33pF  | ±5%     | GCM0335C1E330JD03# |
|         |          |            | 39pF  | ±5%     | GCM0335C1E390JD03# |
|         |          |            | 47pF  | ±5%     | GCM0335C1E470JD03# |
|         |          |            | 56pF  | ±5%     | GCM0335C1E560JD03# |
|         |          |            | 68pF  | ±5%     | GCM0335C1E680JD03# |
|         |          |            | 82pF  | ±5%     | GCM0335C1E820JD03# |
|         |          |            | 100pF | ±5%     | GCM0335C1E101JD03# |

■ 1.0×0.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差      | 品名                 |
|---------|----------|------------|-------|---------|--------------------|
| 0.55mm  | 50Vdc    | COG        | 1.0pF | ±0.25pF | GCM1555C1H1R0CA16# |
|         |          |            | 2.0pF | ±0.25pF | GCM1555C1H2R0CA16# |
|         |          |            | 3.0pF | ±0.25pF | GCM1555C1H3R0CA16# |
|         |          |            | 4.0pF | ±0.25pF | GCM1555C1H4R0CA16# |
|         |          |            | 5.0pF | ±0.25pF | GCM1555C1H5R0CA16# |
|         |          |            | 6.0pF | ±0.5pF  | GCM1555C1H6R0DA16# |
|         |          |            | 7.0pF | ±0.5pF  | GCM1555C1H7R0DA16# |
|         |          |            | 8.0pF | ±0.5pF  | GCM1555C1H8R0DA16# |
|         |          |            | 9.0pF | ±0.5pF  | GCM1555C1H9R0DA16# |
|         |          |            | 10pF  | ±5%     | GCM1555C1H100JA16# |
|         |          |            | 12pF  | ±5%     | GCM1555C1H120JA16# |
|         |          |            | 15pF  | ±5%     | GCM1555C1H150JA16# |
|         |          |            | 18pF  | ±5%     | GCM1555C1H180JA16# |
|         |          |            | 22pF  | ±5%     | GCM1555C1H220JA16# |
|         |          |            | 27pF  | ±5%     | GCM1555C1H270JA16# |
|         |          |            | 33pF  | ±5%     | GCM1555C1H330JA16# |
|         |          |            | 39pF  | ±5%     | GCM1555C1H390JA16# |
|         |          |            | 47pF  | ±5%     | GCM1555C1H470JA16# |
|         |          |            | 56pF  | ±5%     | GCM1555C1H560JA16# |
|         |          |            | 68pF  | ±5%     | GCM1555C1H680JA16# |
|         |          |            | 82pF  | ±5%     | GCM1555C1H820JA16# |
|         |          |            | 100pF | ±5%     | GCM1555C1H101JA16# |
|         |          |            | 120pF | ±5%     | GCM1555C1H121JA16# |
|         |          |            | 150pF | ±5%     | GCM1555C1H151JA16# |
|         |          |            | 180pF | ±5%     | GCM1555C1H181JA16# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差  | 品名                 |
|---------|----------|------------|-------|-----|--------------------|
| 0.55mm  | 50Vdc    | COG        | 220pF | ±5% | GCM1555C1H221JA16# |
|         |          |            | 270pF | ±5% | GCM1555C1H271JA16# |
|         |          |            | 330pF | ±5% | GCM1555C1H331JA16# |
|         |          |            | 390pF | ±5% | GCM1555C1H391JA16# |
|         |          |            | 470pF | ±5% | GCM1555C1H471JA16# |

■ 1.6×0.8mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差      | 品名                 |
|---------|----------|------------|--------|---------|--------------------|
| 0.9mm   | 100Vdc   | COG        | 1.0pF  | ±0.25pF | GCM1885C2A1R0CA16# |
|         |          |            | 2.0pF  | ±0.25pF | GCM1885C2A2R0CA16# |
|         |          |            | 3.0pF  | ±0.25pF | GCM1885C2A3R0CA16# |
|         |          |            | 4.0pF  | ±0.25pF | GCM1885C2A4R0CA16# |
|         |          |            | 5.0pF  | ±0.25pF | GCM1885C2A5R0CA16# |
|         |          |            | 6.0pF  | ±0.5pF  | GCM1885C2A6R0DA16# |
|         |          |            | 7.0pF  | ±0.5pF  | GCM1885C2A7R0DA16# |
|         |          |            | 8.0pF  | ±0.5pF  | GCM1885C2A8R0DA16# |
|         |          |            | 9.0pF  | ±0.5pF  | GCM1885C2A9R0DA16# |
|         |          |            | 10pF   | ±5%     | GCM1885C2A100JA16# |
|         |          |            | 12pF   | ±5%     | GCM1885C2A120JA16# |
|         |          |            | 15pF   | ±5%     | GCM1885C2A150JA16# |
|         |          |            | 18pF   | ±5%     | GCM1885C2A180JA16# |
|         |          |            | 22pF   | ±5%     | GCM1885C2A220JA16# |
|         |          |            | 27pF   | ±5%     | GCM1885C2A270JA16# |
|         |          |            | 33pF   | ±5%     | GCM1885C2A330JA16# |
|         |          |            | 39pF   | ±5%     | GCM1885C2A390JA16# |
|         |          |            | 47pF   | ±5%     | GCM1885C2A470JA16# |
|         |          |            | 56pF   | ±5%     | GCM1885C2A560JA16# |
|         |          |            | 68pF   | ±5%     | GCM1885C2A680JA16# |
|         |          |            | 82pF   | ±5%     | GCM1885C2A820JA16# |
|         |          |            | 100pF  | ±5%     | GCM1885C2A101JA16# |
|         |          |            | 120pF  | ±5%     | GCM1885C2A121JA16# |
|         |          |            | 150pF  | ±5%     | GCM1885C2A151JA16# |
|         |          |            | 180pF  | ±5%     | GCM1885C2A181JA16# |
|         |          |            | 220pF  | ±5%     | GCM1885C2A221JA16# |
|         |          |            | 270pF  | ±5%     | GCM1885C2A271JA16# |
|         |          |            | 330pF  | ±5%     | GCM1885C2A331JA16# |
|         |          |            | 390pF  | ±5%     | GCM1885C2A391JA16# |
|         |          |            | 470pF  | ±5%     | GCM1885C2A471JA16# |
|         |          |            | 560pF  | ±5%     | GCM1885C2A561JA16# |
|         |          |            | 680pF  | ±5%     | GCM1885C2A681JA16# |
|         |          |            | 820pF  | ±5%     | GCM1885C2A821JA16# |
|         |          |            | 1000pF | ±5%     | GCM1885C2A102JA16# |
|         |          |            | 1200pF | ±5%     | GCM1885C2A122JA16# |
|         |          |            | 1500pF | ±5%     | GCM1885C2A152JA16# |
|         | 50Vdc    | COG        | 1.0pF  | ±0.25pF | GCM1885C1H1R0CA16# |
|         |          |            | 2.0pF  | ±0.25pF | GCM1885C1H2R0CA16# |
|         |          |            | 3.0pF  | ±0.25pF | GCM1885C1H3R0CA16# |
|         |          |            | 4.0pF  | ±0.25pF | GCM1885C1H4R0CA16# |
|         |          |            | 5.0pF  | ±0.25pF | GCM1885C1H5R0CA16# |
|         |          |            | 6.0pF  | ±0.5pF  | GCM1885C1H6R0DA16# |
|         |          |            | 7.0pF  | ±0.5pF  | GCM1885C1H7R0DA16# |
|         |          |            | 8.0pF  | ±0.5pF  | GCM1885C1H8R0DA16# |

产品型号中 # 表示包装规格代码

GCM 系列温度补偿型AFC产品型号列表

(→ ■ 1.6×0.8mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号         | 静电容量         | 公差       | 品名                 |       |     |                    |
|---------|----------|--------------------|--------------|----------|--------------------|-------|-----|--------------------|
| 0.9mm   | 50Vdc    | C0G                | 9.0pF        | ±0.5pF   | GCM1885C1H9R0DA16# |       |     |                    |
|         |          |                    | 10pF         | ±5%      | GCM1885C1H100JA16# |       |     |                    |
|         |          |                    | 12pF         | ±5%      | GCM1885C1H120JA16# |       |     |                    |
|         |          |                    | 15pF         | ±5%      | GCM1885C1H150JA16# |       |     |                    |
|         |          |                    | 18pF         | ±5%      | GCM1885C1H180JA16# |       |     |                    |
|         |          |                    | 22pF         | ±5%      | GCM1885C1H220JA16# |       |     |                    |
|         |          |                    | 27pF         | ±5%      | GCM1885C1H270JA16# |       |     |                    |
|         |          |                    | 33pF         | ±5%      | GCM1885C1H330JA16# |       |     |                    |
|         |          |                    | 39pF         | ±5%      | GCM1885C1H390JA16# |       |     |                    |
|         |          |                    | 47pF         | ±5%      | GCM1885C1H470JA16# |       |     |                    |
|         |          |                    | 56pF         | ±5%      | GCM1885C1H560JA16# |       |     |                    |
|         |          |                    | 68pF         | ±5%      | GCM1885C1H680JA16# |       |     |                    |
|         |          |                    | 82pF         | ±5%      | GCM1885C1H820JA16# |       |     |                    |
|         |          |                    | 100pF        | ±5%      | GCM1885C1H101JA16# |       |     |                    |
|         |          |                    | 120pF        | ±5%      | GCM1885C1H121JA16# |       |     |                    |
|         |          |                    | 150pF        | ±5%      | GCM1885C1H151JA16# |       |     |                    |
|         |          |                    | 180pF        | ±5%      | GCM1885C1H181JA16# |       |     |                    |
|         |          |                    | 220pF        | ±5%      | GCM1885C1H221JA16# |       |     |                    |
|         |          |                    | 270pF        | ±5%      | GCM1885C1H271JA16# |       |     |                    |
|         |          |                    | 330pF        | ±5%      | GCM1885C1H331JA16# |       |     |                    |
|         |          |                    | 390pF        | ±5%      | GCM1885C1H391JA16# |       |     |                    |
|         |          |                    | 470pF        | ±5%      | GCM1885C1H471JA16# |       |     |                    |
|         |          |                    | 560pF        | ±5%      | GCM1885C1H561JA16# |       |     |                    |
|         |          |                    | 680pF        | ±5%      | GCM1885C1H681JA16# |       |     |                    |
|         |          |                    | 820pF        | ±5%      | GCM1885C1H821JA16# |       |     |                    |
|         |          |                    | 1000pF       | ±5%      | GCM1885C1H102JA16# |       |     |                    |
|         |          |                    | 1200pF       | ±5%      | GCM1885C1H122JA16# |       |     |                    |
|         |          |                    | 1500pF       | ±5%      | GCM1885C1H152JA16# |       |     |                    |
|         |          |                    | 1800pF       | ±5%      | GCM1885C1H182JA16# |       |     |                    |
|         |          |                    | 2200pF       | ±5%      | GCM1885C1H222JA16# |       |     |                    |
|         |          |                    | 2700pF       | ±5%      | GCM1885C1H272JA16# |       |     |                    |
|         |          |                    | 3300pF       | ±5%      | GCM1885C1H332JA16# |       |     |                    |
|         |          |                    | 3900pF       | ±5%      | GCM1885C1H392JA16# |       |     |                    |
|         |          |                    | ■ 2.0×1.25mm |          |                    |       |     |                    |
|         |          |                    | T<br>最大      | 额定<br>电压 | 温度特<br>性代号         | 静电容量  | 公差  | 品名                 |
|         |          |                    | 0.7mm        | 100Vdc   | C0G                | 100pF | ±5% | GCM2165C2A101JA16# |
|         |          |                    |              |          |                    | 120pF | ±5% | GCM2165C2A121JA16# |
|         |          |                    |              |          |                    | 150pF | ±5% | GCM2165C2A151JA16# |
|         |          |                    |              |          |                    | 180pF | ±5% | GCM2165C2A181JA16# |
|         |          |                    |              |          |                    | 220pF | ±5% | GCM2165C2A221JA16# |
| 270pF   | ±5%      | GCM2165C2A271JA16# |              |          |                    |       |     |                    |
| 330pF   | ±5%      | GCM2165C2A331JA16# |              |          |                    |       |     |                    |
| 390pF   | ±5%      | GCM2165C2A391JA16# |              |          |                    |       |     |                    |
| 470pF   | ±5%      | GCM2165C2A471JA16# |              |          |                    |       |     |                    |
| 560pF   | ±5%      | GCM2165C2A561JA16# |              |          |                    |       |     |                    |
| 680pF   | ±5%      | GCM2165C2A681JA16# |              |          |                    |       |     |                    |
| 820pF   | ±5%      | GCM2165C2A821JA16# |              |          |                    |       |     |                    |
| 1000pF  | ±5%      | GCM2165C2A102JA16# |              |          |                    |       |     |                    |
| 1200pF  | ±5%      | GCM2165C2A122JA16# |              |          |                    |       |     |                    |
| 1500pF  | ±5%      | GCM2165C2A152JA16# |              |          |                    |       |     |                    |
| 1800pF  | ±5%      | GCM2165C2A182JA16# |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
|         |          |                    |              |          |                    |       |     |                    |
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■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差  | 品名                 |
|---------|----------|------------|--------|-----|--------------------|
| 0.7mm   | 100Vdc   | C0G        | 100pF  | ±5% | GCM2165C2A101JA16# |
|         |          |            | 120pF  | ±5% | GCM2165C2A121JA16# |
|         |          |            | 150pF  | ±5% | GCM2165C2A151JA16# |
|         |          |            | 180pF  | ±5% | GCM2165C2A181JA16# |
|         |          |            | 220pF  | ±5% | GCM2165C2A221JA16# |
|         |          |            | 270pF  | ±5% | GCM2165C2A271JA16# |
|         |          |            | 330pF  | ±5% | GCM2165C2A331JA16# |
|         |          |            | 390pF  | ±5% | GCM2165C2A391JA16# |
|         |          |            | 470pF  | ±5% | GCM2165C2A471JA16# |
|         |          |            | 560pF  | ±5% | GCM2165C2A561JA16# |
|         |          |            | 680pF  | ±5% | GCM2165C2A681JA16# |
|         |          |            | 820pF  | ±5% | GCM2165C2A821JA16# |
|         |          |            | 1000pF | ±5% | GCM2165C2A102JA16# |
|         |          |            | 1200pF | ±5% | GCM2165C2A122JA16# |
|         |          |            | 1500pF | ±5% | GCM2165C2A152JA16# |
|         |          |            | 1800pF | ±5% | GCM2165C2A182JA16# |

产品型号中 # 表示包装规格代码

GCM 系列温度补偿型

AEC-Q200

产品型号列表

■ 3.2×1.6mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量               | 公差   | 品名                 |                    |
|---------|----------|------------|--------------------|------|--------------------|--------------------|
| 0.95mm  | 100Vdc   | C0G        | 1800pF             | ±5%  | GCM3195C2A182JA16# |                    |
|         |          |            | 2200pF             | ±5%  | GCM3195C2A222JA16# |                    |
|         |          |            | 2700pF             | ±5%  | GCM3195C2A272JA16# |                    |
|         |          |            | 3300pF             | ±5%  | GCM3195C2A332JA16# |                    |
|         |          |            | 3900pF             | ±5%  | GCM3195C2A392JA16# |                    |
|         |          |            | 4700pF             | ±5%  | GCM3195C2A472JA16# |                    |
|         |          |            | 5600pF             | ±5%  | GCM3195C2A562JA16# |                    |
|         |          |            | 6800pF             | ±5%  | GCM3195C2A682JA16# |                    |
|         |          |            | 8200pF             | ±5%  | GCM3195C2A822JA16# |                    |
|         |          |            | 10000pF            | ±5%  | GCM3195C2A103JA16# |                    |
|         | 80Vdc    | C0G        | 33000pF            | ±5%  | GCM3195C1K333JA16# |                    |
|         | 63Vdc    | C0G        | 33000pF            | ±5%  | GCM3195C1J333JA16# |                    |
|         | 50Vdc    | C0G        | 3900pF             | ±5%  | GCM3195C1H392JA16# |                    |
|         |          |            | 4700pF             | ±5%  | GCM3195C1H472JA16# |                    |
|         |          |            | 5600pF             | ±5%  | GCM3195C1H562JA16# |                    |
|         |          |            | 6800pF             | ±5%  | GCM3195C1H682JA16# |                    |
|         |          |            | 8200pF             | ±5%  | GCM3195C1H822JA16# |                    |
|         |          |            | 10000pF            | ±5%  | GCM3195C1H103JA16# |                    |
|         |          |            | 12000pF            | ±5%  | GCM3195C1H123JA16# |                    |
|         |          |            | 15000pF            | ±5%  | GCM3195C1H153JA16# |                    |
|         |          |            | 18000pF            | ±5%  | GCM3195C1H183JA16# |                    |
|         |          |            | 22000pF            | ±5%  | GCM3195C1H223JA16# |                    |
|         |          |            | 27000pF            | ±5%  | GCM3195C1H273JA16# |                    |
|         |          |            | 33000pF            | ±5%  | GCM3195C1H333JA16# |                    |
|         | 39000pF  | ±5%        | GCM3195C1H393JA16# |      |                    |                    |
|         | 1.0mm    | 1000Vdc    | U2J                | 10pF | ±5%                | GCM31A7U3A100JX01# |
|         |          |            |                    | 12pF | ±5%                | GCM31A7U3A120JX01# |
|         |          |            |                    | 15pF | ±5%                | GCM31A7U3A150JX01# |
|         |          |            |                    | 18pF | ±5%                | GCM31A7U3A180JX01# |
|         |          |            |                    | 22pF | ±5%                | GCM31A7U3A220JX01# |
|         |          |            |                    | 27pF | ±5%                | GCM31A7U3A270JX01# |
|         |          |            |                    | 33pF | ±5%                | GCM31A7U3A330JX01# |
|         |          |            |                    | 39pF | ±5%                | GCM31A7U3A390JX01# |
| 47pF    |          |            |                    | ±5%  | GCM31A7U3A470JX01# |                    |
| 56pF    |          |            |                    | ±5%  | GCM31A7U3A560JX01# |                    |
| 68pF    |          |            |                    | ±5%  | GCM31A7U3A680JX01# |                    |
| 82pF    |          |            |                    | ±5%  | GCM31A7U3A820JX01# |                    |
| 100pF   |          |            |                    | ±5%  | GCM31A7U3A101JX01# |                    |
| 120pF   |          |            |                    | ±5%  | GCM31A7U3A121JX01# |                    |
| 150pF   |          |            |                    | ±5%  | GCM31A7U3A151JX01# |                    |
| 180pF   |          |            |                    | ±5%  | GCM31A7U3A181JX01# |                    |
| 220pF   |          |            |                    | ±5%  | GCM31A7U3A221JX01# |                    |
| 270pF   |          |            |                    | ±5%  | GCM31A7U3A271JX01# |                    |
| 330pF   |          |            |                    | ±5%  | GCM31A7U3A331JX01# |                    |
| 630Vdc  |          |            |                    | U2J  | 10pF               | ±5%                |
|         |          | 12pF       | ±5%                |      | GCM31A7U2J120JX01# |                    |
|         |          | 15pF       | ±5%                |      | GCM31A7U2J150JX01# |                    |
|         |          | 18pF       | ±5%                |      | GCM31A7U2J180JX01# |                    |
|         |          | 22pF       | ±5%                |      | GCM31A7U2J220JX01# |                    |
|         |          | 27pF       | ±5%                |      | GCM31A7U2J270JX01# |                    |
|         |          | 33pF       | ±5%                |      | GCM31A7U2J330JX01# |                    |
|         |          | 39pF       | ±5%                |      | GCM31A7U2J390JX01# |                    |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差  | 品名                 |
|---------|----------|------------|---------|-----|--------------------|
| 1.0mm   | 630Vdc   | U2J        | 47pF    | ±5% | GCM31A7U2J470JX01# |
|         |          |            | 56pF    | ±5% | GCM31A7U2J560JX01# |
|         |          |            | 68pF    | ±5% | GCM31A7U2J680JX01# |
|         |          |            | 82pF    | ±5% | GCM31A7U2J820JX01# |
|         |          |            | 100pF   | ±5% | GCM31A7U2J101JX01# |
|         |          |            | 120pF   | ±5% | GCM31A7U2J121JX01# |
|         |          |            | 150pF   | ±5% | GCM31A7U2J151JX01# |
|         |          |            | 180pF   | ±5% | GCM31A7U2J181JX01# |
|         |          |            | 220pF   | ±5% | GCM31A7U2J221JX01# |
|         |          |            | 270pF   | ±5% | GCM31A7U2J271JX01# |
|         |          |            | 330pF   | ±5% | GCM31A7U2J331JX01# |
|         |          |            | 390pF   | ±5% | GCM31A7U2J391JX01# |
|         |          |            | 470pF   | ±5% | GCM31A7U2J471JX01# |
|         |          |            | 560pF   | ±5% | GCM31A7U2J561JX01# |
|         |          |            | 680pF   | ±5% | GCM31A7U2J681JX01# |
|         |          |            | 820pF   | ±5% | GCM31A7U2J821JX01# |
|         |          |            | 1000pF  | ±5% | GCM31A7U2J102JX01# |
|         |          |            | 1200pF  | ±5% | GCM31A7U2J122JX01# |
|         |          |            | 1500pF  | ±5% | GCM31A7U2J152JX01# |
|         |          |            | 1800pF  | ±5% | GCM31A7U2J182JX01# |
|         |          |            | 2200pF  | ±5% | GCM31A7U2J222JX01# |
|         | 250Vdc   | U2J        | 2700pF  | ±5% | GCM31A7U2E272JX01# |
|         |          |            | 3300pF  | ±5% | GCM31A7U2E332JX01# |
|         |          |            | 3900pF  | ±5% | GCM31A7U2E392JX01# |
|         |          |            | 4700pF  | ±5% | GCM31A7U2E472JX01# |
|         |          |            | 5600pF  | ±5% | GCM31A7U2E562JX01# |
|         |          |            |         |     |                    |
| 1.25mm  | 1000Vdc  | U2J        | 390pF   | ±5% | GCM31B7U3A391JX01# |
|         |          |            | 470pF   | ±5% | GCM31B7U3A471JX01# |
|         |          |            | 560pF   | ±5% | GCM31B7U3A561JX01# |
|         |          |            | 680pF   | ±5% | GCM31B7U3A681JX01# |
|         | 630Vdc   | U2J        | 2700pF  | ±5% | GCM31B7U2J272JX01# |
|         |          |            | 3300pF  | ±5% | GCM31B7U2J332JX01# |
|         | 250Vdc   | U2J        | 6800pF  | ±5% | GCM31B7U2E682JX01# |
|         |          |            | 8200pF  | ±5% | GCM31B7U2E822JX01# |
|         |          |            | 10000pF | ±5% | GCM31B7U2E103JX01# |
|         | 50Vdc    | C0G        | 47000pF | ±5% | GCM31M5C1H473JA16# |
|         |          |            | 56000pF | ±5% | GCM31M5C1H563JA16# |
| 1.8mm   | 1000Vdc  | U2J        | 820pF   | ±5% | GCM31C7U3A821JX03# |
|         |          |            | 1000pF  | ±5% | GCM31C7U3A102JX03# |
|         | 630Vdc   | U2J        | 3900pF  | ±5% | GCM31C7U2J392JX03# |
|         |          |            | 4700pF  | ±5% | GCM31C7U2J472JX03# |

■ 3.2×2.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差  | 品名                 |
|---------|----------|------------|--------|-----|--------------------|
| 1.0mm   | 630Vdc   | U2J        | 1200pF | ±5% | GCM32A7U2J122JX01# |
|         |          |            | 1500pF | ±5% | GCM32A7U2J152JX01# |
|         |          |            | 1800pF | ±5% | GCM32A7U2J182JX01# |
|         |          |            | 2200pF | ±5% | GCM32A7U2J222JX01# |
| 1.25mm  | 1000Vdc  | U2J        | 1200pF | ±5% | GCM32B7U3A122JX01# |
|         | 630Vdc   | U2J        | 5600pF | ±5% | GCM32B7U2J562JX01# |
| 1.5mm   | 1000Vdc  | U2J        | 1500pF | ±5% | GCM32Q7U3A152JX01# |
|         | 630Vdc   | U2J        | 6800pF | ±5% | GCM32Q7U2J682JX01# |

产品型号中#表示包装规格代码

GCM 系列温度补偿型A<sub>5C</sub><sub>200</sub> 产品型号列表

(→ ■ 3.2×2.5mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差  | 品名                 |
|---------|----------|------------|---------|-----|--------------------|
| 2.0mm   | 1000Vdc  | U2J        | 1800pF  | ±5% | GCM32D7U3A182JX01# |
|         |          |            | 2200pF  | ±5% | GCM32D7U3A222JX01# |
|         | 630Vdc   | U2J        | 8200pF  | ±5% | GCM32D7U2J822JX01# |
|         |          |            | 10000pF | ±5% | GCM32D7U2J103JX01# |

■ 4.5×3.2mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差  | 品名                 |
|---------|----------|------------|---------|-----|--------------------|
| 1.5mm   | 1000Vdc  | U2J        | 2700pF  | ±5% | GCM43Q7U3A272JX01# |
|         |          |            | 3300pF  | ±5% | GCM43Q7U3A332JX01# |
|         | 630Vdc   | U2J        | 12000pF | ±5% | GCM43Q7U2J123JX01# |
| 2.0mm   | 1000Vdc  | U2J        | 3900pF  | ±5% | GCM43D7U3A392JX01# |
|         |          |            | 4700pF  | ±5% | GCM43D7U3A472JX01# |
|         | 630Vdc   | U2J        | 15000pF | ±5% | GCM43D7U2J153JX01# |
|         |          |            | 18000pF | ±5% | GCM43D7U2J183JX01# |
|         |          |            | 22000pF | ±5% | GCM43D7U2J223JX01# |

■ 5.7×5.0mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差  | 品名                 |
|---------|----------|------------|---------|-----|--------------------|
| 1.5mm   | 1000Vdc  | U2J        | 5600pF  | ±5% | GCM55Q7U3A562JX01# |
|         |          |            | 6800pF  | ±5% | GCM55Q7U3A682JX01# |
|         | 630Vdc   | U2J        | 27000pF | ±5% | GCM55Q7U2J273JX01# |
| 2.0mm   | 1000Vdc  | U2J        | 8200pF  | ±5% | GCM55D7U3A822JX01# |
|         |          |            | 10000pF | ±5% | GCM55D7U3A103JX01# |
|         | 630Vdc   | U2J        | 33000pF | ±5% | GCM55D7U2J333JX01# |
|         |          |            | 39000pF | ±5% | GCM55D7U2J393JX01# |
|         |          |            | 47000pF | ±5% | GCM55D7U2J473JX01# |

GCM 系列高介电常数型<sup>AEC Q200</sup> 产品型号列表

■ 0.6×0.3mm

超紧凑型

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.33mm  | 25Vdc    | X7R        | 100pF   | ±10% | GCM033R71E101KA03# |
|         |          |            | 150pF   | ±10% | GCM033R71E151KA03# |
|         |          |            | 220pF   | ±10% | GCM033R71E221KA03# |
|         |          |            | 330pF   | ±10% | GCM033R71E331KA03# |
|         |          |            | 470pF   | ±10% | GCM033R71E471KA03# |
|         |          |            | 680pF   | ±10% | GCM033R71E681KA03# |
|         |          |            | 1000pF  | ±10% | GCM033R71E102KA03# |
|         |          |            | 1500pF  | ±10% | GCM033R71E152KA03# |
|         | 16Vdc    | X7R        | 2200pF  | ±10% | GCM033R71C222KA55# |
|         |          |            | 3300pF  | ±10% | GCM033R71C332KA55# |
|         | 10Vdc    | X7R        | 4700pF  | ±10% | GCM033R71A472KA03# |
|         |          |            | 6800pF  | ±10% | GCM033R71A682KA03# |
|         |          |            | 10000pF | ±10% | GCM033R71A103KA03# |

■ 1.0×0.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.55mm  | 100Vdc   | X7R        | 220pF   | ±10% | GCM155R72A221KA37# |
|         |          |            | 330pF   | ±10% | GCM155R72A331KA37# |
|         |          |            | 470pF   | ±10% | GCM155R72A471KA37# |
|         |          |            | 680pF   | ±10% | GCM155R72A681KA37# |
|         |          |            | 1000pF  | ±10% | GCM155R72A102KA37# |
|         |          |            | 1500pF  | ±10% | GCM155R72A152KA37# |
|         |          |            | 2200pF  | ±10% | GCM155R72A222KA37# |
|         |          |            | 3300pF  | ±10% | GCM155R72A332KA37# |
|         |          |            | 4700pF  | ±10% | GCM155R72A472KA37# |
|         | 50Vdc    | X7R        | 220pF   | ±10% | GCM155R71H221KA37# |
|         |          |            | 330pF   | ±10% | GCM155R71H331KA37# |
|         |          |            | 470pF   | ±10% | GCM155R71H471KA37# |
|         |          |            | 680pF   | ±10% | GCM155R71H681KA37# |
|         |          |            | 1000pF  | ±10% | GCM155R71H102KA37# |
|         |          |            | 1500pF  | ±10% | GCM155R71H152KA37# |
|         |          |            | 2200pF  | ±10% | GCM155R71H222KA37# |
|         |          |            | 3300pF  | ±10% | GCM155R71H332KA37# |
|         |          |            | 4700pF  | ±10% | GCM155R71H472KA37# |
|         |          |            | 6800pF  | ±10% | GCM155R71H682KA55# |
|         |          |            | 10000pF | ±10% | GCM155R71H103KA55# |
|         |          |            | 15000pF | ±10% | GCM155R71H153KA55# |
|         |          |            | 22000pF | ±10% | GCM155R71H223KA55# |
|         |          |            | 33000pF | ±10% | GCM155R71H333KE02# |
|         |          |            | 47000pF | ±10% | GCM155R71H473KE02# |
|         |          |            | 68000pF | ±10% | GCM155R71H683KE02# |
|         |          |            | 0.10μF  | ±10% | GCM155R71H104KE02# |
|         | 25Vdc    | X7R        | 10000pF | ±10% | GCM155R71E103KA37# |
|         |          |            | 15000pF | ±10% | GCM155R71E153KA55# |
|         |          |            | 22000pF | ±10% | GCM155R71E223KA55# |
|         |          |            | 33000pF | ±10% | GCM155R71E333KA55# |
|         |          |            | 47000pF | ±10% | GCM155R71E473KA55# |
|         |          |            | 68000pF | ±10% | GCM155R71C333KA37# |
|         |          |            | 47000pF | ±10% | GCM155R71C473KA37# |
|         |          |            | 68000pF | ±10% | GCM155R71C683KA55# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 0.55mm  | 16Vdc    | X7R        | 0.10μF | ±10% | GCM155R71C104KA55# |
|         |          |            | 0.15μF | ±10% | GCM155R71C154KE02# |
|         |          |            | 0.22μF | ±10% | GCM155R71C224KE02# |

■ 1.6×0.8mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.9mm   | 100Vdc   | X7R        | 1000pF  | ±10% | GCM188R72A102KA37# |
|         |          |            | 1500pF  | ±10% | GCM188R72A152KA37# |
|         |          |            | 2200pF  | ±10% | GCM188R72A222KA37# |
|         |          |            | 3300pF  | ±10% | GCM188R72A332KA37# |
|         |          |            | 4700pF  | ±10% | GCM188R72A472KA37# |
|         |          |            | 6800pF  | ±10% | GCM188R72A682KA37# |
|         |          |            | 10000pF | ±10% | GCM188R72A103KA37# |
|         |          |            | 15000pF | ±10% | GCM188R72A153KA37# |
|         |          |            | 22000pF | ±10% | GCM188R72A223KA37# |
|         | 50Vdc    | X7R        | 1000pF  | ±10% | GCM188R71H102KA37# |
|         |          |            | 1500pF  | ±10% | GCM188R71H152KA37# |
|         |          |            | 2200pF  | ±10% | GCM188R71H222KA37# |
|         |          |            | 3300pF  | ±10% | GCM188R71H332KA37# |
|         |          |            | 4700pF  | ±10% | GCM188R71H472KA37# |
|         |          |            | 6800pF  | ±10% | GCM188R71H682KA37# |
|         |          |            | 10000pF | ±10% | GCM188R71H103KA37# |
|         |          |            | 15000pF | ±10% | GCM188R71H153KA37# |
|         |          |            | 22000pF | ±10% | GCM188R71H223KA37# |
|         |          |            | 33000pF | ±10% | GCM188R71H333KA55# |
|         |          |            | 47000pF | ±10% | GCM188R71H473KA55# |
|         |          |            | 68000pF | ±10% | GCM188R71H683KA57# |
|         | 25Vdc    | X7R        | 0.10μF  | ±10% | GCM188R71H104KA57# |
|         |          |            | 0.15μF  | ±10% | GCM188R71H154KA64# |
|         |          |            | 0.22μF  | ±10% | GCM188R71H224KA64# |
|         |          |            | 33000pF | ±10% | GCM188R71E333KA37# |
|         |          |            | 47000pF | ±10% | GCM188R71E473KA37# |
|         |          |            | 68000pF | ±10% | GCM188R71E683KA57# |
|         |          |            | 0.10μF  | ±10% | GCM188R71E104KA57# |
|         |          |            | 0.15μF  | ±10% | GCM188R71E154KA37# |
|         |          |            | 0.22μF  | ±10% | GCM188R71E224KA55# |
|         |          |            | 0.47μF  | ±10% | GCM188R71E474KA64# |
|         |          |            | 1.0μF   | ±10% | GCM188R71E105KA64# |
|         | 16Vdc    | X7R        | 0.10μF  | ±10% | GCM188R71C104KA37# |
|         |          |            | 0.33μF  | ±10% | GCM188R71C334KA37# |
|         |          |            | 0.47μF  | ±10% | GCM188R71C474KA55# |
|         |          |            | 1.0μF   | ±10% | GCM188R71C105KA64# |
|         | 6.3Vdc   | X7R        | 2.2μF   | ±10% | GCM188R70J225KE22# |

■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.7mm   | 100Vdc   | X7R        | 6800pF  | ±10% | GCM216R72A682KA37# |
|         |          |            | 10000pF | ±10% | GCM216R72A103KA37# |
|         |          |            | 15000pF | ±10% | GCM216R72A153KA37# |
|         |          |            | 22000pF | ±10% | GCM216R72A223KA37# |

产品型号中 # 表示包装规格代码

GCM 系列高介电常数型AEC-Q200产品型号列表

(→ ■ 2.0×1.25mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.95mm  | 100Vdc   | X7R        | 33000pF | ±10% | GCM219R72A333KA37# |
|         |          |            | 33000pF | ±10% | GCM219R71H333KA37# |
|         |          |            | 0.33μF  | ±10% | GCM219R71H334KA55# |
|         | 25Vdc    | X7R        | 0.47μF  | ±10% | GCM219R71E474KA55# |
|         |          |            | 0.68μF  | ±10% | GCM219R71C684KA37# |
| 1.4mm   | 100Vdc   | X7R        | 1.0μF   | ±10% | GCM219R71C105KA37# |
|         |          |            | 47000pF | ±10% | GCM21BR72A473KA37# |
|         |          |            | 68000pF | ±10% | GCM21BR72A683KA37# |
|         |          |            | 0.10μF  | ±10% | GCM21BR72A104KA37# |
|         |          |            | 0.10μF  | ±10% | GCM21BR71H473KA37# |
|         | 50Vdc    | X7R        | 68000pF | ±10% | GCM21BR71H683KA37# |
|         |          |            | 0.10μF  | ±10% | GCM21BR71H104KA37# |
|         |          |            | 0.15μF  | ±10% | GCM21BR71H154KA37# |
|         |          |            | 0.22μF  | ±10% | GCM21BR71H224KA37# |
|         |          |            | 0.47μF  | ±10% | GCM21BR71H474KA55# |
|         | 35Vdc    | X7R        | 1.0μF   | ±10% | GCM21BR71H105KA03# |
|         |          |            | 0.68μF  | ±10% | GCM21BR7YA684KA55# |
|         |          |            | 1.0μF   | ±10% | GCM21BR7YA105KA55# |
|         |          |            | 1.5μF   | ±10% | GCM21BR7YA155KA54# |
|         | 25Vdc    | X7R        | 0.15μF  | ±10% | GCM21BR71E154KA37# |
|         |          |            | 0.22μF  | ±10% | GCM21BR71E224KA37# |
|         |          |            | 0.33μF  | ±10% | GCM21BR71E334KA37# |
|         |          |            | 0.68μF  | ±10% | GCM21BR71E684KA55# |
|         |          |            | 1.0μF   | ±10% | GCM21BR71E105KA56# |
|         | 16Vdc    | X7R        | 2.2μF   | ±10% | GCM21BR71C225KA64# |
|         |          |            | 4.7μF   | ±10% | GCM21BR71C475KA73# |
|         |          |            | 2.2μF   | ±10% | GCM21BR71A225KA37# |
|         | 10Vdc    | X7R        | 10μF    | ±10% | GCM21BR71A106KE22# |
|         |          |            | 4.7μF   | ±10% | GCM21BC71A475KA73# |
|         |          | X7S        | 4.7μF   | ±10% | GCM21BC71A475KA73# |
|         | 6.3Vdc   | X7R        | 10μF    | ±10% | GCM21BR70J106KE22# |

■ 3.2×2.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差   | 品名                 |
|---------|----------|------------|-------|------|--------------------|
| 2.2mm   | 25Vdc    | X7R        | 4.7μF | ±10% | GCM32DR71E475KA55# |
|         | 16Vdc    | X7R        | 10μF  | ±10% | GCM32DR71C106KA37# |
| 2.7mm   | 50Vdc    | X7R        | 1.0μF | ±10% | GCM32ER71H105KA37# |
|         |          |            | 4.7μF | ±10% | GCM32ER71H475KA55# |
|         |          | X7S        | 10μF  | ±10% | GCM32EC71H106KA03# |
|         |          |            | 35Vdc | ±10% | GCM32EC7YA106KA03# |
|         | 25Vdc    | X7R        | 10μF  | ±10% | GCM32ER71E106KA57# |
|         | 16Vdc    | X7R        | 22μF  | ±20% | GCM32ER71C226ME19# |
|         | 10Vdc    | X7R        | 22μF  | ±20% | GCM32ER71A226ME12# |
|         | 6.3Vdc   | X7R        | 47μF  | ±20% | GCM32ER70J476ME19# |

■ 3.2×1.6mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差    | 品名                 |                    |
|---------|----------|------------|--------|-------|--------------------|--------------------|
| 0.95mm  | 100Vdc   | X7R        | 0.10μF | ±10%  | GCM319R72A104KA37# |                    |
| 1.25mm  | 100Vdc   | X7R        | 0.15μF | ±10%  | GCM31MR72A154KA37# |                    |
|         |          |            | 0.22μF | ±10%  | GCM31MR72A224KA37# |                    |
|         | 50Vdc    | X7R        | 0.33μF | ±10%  | GCM31MR71H334KA37# |                    |
|         |          |            | 0.47μF | ±10%  | GCM31MR71H474KA37# |                    |
|         |          |            | 0.68μF | ±10%  | GCM31MR71H684KA55# |                    |
|         |          |            | 1.0μF  | ±10%  | GCM31MR71H105KA55# |                    |
|         |          |            | 1.3mm  | 25Vdc | X7R                | 2.2μF              |
| 1.8mm   | 100Vdc   | X7R        | 1.0μF  | ±10%  | GCM31CR72A105KA03# |                    |
|         |          | 50Vdc      | X7R    | 2.2μF | ±10%               | GCM31CR71H225KA55# |
|         |          |            | X7S    | 4.7μF | ±10%               | GCM31CC71H475KA03# |
|         | 25Vdc    | X7R        | 4.7μF  | ±10%  | GCM31CR71E475KA55# |                    |
|         |          | 16Vdc      | X7R    | 4.7μF | ±10%               | GCM31CR71C475KA37# |
|         | 10μF     |            |        | ±10%  | GCM31CR71C106KA64# |                    |
|         | 10Vdc    |            | X7R    | 10μF  | ±10%               | GCM31CR71A106KA64# |
|         |          | 22μF       |        | ±10%  | GCM31CR71A226KE02# |                    |
|         |          | 6.3Vdc     | X7R    | 22μF  | ±20%               | GCM31CR70J226ME23# |
| 1.9mm   | 25Vdc    | X7S        | 10μF   | ±10%  | GCM31CC71E106KA03# |                    |

产品型号中#表示包装规格代码

专为降低短路不良而设计的产品

# GCD 系列



AEC-Q200

无故障

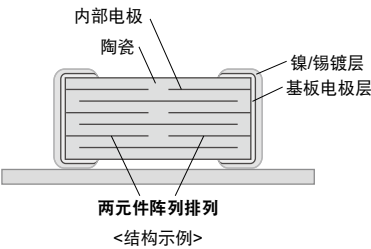
偏转  
裂纹

防止瞬间被两元件数组结构击穿！

## 特性

### ① 防止瞬间被两元件数组结构击穿！

该产品由排列在一个电容器中的两个元件组成。其构造能够保证，即使一个元件短路，其他电容器元件还可用，不会短路。

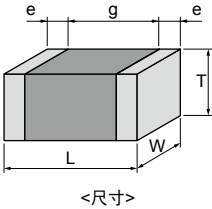


### ② 这款符合AEC-Q200标准的产品非常适合用于汽车上的蓄电池导线。

减少了两个电容器阵列排列间的蓄电池导线的空间。

## 规格

|      |                        |
|------|------------------------|
| 尺寸   | 1.6×0.8mm 到 2.0×1.25mm |
| 额定电压 | 25Vdc 到 100Vdc         |
| 静电容量 | 1,000pF 到 0.1μF        |
| 主要应用 | 汽车蓄电池导线及传动装置           |



GCD 系列高介电常数型

AEC-Q200

无故障

偏转  
裂纹

产品型号列表

■ 1.6×0.8mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.9mm   | 100Vdc   | X7R        | 1000pF  | ±10% | GCD188R72A102KA01# |
|         |          |            | 1200pF  | ±10% | GCD188R72A122KA01# |
|         |          |            | 1500pF  | ±10% | GCD188R72A152KA01# |
|         |          |            | 1800pF  | ±10% | GCD188R72A182KA01# |
|         |          |            | 2200pF  | ±10% | GCD188R72A222KA01# |
|         |          |            | 2700pF  | ±10% | GCD188R72A272KA01# |
|         |          |            | 3300pF  | ±10% | GCD188R72A332KA01# |
|         |          |            | 3900pF  | ±10% | GCD188R72A392KA01# |
|         |          |            | 4700pF  | ±10% | GCD188R72A472KA01# |
|         |          |            | 5600pF  | ±10% | GCD188R72A562KA01# |
|         |          |            | 6800pF  | ±10% | GCD188R72A682KA01# |
|         |          |            | 8200pF  | ±10% | GCD188R72A822KA01# |
|         |          |            | 10000pF | ±10% | GCD188R72A103KA01# |
|         |          |            | 12000pF | ±10% | GCD188R72A123KA01# |
|         |          |            | 15000pF | ±10% | GCD188R72A153KA01# |
|         |          |            | 18000pF | ±10% | GCD188R72A183KA01# |
|         |          |            | 22000pF | ±10% | GCD188R72A223KA01# |
|         | 50Vdc    | X7R        | 1000pF  | ±10% | GCD188R71H102KA01# |
|         |          |            | 1200pF  | ±10% | GCD188R71H122KA01# |
|         |          |            | 1500pF  | ±10% | GCD188R71H152KA01# |
|         |          |            | 1800pF  | ±10% | GCD188R71H182KA01# |
|         |          |            | 2200pF  | ±10% | GCD188R71H222KA01# |
|         |          |            | 2700pF  | ±10% | GCD188R71H272KA01# |
|         |          |            | 3300pF  | ±10% | GCD188R71H332KA01# |
|         |          |            | 3900pF  | ±10% | GCD188R71H392KA01# |
|         |          |            | 4700pF  | ±10% | GCD188R71H472KA01# |
|         |          |            | 5600pF  | ±10% | GCD188R71H562KA01# |
|         |          |            | 6800pF  | ±10% | GCD188R71H682KA01# |
|         |          |            | 8200pF  | ±10% | GCD188R71H822KA01# |
|         |          |            | 10000pF | ±10% | GCD188R71H103KA01# |
|         |          |            | 12000pF | ±10% | GCD188R71H123KA01# |
|         |          |            | 15000pF | ±10% | GCD188R71H153KA01# |
|         |          |            | 18000pF | ±10% | GCD188R71H183KA01# |
|         |          |            | 22000pF | ±10% | GCD188R71H223KA01# |
|         | 25Vdc    | X7R        | 27000pF | ±10% | GCD188R71E273KA01# |
|         |          |            | 33000pF | ±10% | GCD188R71E333KA01# |
|         |          |            | 39000pF | ±10% | GCD188R71E393KA01# |
|         |          |            | 47000pF | ±10% | GCD188R71E473KA01# |

■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 0.7mm   | 100Vdc   | X7R        | 1000pF | ±10% | GCD216R72A102KA01# |
|         |          |            | 1200pF | ±10% | GCD216R72A122KA01# |
|         |          |            | 1500pF | ±10% | GCD216R72A152KA01# |
|         |          |            | 1800pF | ±10% | GCD216R72A182KA01# |
|         |          |            | 2200pF | ±10% | GCD216R72A222KA01# |
|         |          |            | 2700pF | ±10% | GCD216R72A272KA01# |
|         |          |            | 3300pF | ±10% | GCD216R72A332KA01# |
|         |          |            | 3900pF | ±10% | GCD216R72A392KA01# |
|         |          |            | 4700pF | ±10% | GCD216R72A472KA01# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号         | 静电容量    | 公差   | 品名                 |
|---------|----------|--------------------|---------|------|--------------------|
| 0.7mm   | 100Vdc   | X7R                | 5600pF  | ±10% | GCD216R72A562KA01# |
|         | 50Vdc    | X7R                | 1000pF  | ±10% | GCD216R71H102KA01# |
|         |          |                    | 1200pF  | ±10% | GCD216R71H122KA01# |
|         |          |                    | 1500pF  | ±10% | GCD216R71H152KA01# |
|         |          |                    | 1800pF  | ±10% | GCD216R71H182KA01# |
|         |          |                    | 2200pF  | ±10% | GCD216R71H222KA01# |
|         |          |                    | 2700pF  | ±10% | GCD216R71H272KA01# |
|         |          |                    | 3300pF  | ±10% | GCD216R71H332KA01# |
|         |          |                    | 3900pF  | ±10% | GCD216R71H392KA01# |
|         |          |                    | 4700pF  | ±10% | GCD216R71H472KA01# |
| 5600pF  | ±10%     | GCD216R71H562KA01# |         |      |                    |
| 0.95mm  | 100Vdc   | X7R                | 6800pF  | ±10% | GCD219R72A682KA01# |
| 1.4mm   | 100Vdc   | X7R                | 8200pF  | ±10% | GCD21BR72A822KA01# |
|         |          |                    | 10000pF | ±10% | GCD21BR72A103KA01# |
|         |          |                    | 12000pF | ±10% | GCD21BR72A123KA01# |
|         |          |                    | 15000pF | ±10% | GCD21BR72A153KA01# |
|         |          |                    | 18000pF | ±10% | GCD21BR72A183KA01# |
|         |          |                    | 22000pF | ±10% | GCD21BR72A223KA01# |
|         |          |                    | 27000pF | ±10% | GCD21BR72A273KA01# |
|         |          |                    | 33000pF | ±10% | GCD21BR72A333KA01# |
|         |          |                    | 39000pF | ±10% | GCD21BR72A393KA01# |
|         |          |                    | 47000pF | ±10% | GCD21BR72A473KA01# |
|         |          |                    | 56000pF | ±10% | GCD21BR72A563KA01# |
|         |          |                    | 68000pF | ±10% | GCD21BR72A683KA01# |
|         |          |                    | 82000pF | ±10% | GCD21BR72A823KA01# |
|         |          |                    | 0.10μF  | ±10% | GCD21BR72A104KA01# |
|         | 50Vdc    | X7R                | 15000pF | ±10% | GCD21BR71H153KA01# |
|         |          |                    | 18000pF | ±10% | GCD21BR71H183KA01# |
|         |          |                    | 22000pF | ±10% | GCD21BR71H223KA01# |
|         |          |                    | 27000pF | ±10% | GCD21BR71H273KA01# |
|         |          |                    | 33000pF | ±10% | GCD21BR71H333KA01# |
|         |          |                    | 39000pF | ±10% | GCD21BR71H393KA01# |
|         |          |                    | 47000pF | ±10% | GCD21BR71H473KA01# |
|         |          |                    | 56000pF | ±10% | GCD21BR71H563KA01# |
|         |          |                    | 68000pF | ±10% | GCD21BR71H683KA01# |
|         |          |                    | 82000pF | ±10% | GCD21BR71H823KA01# |
|         |          |                    | 0.10μF  | ±10% | GCD21BR71H104KA01# |

产品型号中 # 表示包装规格代码

专为降低短路不良而设计的产品和树脂电极产品

## GCE 系列



AEC-Q200

无故障

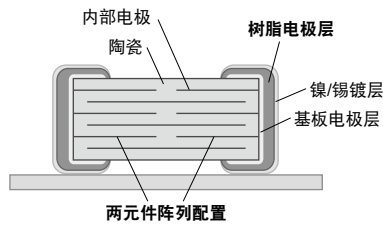
偏转裂纹

两元件数组结构与树脂外部电极相结合，进一步提高了该产品的安全性!

### 特性

#### ① 防止瞬间被两元件数组结构击穿！

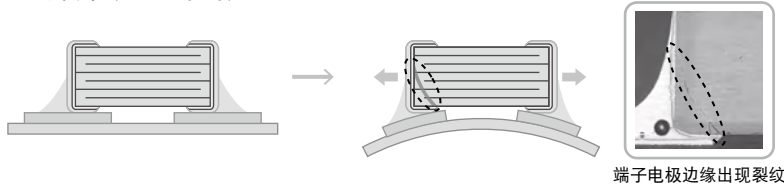
该产品由排列在一个电容器中的两个元件组成。即使一个元件短路，电容器中的其他元件也不会短路。



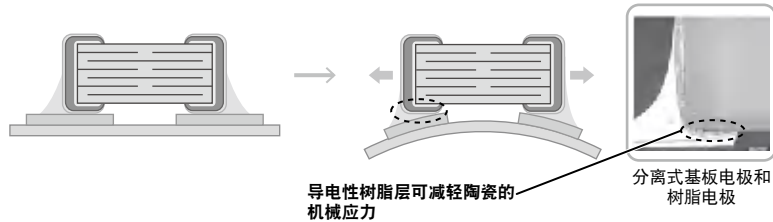
#### ② 加上使用树脂电极，进一步提高了安全性。

采用树脂电极作为外部电极可防止因机械应力而导致电容器出现裂纹现象的发生。

##### ● 汽车用 (GCM 系列)



##### ● 无故障类型 (GCE 系列)

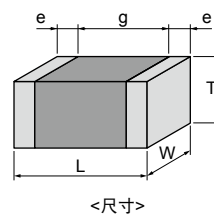


#### ③ 非常适合用于板载应用的蓄电池导线。

两个电容器阵列排列时可减少蓄电池导线的空间。

### 规格

|      |                        |
|------|------------------------|
| 尺寸   | 1.6×0.8mm 到 2.0×1.25mm |
| 额定电压 | 50Vdc 到 100Vdc         |
| 静电容量 | 1000pF 到 0.1μF         |
| 主要应用 | 用于汽车、蓄电池导线、动力传动装置      |



GCE 系列高介电常数型

AEC-Q200

无故障

偏转  
裂纹

产品型号列表

■ 1.6×0.8mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.9mm   | 100Vdc   | X7R        | 1000pF  | ±10% | GCE188R72A102KA01# |
|         |          |            | 1200pF  | ±10% | GCE188R72A122KA01# |
|         |          |            | 1500pF  | ±10% | GCE188R72A152KA01# |
|         |          |            | 1800pF  | ±10% | GCE188R72A182KA01# |
|         |          |            | 2200pF  | ±10% | GCE188R72A222KA01# |
|         |          |            | 2700pF  | ±10% | GCE188R72A272KA01# |
|         |          |            | 3300pF  | ±10% | GCE188R72A332KA01# |
|         |          |            | 3900pF  | ±10% | GCE188R72A392KA01# |
|         |          |            | 4700pF  | ±10% | GCE188R72A472KA01# |
|         |          |            | 5600pF  | ±10% | GCE188R72A562KA01# |
|         |          |            | 6800pF  | ±10% | GCE188R72A682KA01# |
|         |          |            | 8200pF  | ±10% | GCE188R72A822KA01# |
|         |          |            | 10000pF | ±10% | GCE188R72A103KA01# |
|         |          |            | 12000pF | ±10% | GCE188R72A123KA01# |
|         |          |            | 15000pF | ±10% | GCE188R72A153KA01# |
|         |          |            | 18000pF | ±10% | GCE188R72A183KA01# |
|         |          |            | 22000pF | ±10% | GCE188R72A223KA01# |
|         | 50Vdc    | X7R        | 1000pF  | ±10% | GCE188R71H102KA01# |
|         |          |            | 1200pF  | ±10% | GCE188R71H122KA01# |
|         |          |            | 1500pF  | ±10% | GCE188R71H152KA01# |
|         |          |            | 1800pF  | ±10% | GCE188R71H182KA01# |
|         |          |            | 2200pF  | ±10% | GCE188R71H222KA01# |
|         |          |            | 2700pF  | ±10% | GCE188R71H272KA01# |
|         |          |            | 3300pF  | ±10% | GCE188R71H332KA01# |
|         |          |            | 3900pF  | ±10% | GCE188R71H392KA01# |
|         |          |            | 4700pF  | ±10% | GCE188R71H472KA01# |
|         |          |            | 5600pF  | ±10% | GCE188R71H562KA01# |
|         |          |            | 6800pF  | ±10% | GCE188R71H682KA01# |
|         |          |            | 8200pF  | ±10% | GCE188R71H822KA01# |
|         |          |            | 10000pF | ±10% | GCE188R71H103KA01# |
|         |          |            | 12000pF | ±10% | GCE188R71H123KA01# |
|         |          |            | 15000pF | ±10% | GCE188R71H153KA01# |
|         |          |            | 18000pF | ±10% | GCE188R71H183KA01# |
|         |          |            | 22000pF | ±10% | GCE188R71H223KA01# |

■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 0.7mm   | 100Vdc   | X7R        | 1000pF | ±10% | GCE216R72A102KA01# |
|         |          |            | 1200pF | ±10% | GCE216R72A122KA01# |
|         |          |            | 1500pF | ±10% | GCE216R72A152KA01# |
|         |          |            | 1800pF | ±10% | GCE216R72A182KA01# |
|         |          |            | 2200pF | ±10% | GCE216R72A222KA01# |
|         |          |            | 2700pF | ±10% | GCE216R72A272KA01# |
|         |          |            | 3300pF | ±10% | GCE216R72A332KA01# |
|         |          |            | 3900pF | ±10% | GCE216R72A392KA01# |
|         |          |            | 4700pF | ±10% | GCE216R72A472KA01# |
|         |          |            | 5600pF | ±10% | GCE216R72A562KA01# |
|         | 50Vdc    | X7R        | 1000pF | ±10% | GCE216R71H102KA01# |
|         |          |            | 1200pF | ±10% | GCE216R71H122KA01# |
|         |          |            | 1500pF | ±10% | GCE216R71H152KA01# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.7mm   | 50Vdc    | X7R        | 1800pF  | ±10% | GCE216R71H182KA01# |
|         |          |            | 2200pF  | ±10% | GCE216R71H222KA01# |
|         |          |            | 2700pF  | ±10% | GCE216R71H272KA01# |
|         |          |            | 3300pF  | ±10% | GCE216R71H332KA01# |
|         |          |            | 3900pF  | ±10% | GCE216R71H392KA01# |
|         |          |            | 4700pF  | ±10% | GCE216R71H472KA01# |
|         |          |            | 5600pF  | ±10% | GCE216R71H562KA01# |
| 0.95mm  | 100Vdc   | X7R        | 6800pF  | ±10% | GCE219R72A682KA01# |
| 1.45mm  | 100Vdc   | X7R        | 8200pF  | ±10% | GCE21BR72A822KA01# |
|         |          |            | 10000pF | ±10% | GCE21BR72A103KA01# |
|         |          |            | 12000pF | ±10% | GCE21BR72A123KA01# |
|         |          |            | 15000pF | ±10% | GCE21BR72A153KA01# |
|         |          |            | 18000pF | ±10% | GCE21BR72A183KA01# |
|         |          |            | 22000pF | ±10% | GCE21BR72A223KA01# |
|         |          |            | 27000pF | ±10% | GCE21BR72A273KA01# |
|         |          |            | 33000pF | ±10% | GCE21BR72A333KA01# |
|         |          |            | 39000pF | ±10% | GCE21BR72A393KA01# |
|         |          |            | 47000pF | ±10% | GCE21BR72A473KA01# |
|         |          |            | 56000pF | ±10% | GCE21BR72A563KA01# |
|         |          |            | 68000pF | ±10% | GCE21BR72A683KA01# |
|         |          |            | 82000pF | ±10% | GCE21BR72A823KA01# |
|         |          |            | 0.10μF  | ±10% | GCE21BR72A104KA01# |
|         | 50Vdc    | X7R        | 15000pF | ±10% | GCE21BR71H153KA01# |
|         |          |            | 18000pF | ±10% | GCE21BR71H183KA01# |
|         |          |            | 22000pF | ±10% | GCE21BR71H223KA01# |
|         |          |            | 27000pF | ±10% | GCE21BR71H273KA01# |
|         |          |            | 33000pF | ±10% | GCE21BR71H333KA01# |
|         |          |            | 39000pF | ±10% | GCE21BR71H393KA01# |
|         |          |            | 47000pF | ±10% | GCE21BR71H473KA01# |
|         |          |            | 56000pF | ±10% | GCE21BR71H563KA01# |
|         |          |            | 68000pF | ±10% | GCE21BR71H683KA01# |
|         |          |            | 82000pF | ±10% | GCE21BR71H823KA01# |
|         |          |            | 0.10μF  | ±10% | GCE21BR71H104KA01# |

产品型号中 # 表示包装规格代码

## 兼容型导电性粘合剂

# GCG 系列



AEC-Q200

偏转  
裂纹

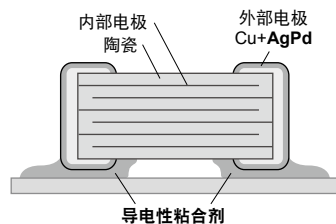
焊接  
裂纹

使用导电性粘合剂贴装的AgPd外部电极，可以改进机械的强度和热强度！

## 特性

### ① 可使用导电性粘合剂。

该电容器可通过导电性粘合剂贴装在汽车的动力传动装置和安全装置上。



### ② 采用AgPd外部电极。

AgPd与导电性粘合剂具有极佳的粘合强度。

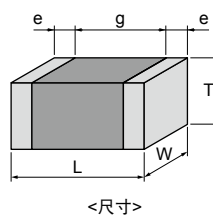
### ③ 兼容温度达150 °C

这款具X8L和X8R特性的电容器可在高温环境下使用，比如在 ABS和变速箱控制装置上使用。

\* 导电性粘合剂可以减小基板与零件之间因温度变化导致的膨胀和收缩差，且具有较长的高温循环使用寿命。

## 规格

|      |                       |
|------|-----------------------|
| 尺寸   | 1.0×0.5mm 到 3.2×2.5mm |
| 额定电压 | 16Vdc 到 100Vdc        |
| 静电容量 | 10pF 到 10μF           |
| 主要应用 | 用于汽车、动力传动装置和传感器       |



GCG 系列温度补偿型

AEC-Q200

偏转  
裂纹

焊接  
裂纹

产品型号列表

■ 1.0×0.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差  | 品名                 |
|---------|----------|------------|-------|-----|--------------------|
| 0.55mm  | 50Vdc    | X8G        | 120pF | ±5% | GCG1555G1H121JA01# |
|         |          |            | 150pF | ±5% | GCG1555G1H151JA01# |
|         |          |            | 180pF | ±5% | GCG1555G1H181JA01# |
|         |          |            | 220pF | ±5% | GCG1555G1H221JA01# |
|         |          |            | 270pF | ±5% | GCG1555G1H271JA01# |
|         |          |            | 330pF | ±5% | GCG1555G1H331JA01# |
|         |          |            | 390pF | ±5% | GCG1555G1H391JA01# |
|         |          |            | 470pF | ±5% | GCG1555G1H471JA01# |
|         |          |            |       |     |                    |

■ 1.6×0.8mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差  | 品名                 |
|---------|----------|------------|--------|-----|--------------------|
| 0.9mm   | 50Vdc    | X8G        | 10pF   | ±5% | GCG1885G1H100JA01# |
|         |          |            | 12pF   | ±5% | GCG1885G1H120JA01# |
|         |          |            | 15pF   | ±5% | GCG1885G1H150JA01# |
|         |          |            | 18pF   | ±5% | GCG1885G1H180JA01# |
|         |          |            | 22pF   | ±5% | GCG1885G1H220JA01# |
|         |          |            | 27pF   | ±5% | GCG1885G1H270JA01# |
|         |          |            | 33pF   | ±5% | GCG1885G1H330JA01# |
|         |          |            | 39pF   | ±5% | GCG1885G1H390JA01# |
|         |          |            | 47pF   | ±5% | GCG1885G1H470JA01# |
|         |          |            | 56pF   | ±5% | GCG1885G1H560JA01# |
|         |          |            | 68pF   | ±5% | GCG1885G1H680JA01# |
|         |          |            | 82pF   | ±5% | GCG1885G1H820JA01# |
|         |          |            | 100pF  | ±5% | GCG1885G1H101JA01# |
|         |          |            | 120pF  | ±5% | GCG1885G1H121JA01# |
|         |          |            | 150pF  | ±5% | GCG1885G1H151JA01# |
|         |          |            | 180pF  | ±5% | GCG1885G1H181JA01# |
|         |          |            | 220pF  | ±5% | GCG1885G1H221JA01# |
|         |          |            | 270pF  | ±5% | GCG1885G1H271JA01# |
|         |          |            | 330pF  | ±5% | GCG1885G1H331JA01# |
|         |          |            | 390pF  | ±5% | GCG1885G1H391JA01# |
|         |          |            | 470pF  | ±5% | GCG1885G1H471JA01# |
|         |          |            | 560pF  | ±5% | GCG1885G1H561JA01# |
|         |          |            | 680pF  | ±5% | GCG1885G1H681JA01# |
|         |          |            | 820pF  | ±5% | GCG1885G1H821JA01# |
|         |          |            | 1000pF | ±5% | GCG1885G1H102JA01# |
|         |          |            | 1200pF | ±5% | GCG1885G1H122JA01# |
|         |          |            | 1500pF | ±5% | GCG1885G1H152JA01# |
|         |          |            | 1800pF | ±5% | GCG1885G1H182JA01# |
|         |          |            | 2200pF | ±5% | GCG1885G1H222JA01# |
|         |          |            |        |     |                    |

■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差  | 品名                 |
|---------|----------|------------|-------|-----|--------------------|
| 0.7mm   | 50Vdc    | X8G        | 100pF | ±5% | GCG2165G1H101JA01# |
|         |          |            | 120pF | ±5% | GCG2165G1H121JA01# |
|         |          |            | 150pF | ±5% | GCG2165G1H151JA01# |
|         |          |            | 180pF | ±5% | GCG2165G1H181JA01# |
|         |          |            | 220pF | ±5% | GCG2165G1H221JA01# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差  | 品名                 |
|---------|----------|------------|---------|-----|--------------------|
| 0.7mm   | 50Vdc    | X8G        | 270pF   | ±5% | GCG2165G1H271JA01# |
|         |          |            | 330pF   | ±5% | GCG2165G1H331JA01# |
|         |          |            | 390pF   | ±5% | GCG2165G1H391JA01# |
|         |          |            | 470pF   | ±5% | GCG2165G1H471JA01# |
|         |          |            | 560pF   | ±5% | GCG2165G1H561JA01# |
|         |          |            | 680pF   | ±5% | GCG2165G1H681JA01# |
|         |          |            | 820pF   | ±5% | GCG2165G1H821JA01# |
|         |          |            | 1000pF  | ±5% | GCG2165G1H102JA01# |
|         |          |            | 1200pF  | ±5% | GCG2165G1H122JA01# |
|         |          |            | 1500pF  | ±5% | GCG2165G1H152JA01# |
|         |          |            | 1800pF  | ±5% | GCG2165G1H182JA01# |
|         |          |            | 2200pF  | ±5% | GCG2165G1H222JA01# |
|         |          |            | 2700pF  | ±5% | GCG2165G1H272JA01# |
|         |          |            | 3300pF  | ±5% | GCG2165G1H332JA01# |
|         |          |            | 3900pF  | ±5% | GCG2165G1H392JA01# |
|         |          |            | 4700pF  | ±5% | GCG2165G1H472JA01# |
|         |          |            |         |     |                    |
| 0.95mm  | 50Vdc    | X8G        | 5600pF  | ±5% | GCG2195G1H562JA01# |
|         |          |            | 6800pF  | ±5% | GCG2195G1H682JA01# |
|         |          |            | 8200pF  | ±5% | GCG2195G1H822JA01# |
|         |          |            | 10000pF | ±5% | GCG2195G1H103JA01# |

产品型号中 # 表示包装规格代码

GCG 系列高介电常数型

AEC-Q200

偏转裂纹

焊接裂纹

产品型号列表

■ 1.0×0.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.55mm  | 50Vdc    | X7R        | 220pF   | ±10% | GCG155R71H221KA01# |
|         |          |            | 270pF   | ±10% | GCG155R71H271KA01# |
|         |          |            | 330pF   | ±10% | GCG155R71H331KA01# |
|         |          |            | 390pF   | ±10% | GCG155R71H391KA01# |
|         |          |            | 470pF   | ±10% | GCG155R71H471KA01# |
|         |          |            | 560pF   | ±10% | GCG155R71H561KA01# |
|         |          |            | 680pF   | ±10% | GCG155R71H681KA01# |
|         |          |            | 820pF   | ±10% | GCG155R71H821KA01# |
|         |          |            | 1000pF  | ±10% | GCG155R71H102KA01# |
|         |          |            | 1200pF  | ±10% | GCG155R71H122KA01# |
|         |          |            | 1500pF  | ±10% | GCG155R71H152KA01# |
|         |          |            | 1800pF  | ±10% | GCG155R71H182KA01# |
|         |          |            | 2200pF  | ±10% | GCG155R71H222KA01# |
|         |          |            | 2700pF  | ±10% | GCG155R71H272KA01# |
|         |          |            | 3300pF  | ±10% | GCG155R71H332KA01# |
|         |          |            | 3900pF  | ±10% | GCG155R71H392KA01# |
|         |          |            | 4700pF  | ±10% | GCG155R71H472KA01# |
|         | 25Vdc    | X8L        | 5600pF  | ±10% | GCG155L81E562KA01# |
|         |          |            | 6800pF  | ±10% | GCG155L81E682KA01# |
|         |          |            | 8200pF  | ±10% | GCG155L81E822KA01# |
|         |          |            | 10000pF | ±10% | GCG155L81E103KA01# |
|         |          | X7R        | 5600pF  | ±10% | GCG155R71E562KA01# |
|         |          |            | 6800pF  | ±10% | GCG155R71E682KA01# |
|         |          |            | 8200pF  | ±10% | GCG155R71E822KA01# |
|         |          |            | 10000pF | ±10% | GCG155R71E103KA01# |
|         | 16Vdc    | X8L        | 15000pF | ±10% | GCG155L81C153KA01# |
|         |          |            | 18000pF | ±10% | GCG155L81C183KA01# |
|         |          |            | 22000pF | ±10% | GCG155L81C223KA01# |
|         |          |            | 27000pF | ±10% | GCG155L81C273KA01# |
|         |          |            | 33000pF | ±10% | GCG155L81C333KA01# |
|         |          |            | 39000pF | ±10% | GCG155L81C393KA01# |
|         |          |            | 47000pF | ±10% | GCG155L81C473KA01# |
|         |          | X7R        | 15000pF | ±10% | GCG155R71C153KA01# |
|         |          |            | 18000pF | ±10% | GCG155R71C183KA01# |
|         |          |            | 22000pF | ±10% | GCG155R71C223KA01# |
|         |          |            | 27000pF | ±10% | GCG155R71C273KA01# |
|         |          |            | 33000pF | ±10% | GCG155R71C333KA01# |
|         |          |            | 39000pF | ±10% | GCG155R71C393KA01# |
|         |          |            | 47000pF | ±10% | GCG155R71C473KA01# |
|         |          |            | 56000pF | ±10% | GCG155R71C563KA01# |
|         |          |            | 68000pF | ±10% | GCG155R71C683KA01# |
|         |          |            | 82000pF | ±10% | GCG155R71C823KA01# |
|         |          |            | 0.1μF   | ±10% | GCG155R71C104KA01# |

■ 1.6×0.8mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 0.9mm   | 100Vdc   | X8R        | 1000pF | ±10% | GCG188R92A102KA01# |
|         |          |            | 1200pF | ±10% | GCG188R92A122KA01# |
|         |          |            | 1500pF | ±10% | GCG188R92A152KA01# |
|         |          |            | 1800pF | ±10% | GCG188R92A182KA01# |
|         |          |            |        |      |                    |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差                 | 品名                 |
|---------|----------|------------|---------|--------------------|--------------------|
| 0.9mm   | 100Vdc   | X8R        | 2200pF  | ±10%               | GCG188R92A222KA01# |
|         |          |            | 2700pF  | ±10%               | GCG188R92A272KA01# |
|         |          |            | 3300pF  | ±10%               | GCG188R92A332KA01# |
|         |          |            | 3900pF  | ±10%               | GCG188R92A392KA01# |
|         |          |            | 4700pF  | ±10%               | GCG188R92A472KA01# |
|         |          |            | 5600pF  | ±10%               | GCG188R92A562KA01# |
|         |          |            | 6800pF  | ±10%               | GCG188R92A682KA01# |
|         |          |            | 8200pF  | ±10%               | GCG188R92A822KA01# |
|         |          |            | 10000pF | ±10%               | GCG188R92A103KA01# |
|         |          |            | 12000pF | ±10%               | GCG188R92A123KA01# |
|         |          |            | 15000pF | ±10%               | GCG188R92A153KA01# |
|         |          |            | 18000pF | ±10%               | GCG188R92A183KA01# |
|         |          |            | 22000pF | ±10%               | GCG188R92A223KA01# |
|         |          |            | 27000pF | ±10%               | GCG188R92A273KA01# |
|         |          |            | 33000pF | ±10%               | GCG188R92A333KA01# |
|         |          |            | 39000pF | ±10%               | GCG188R92A393KA01# |
|         |          |            | 47000pF | ±10%               | GCG188R92A473KA01# |
|         |          |            | 56000pF | ±10%               | GCG188R92A563KA01# |
|         |          |            | 68000pF | ±10%               | GCG188R92A683KA01# |
|         |          |            | 50Vdc   | X8L                | 220pF              |
|         | 270pF    | ±10%       |         |                    | GCG188L81H271KA01# |
|         | 330pF    | ±10%       |         |                    | GCG188L81H331KA01# |
|         | 390pF    | ±10%       |         |                    | GCG188L81H391KA01# |
|         | 470pF    | ±10%       |         |                    | GCG188L81H471KA01# |
|         | 560pF    | ±10%       |         |                    | GCG188L81H561KA01# |
|         | 680pF    | ±10%       |         |                    | GCG188L81H681KA01# |
|         | 820pF    | ±10%       |         |                    | GCG188L81H821KA01# |
|         | 1000pF   | ±10%       |         |                    | GCG188L81H102KA01# |
|         | 1200pF   | ±10%       |         |                    | GCG188L81H122KA01# |
|         | 1500pF   | ±10%       |         |                    | GCG188L81H152KA01# |
|         | 1800pF   | ±10%       |         |                    | GCG188L81H182KA01# |
|         | 2200pF   | ±10%       |         |                    | GCG188L81H222KA01# |
|         | 2700pF   | ±10%       |         |                    | GCG188L81H272KA01# |
|         | 3300pF   | ±10%       |         |                    | GCG188L81H332KA01# |
|         | 3900pF   | ±10%       |         |                    | GCG188L81H392KA01# |
|         | 4700pF   | ±10%       |         |                    | GCG188L81H472KA01# |
|         | 5600pF   | ±10%       |         |                    | GCG188L81H562KA01# |
|         | 6800pF   | ±10%       |         |                    | GCG188L81H682KA01# |
|         | 8200pF   | ±10%       |         |                    | GCG188L81H822KA01# |
|         | 10000pF  | ±10%       |         | GCG188L81H103KA01# |                    |
|         | 12000pF  | ±10%       |         | GCG188L81H123KA01# |                    |
|         | 15000pF  | ±10%       |         | GCG188L81H153KA01# |                    |
|         | 18000pF  | ±10%       |         | GCG188L81H183KA01# |                    |
|         | 22000pF  | ±10%       |         | GCG188L81H223KA01# |                    |
|         | X8R      | 1200pF     |         | ±10%               | GCG188R91H122KA03# |
|         |          | 1500pF     |         | ±10%               | GCG188R91H152KA03# |
|         |          | 2200pF     |         | ±10%               | GCG188R91H222KA03# |
|         |          | 2700pF     |         | ±10%               | GCG188R91H272KA03# |
|         |          | 3300pF     |         | ±10%               | GCG188R91H332KA03# |
|         |          | 3900pF     |         | ±10%               | GCG188R91H392KA03# |
|         |          | 4700pF     |         | ±10%               | GCG188R91H472KA03# |
|         |          | 5600pF     |         | ±10%               | GCG188R91H562KA03# |
|         |          | 6800pF     |         | ±10%               | GCG188R91H682KA03# |
|         |          | 8200pF     | ±10%    | GCG188R91H822KA03# |                    |

产品型号中 # 表示包装规格代码

GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

△警告/注意事项

GCG 系列高介电常数型

AEC  
Q200

偏转  
裂纹

焊接  
裂纹

产品型号列表

(→ ■ 1.6×0.8mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.9mm   | 50Vdc    | X8R        | 10000pF | ±10% | GCG188R91H103KA03# |
|         |          |            | 15000pF | ±10% | GCG188R91H153KA03# |
|         |          |            | 22000pF | ±10% | GCG188R91H223KA03# |
|         |          |            | 33000pF | ±10% | GCG188R91H333KA03# |
|         |          |            | 47000pF | ±10% | GCG188R91H473KA03# |
|         |          |            | 0.10μF  | ±10% | GCG188R91H104KA01# |
|         |          |            | 0.12μF  | ±10% | GCG188R91H124KA01# |
|         |          |            | 0.15μF  | ±10% | GCG188R91H154KA01# |
|         |          |            | 0.18μF  | ±10% | GCG188R91H184KA01# |
|         |          |            | 0.22μF  | ±10% | GCG188R91H224KA01# |
|         |          | X7R        | 27000pF | ±10% | GCG188R71H273KA12# |
|         |          |            | 33000pF | ±10% | GCG188R71H333KA12# |
|         |          |            | 39000pF | ±10% | GCG188R71H393KA12# |
|         |          |            | 47000pF | ±10% | GCG188R71H473KA12# |
|         |          |            | 56000pF | ±10% | GCG188R71H563KA12# |
|         |          |            | 68000pF | ±10% | GCG188R71H683KA12# |
|         |          |            | 82000pF | ±10% | GCG188R71H823KA12# |
|         | 25Vdc    | X8R        | 1000pF  | ±10% | GCG188R91E102KA01# |
|         |          |            | 1200pF  | ±10% | GCG188R91E122KA01# |
|         |          |            | 1500pF  | ±10% | GCG188R91E152KA01# |
|         |          |            | 1800pF  | ±10% | GCG188R91E182KA01# |
|         |          |            | 2200pF  | ±10% | GCG188R91E222KA01# |
|         |          |            | 2700pF  | ±10% | GCG188R91E272KA01# |
|         |          |            | 3300pF  | ±10% | GCG188R91E332KA01# |
|         |          |            | 3900pF  | ±10% | GCG188R91E392KA01# |
|         |          |            | 4700pF  | ±10% | GCG188R91E472KA01# |
|         |          | X7R        | 5600pF  | ±10% | GCG188R91E562KA01# |
|         |          |            | 6800pF  | ±10% | GCG188R91E682KA01# |
|         |          |            | 8200pF  | ±10% | GCG188R91E822KA01# |
|         |          |            | 10000pF | ±10% | GCG188R91E103KA01# |
|         |          |            | 15000pF | ±10% | GCG188R91E153KA01# |
|         |          |            | 22000pF | ±10% | GCG188R91E223KA01# |
|         |          |            | 33000pF | ±10% | GCG188R91E333KA01# |
|         |          |            | 47000pF | ±10% | GCG188R91E473KA01# |
|         |          |            | 68000pF | ±10% | GCG188R91E683KA03# |
|         |          | X8L        | 0.33μF  | ±10% | GCG188R91E334KA01# |
|         |          |            | 0.39μF  | ±10% | GCG188R91E394KA01# |
|         |          |            | 0.47μF  | ±10% | GCG188R91E474KA01# |
|         |          |            | 0.12μF  | ±10% | GCG188R71E124KA12# |
|         |          |            | 0.15μF  | ±10% | GCG188R71E154KA12# |
|         |          |            | 0.18μF  | ±10% | GCG188R71E184KA12# |
|         |          |            | 0.22μF  | ±10% | GCG188R71E224KA12# |
|         | 16Vdc    | X8L        | 0.15μF  | ±10% | GCG188L81C154KA01# |
|         |          |            | 0.22μF  | ±10% | GCG188L81C224KA01# |
|         |          |            | 68000pF | ±10% | GCG188R91C683KA01# |
|         |          | X8R        | 0.10μF  | ±10% | GCG188R91C104KA01# |

■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.95mm  | 50Vdc    | X8R        | 10000pF | ±10% | GCG219R91H103KA03# |
|         |          |            | 15000pF | ±10% | GCG219R91H153KA03# |
|         |          |            | 18000pF | ±10% | GCG219R91H183KA03# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.95mm  | 50Vdc    | X8R        | 22000pF | ±10% | GCG219R91H223KA03# |
|         |          |            | 10000pF | ±10% | GCG219R91E103KA01# |
|         |          |            | 15000pF | ±10% | GCG219R91E153KA01# |
|         |          |            | 22000pF | ±10% | GCG219R91E223KA01# |
|         | 50Vdc    | X8L        | 27000pF | ±10% | GCG21BL81H273KA01# |
|         |          |            | 33000pF | ±10% | GCG21BL81H333KA01# |
|         |          |            | 39000pF | ±10% | GCG21BL81H393KA01# |
|         |          |            | 47000pF | ±10% | GCG21BL81H473KA01# |
|         |          |            | 0.10μF  | ±10% | GCG21BL81H104KA03# |
|         |          |            | 33000pF | ±10% | GCG21BR91H333KA03# |
|         |          |            | 47000pF | ±10% | GCG21BR91H473KA03# |
|         |          |            | 56000pF | ±10% | GCG21BR91H563KA03# |
|         |          |            | 68000pF | ±10% | GCG21BR91H683KA03# |
|         |          |            | 0.10μF  | ±10% | GCG21BR91H104KA03# |
|         |          | X8R        | 33000pF | ±10% | GCG21BR91H333KA03# |
|         |          |            | 47000pF | ±10% | GCG21BR91H473KA03# |
|         |          |            | 56000pF | ±10% | GCG21BR91H563KA03# |
|         |          |            | 68000pF | ±10% | GCG21BR91H683KA03# |
|         |          | X7R        | 0.15μF  | ±10% | GCG21BR71H154KA01# |
|         |          |            | 0.18μF  | ±10% | GCG21BR71H184KA01# |
|         |          |            | 0.22μF  | ±10% | GCG21BR71H224KA01# |
| 1.45mm  | 25Vdc    | X8L        | 0.10μF  | ±10% | GCG21BL81E104KA01# |
|         |          |            | 0.33μF  | ±10% | GCG21BL81E334KA01# |
|         |          |            | 33000pF | ±10% | GCG21BR91E333KA01# |
|         |          |            | 39000pF | ±10% | GCG21BR91E393KA01# |
|         |          | X8R        | 47000pF | ±10% | GCG21BR91E473KA01# |
|         |          |            | 82000pF | ±10% | GCG21BR91E823KA01# |
|         |          |            | 0.10μF  | ±10% | GCG21BR91E104KA01# |
|         |          |            | 0.15μF  | ±10% | GCG21BR91E154KA03# |
|         |          |            | 0.18μF  | ±10% | GCG21BR91E184KA03# |
|         |          |            | 0.22μF  | ±10% | GCG21BR91E224KA03# |
|         |          | X7R        | 0.27μF  | ±10% | GCG21BR71E274KA01# |
|         |          |            | 0.33μF  | ±10% | GCG21BR71E334KA01# |
|         |          |            | 0.39μF  | ±10% | GCG21BR71E394KA01# |
|         |          |            | 0.47μF  | ±10% | GCG21BR71E474KA01# |
|         | 16Vdc    | X8L        | 0.56μF  | ±10% | GCG21BR71E564KA01# |
|         |          |            | 0.68μF  | ±10% | GCG21BR71E684KA01# |
|         |          |            | 0.82μF  | ±10% | GCG21BR71E824KA01# |
|         |          |            | 1.0μF   | ±10% | GCG21BR71E105KA12# |
|         |          | X8R        | 0.33μF  | ±10% | GCG21BL81C334KA01# |
|         |          |            | 0.39μF  | ±10% | GCG21BL81C394KA01# |
|         |          |            | 0.47μF  | ±10% | GCG21BL81C474KA01# |
|         |          |            | 0.56μF  | ±10% | GCG21BL81C564KA01# |
|         |          | X7R        | 0.68μF  | ±10% | GCG21BL81C684KA01# |
|         |          |            | 0.82μF  | ±10% | GCG21BL81C824KA01# |
|         |          |            | 4.7μF   | ±10% | GCG21BR71C475KA12# |

■ 3.2×1.6mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 1.35mm  | 50Vdc    | X8R        | 0.15μF | ±10% | GCG31MR91H154KA03# |
|         |          |            | 0.22μF | ±10% | GCG31MR91H224KA03# |
|         |          |            | 0.33μF | ±10% | GCG31MR91H334KA03# |
|         |          |            | 0.15μF | ±10% | GCG31MR91E154KA01# |
|         | 25Vdc    | X8R        | 0.22μF | ±10% | GCG31MR91E224KA01# |
|         |          |            | 0.33μF | ±10% | GCG31MR91E334KA01# |
|         |          |            | 1.0μF  | ±10% | GCG31MR71E105KA01# |

产品型号中#表示包装规格代码

GCG 系列高介电常数型AEC-Q200偏转裂纹焊接裂纹产品型号列表

(→ ■ 3.2×1.6mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 1.35mm  | 25Vdc    | X7R        | 1.2μF  | ±10% | GCG31MR71E125KA01# |
|         |          |            | 1.5μF  | ±10% | GCG31MR71E155KA01# |
|         |          |            | 2.2μF  | ±10% | GCG31MR71E225KA12# |
|         | 16Vdc    | X8L        | 1.0μF  | ±10% | GCG31ML81C105KA01# |
|         |          |            | 1.5μF  | ±10% | GCG31ML81C155KA01# |
| 1.9mm   | 25Vdc    | X8R        | 0.68μF | ±10% | GCG31CR91E684KA03# |
|         |          |            | 3.3μF  | ±10% | GCG31CR71E335KA01# |
|         |          |            | 3.9μF  | ±10% | GCG31CR71E395KA01# |
|         |          |            | 4.7μF  | ±10% | GCG31CR71E475KA01# |
|         | 16Vdc    | X8L        | 3.3μF  | ±10% | GCG31CL81C335KA01# |
|         |          |            | 4.7μF  | ±10% | GCG31CL81C475KA01# |
|         |          | X8R        | 0.68μF | ±10% | GCG31CR91C684KA01# |
|         |          |            | 1.0μF  | ±10% | GCG31CR91C105KA01# |

■ 3.2×2.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差   | 品名                 |
|---------|----------|------------|-------|------|--------------------|
| 2.3mm   | 25Vdc    | X7R        | 3.3μF | ±10% | GCG32DR71E335KA01# |
| 2.8mm   | 25Vdc    | X7R        | 4.7μF | ±10% | GCG32ER71E475KA01# |
|         |          |            | 10μF  | ±10% | GCG32ER71E106KA12# |

|          |
|----------|
| GCM 系列   |
| GCD 系列   |
| GCE 系列   |
| GCG 系列   |
| GCJ 系列   |
| GC3 系列   |
| KCM 系列   |
| KC3 系列   |
| △警告/注意事项 |

树脂外部电极产品

G CJ 系列



AEC-Q200

无故障

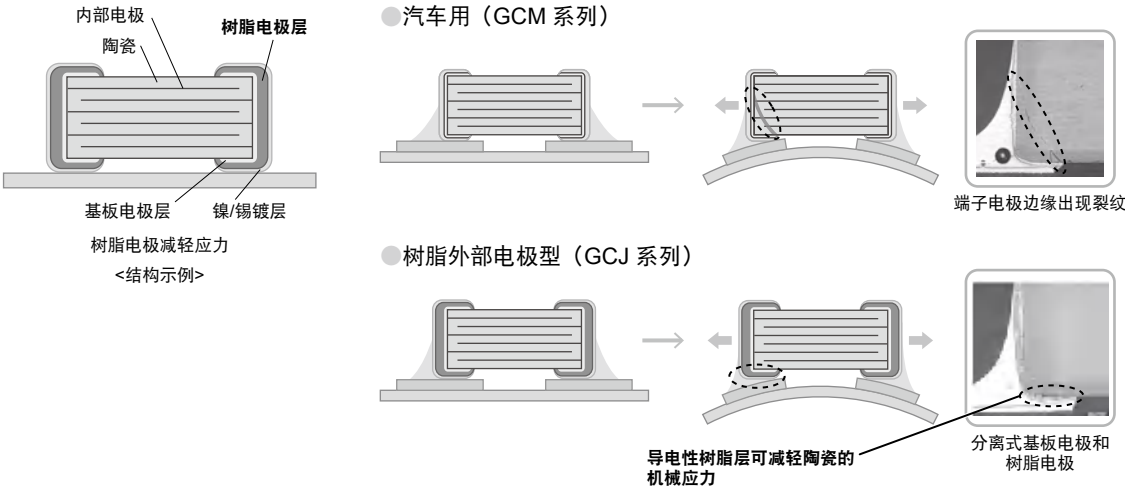
偏转裂纹

树脂外部电极能够防止由电路板安装后偏转应力造成的裂纹的出现!

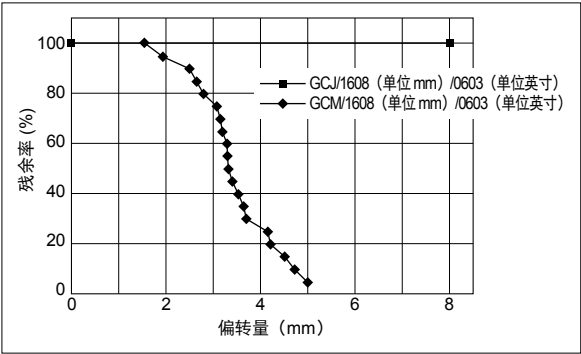
特性

① 树脂外部电极抑制电路板偏转导致的裂纹。

外部电极的树脂可减轻应力，抑制陶瓷元件形成裂纹。



② 抑制了电路板安装时由偏转应力造成的裂纹产生等。



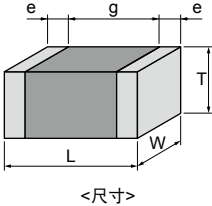
基于测量仪器的规格不同，可进行的测量值最大达 8mm。

③ 理想的汽车装置。

这款产品符合AEC-Q200标准的要求，非常适用于汽车的ECU、前大灯控制电路等。

规格

|      |                       |
|------|-----------------------|
| 尺寸   | 1.6×0.8mm 到 5.7×5.0mm |
| 额定电压 | 6.3Vdc 到 1kVdc        |
| 静电容量 | 220pF 到 47μF          |
| 主要应用 | 汽车蓄电池导线及传动装置          |



GCJ 系列高介电常数型

AECQ200

无故障

偏转裂纹

产品型号列表

■ 1.6×0.8mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.9mm   | 100Vdc   | X8R        | 1000pF  | ±10% | GCJ188R92A102KA01# |
|         |          |            | 1200pF  | ±10% | GCJ188R92A122KA01# |
|         |          |            | 1500pF  | ±10% | GCJ188R92A152KA01# |
|         |          |            | 1800pF  | ±10% | GCJ188R92A182KA01# |
|         |          |            | 2200pF  | ±10% | GCJ188R92A222KA01# |
|         |          |            | 2700pF  | ±10% | GCJ188R92A272KA01# |
|         |          |            | 3300pF  | ±10% | GCJ188R92A332KA01# |
|         |          |            | 3900pF  | ±10% | GCJ188R92A392KA01# |
|         |          |            | 4700pF  | ±10% | GCJ188R92A472KA01# |
|         |          |            | 5600pF  | ±10% | GCJ188R92A562KA01# |
|         |          |            | 6800pF  | ±10% | GCJ188R92A682KA01# |
|         |          |            | 8200pF  | ±10% | GCJ188R92A822KA01# |
|         |          |            | 10000pF | ±10% | GCJ188R92A103KA01# |
|         |          |            | 12000pF | ±10% | GCJ188R92A123KA01# |
|         |          |            | 15000pF | ±10% | GCJ188R92A153KA01# |
|         |          |            | 18000pF | ±10% | GCJ188R92A183KA01# |
|         |          |            | 22000pF | ±10% | GCJ188R92A223KA01# |
|         |          |            | 27000pF | ±10% | GCJ188R92A273KA01# |
|         |          |            | 33000pF | ±10% | GCJ188R92A333KA01# |
|         |          |            | 39000pF | ±10% | GCJ188R92A393KA01# |
|         |          |            | 47000pF | ±10% | GCJ188R92A473KA01# |
|         |          |            | 56000pF | ±10% | GCJ188R92A563KA01# |
|         |          |            | 68000pF | ±10% | GCJ188R92A683KA01# |
|         |          | X7R        | 1000pF  | ±10% | GCJ188R72A102KA01# |
|         |          |            | 1200pF  | ±10% | GCJ188R72A122KA01# |
|         |          |            | 1500pF  | ±10% | GCJ188R72A152KA01# |
|         |          |            | 1800pF  | ±10% | GCJ188R72A182KA01# |
|         |          |            | 2200pF  | ±10% | GCJ188R72A222KA01# |
|         |          |            | 2700pF  | ±10% | GCJ188R72A272KA01# |
|         |          |            | 3300pF  | ±10% | GCJ188R72A332KA01# |
|         |          |            | 3900pF  | ±10% | GCJ188R72A392KA01# |
|         |          |            | 4700pF  | ±10% | GCJ188R72A472KA01# |
|         |          |            | 5600pF  | ±10% | GCJ188R72A562KA01# |
|         |          |            | 6800pF  | ±10% | GCJ188R72A682KA01# |
|         |          |            | 8200pF  | ±10% | GCJ188R72A822KA01# |
|         |          |            | 10000pF | ±10% | GCJ188R72A103KA01# |
|         |          |            | 12000pF | ±10% | GCJ188R72A123KA01# |
|         |          |            | 15000pF | ±10% | GCJ188R72A153KA01# |
|         |          |            | 18000pF | ±10% | GCJ188R72A183KA01# |
|         |          |            | 22000pF | ±10% | GCJ188R72A223KA01# |
|         |          |            | 0.10μF  | ±10% | GCJ188R72A104KA01# |
|         | 50Vdc    | X8L        | 1000pF  | ±10% | GCJ188L81H102KA01# |
|         |          |            | 1200pF  | ±10% | GCJ188L81H122KA01# |
|         |          |            | 1500pF  | ±10% | GCJ188L81H152KA01# |
|         |          |            | 1800pF  | ±10% | GCJ188L81H182KA01# |
|         |          |            | 2200pF  | ±10% | GCJ188L81H222KA01# |
|         |          |            | 2700pF  | ±10% | GCJ188L81H272KA01# |
|         |          |            | 3300pF  | ±10% | GCJ188L81H332KA01# |
|         |          |            | 3900pF  | ±10% | GCJ188L81H392KA01# |
|         |          |            | 4700pF  | ±10% | GCJ188L81H472KA01# |
|         |          |            | 5600pF  | ±10% | GCJ188L81H562KA01# |
|         |          |            | 6800pF  | ±10% | GCJ188L81H682KA01# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.9mm   | 50Vdc    | X8L        | 8200pF  | ±10% | GCJ188L81H822KA01# |
|         |          |            | 10000pF | ±10% | GCJ188L81H103KA01# |
|         |          |            | 12000pF | ±10% | GCJ188L81H123KA01# |
|         |          |            | 15000pF | ±10% | GCJ188L81H153KA01# |
|         |          |            | 18000pF | ±10% | GCJ188L81H183KA01# |
|         |          |            | 22000pF | ±10% | GCJ188L81H223KA01# |
|         |          | X8R        | 4700pF  | ±10% | GCJ188R91H472KA01# |
|         |          |            | 10000pF | ±10% | GCJ188R91H103KA01# |
|         |          |            | 0.10μF  | ±10% | GCJ188R91H104KA01# |
|         |          |            | 0.12μF  | ±10% | GCJ188R91H124KA01# |
|         |          |            | 0.15μF  | ±10% | GCJ188R91H154KA01# |
|         |          |            | 0.18μF  | ±10% | GCJ188R91H184KA01# |
|         |          |            | 0.22μF  | ±10% | GCJ188R91H224KA01# |
|         |          | X7R        | 1000pF  | ±10% | GCJ188R71H102KA01# |
|         |          |            | 1200pF  | ±10% | GCJ188R71H122KA01# |
|         |          |            | 1500pF  | ±10% | GCJ188R71H152KA01# |
|         |          |            | 1800pF  | ±10% | GCJ188R71H182KA01# |
|         |          |            | 2200pF  | ±10% | GCJ188R71H222KA01# |
|         |          |            | 2700pF  | ±10% | GCJ188R71H272KA01# |
|         |          |            | 3300pF  | ±10% | GCJ188R71H332KA01# |
|         |          |            | 3900pF  | ±10% | GCJ188R71H392KA01# |
|         |          |            | 4700pF  | ±10% | GCJ188R71H472KA01# |
|         |          |            | 5600pF  | ±10% | GCJ188R71H562KA01# |
|         |          |            | 6800pF  | ±10% | GCJ188R71H682KA01# |
|         |          |            | 8200pF  | ±10% | GCJ188R71H822KA01# |
|         |          |            | 10000pF | ±10% | GCJ188R71H103KA01# |
|         |          |            | 12000pF | ±10% | GCJ188R71H123KA01# |
|         |          |            | 15000pF | ±10% | GCJ188R71H153KA01# |
|         |          |            | 18000pF | ±10% | GCJ188R71H183KA01# |
|         |          |            | 22000pF | ±10% | GCJ188R71H223KA01# |
|         |          |            | 33000pF | ±10% | GCJ188R71H333KA12# |
|         |          |            | 39000pF | ±10% | GCJ188R71H393KA12# |
|         |          |            | 47000pF | ±10% | GCJ188R71H473KA12# |
|         |          |            | 56000pF | ±10% | GCJ188R71H563KA12# |
|         |          |            | 68000pF | ±10% | GCJ188R71H683KA12# |
|         |          |            | 82000pF | ±10% | GCJ188R71H823KA12# |
|         | 35Vdc    | X8L        | 0.10μF  | ±10% | GCJ188R71H104KA12# |
|         |          |            | 0.15μF  | ±10% | GCJ188R71H154KA01# |
|         |          |            | 0.22μF  | ±10% | GCJ188R71H224KA01# |
|         |          |            | 33000pF | ±10% | GCJ188L8YA333KA01# |
|         |          |            | 39000pF | ±10% | GCJ188L8YA393KA01# |
|         |          |            | 56000pF | ±10% | GCJ188L8YA563KA01# |
|         |          |            | 68000pF | ±10% | GCJ188L8YA683KA01# |
|         | 25Vdc    | X8L        | 33000pF | ±10% | GCJ188L81E333KA01# |
|         |          |            | 39000pF | ±10% | GCJ188L81E393KA01# |
|         |          |            | 56000pF | ±10% | GCJ188L81E563KA01# |
|         |          |            | 68000pF | ±10% | GCJ188L81E683KA01# |
|         |          |            | 82000pF | ±10% | GCJ188L81E823KA01# |
|         |          |            | 0.15μF  | ±10% | GCJ188L81E154KA01# |
|         |          |            | 0.18μF  | ±10% | GCJ188L81E184KA01# |
|         |          |            | 0.22μF  | ±10% | GCJ188L81E224KA01# |
|         |          | X8R        | 0.33μF  | ±10% | GCJ188R91E334KA01# |
|         |          |            | 0.39μF  | ±10% | GCJ188R91E394KA01# |
|         |          |            | 0.47μF  | ±10% | GCJ188R91E474KA01# |

产品型号中 # 表示包装规格代码

GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

△警告/注意事项

GCJ 系列高介电常数型

AEC-Q200

无故障

偏转  
裂纹

产品型号列表

(→ ■ 1.6×0.8mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.9mm   | 25Vdc    | X7R        | 1000pF  | ±10% | GCJ188R71E102KA01# |
|         |          |            | 1200pF  | ±10% | GCJ188R71E122KA01# |
|         |          |            | 1500pF  | ±10% | GCJ188R71E152KA01# |
|         |          |            | 1800pF  | ±10% | GCJ188R71E182KA01# |
|         |          |            | 2200pF  | ±10% | GCJ188R71E222KA01# |
|         |          |            | 2700pF  | ±10% | GCJ188R71E272KA01# |
|         |          |            | 3300pF  | ±10% | GCJ188R71E332KA01# |
|         |          |            | 3900pF  | ±10% | GCJ188R71E392KA01# |
|         |          |            | 4700pF  | ±10% | GCJ188R71E472KA01# |
|         |          |            | 5600pF  | ±10% | GCJ188R71E562KA01# |
|         |          |            | 6800pF  | ±10% | GCJ188R71E682KA01# |
|         |          |            | 8200pF  | ±10% | GCJ188R71E822KA01# |
|         |          |            | 10000pF | ±10% | GCJ188R71E103KA01# |
|         |          |            | 12000pF | ±10% | GCJ188R71E123KA01# |
|         |          |            | 15000pF | ±10% | GCJ188R71E153KA01# |
|         |          |            | 18000pF | ±10% | GCJ188R71E183KA01# |
|         |          |            | 22000pF | ±10% | GCJ188R71E223KA01# |
|         |          |            | 27000pF | ±10% | GCJ188R71E273KA01# |
|         |          |            | 33000pF | ±10% | GCJ188R71E333KA01# |
|         |          |            | 39000pF | ±10% | GCJ188R71E393KA01# |
|         |          |            | 47000pF | ±10% | GCJ188R71E473KA01# |
|         |          |            | 56000pF | ±10% | GCJ188R71E563KA12# |
|         |          |            | 68000pF | ±10% | GCJ188R71E683KA12# |
|         |          |            | 82000pF | ±10% | GCJ188R71E823KA12# |
|         |          |            | 0.10μF  | ±10% | GCJ188R71E104KA12# |
|         |          |            | 0.12μF  | ±10% | GCJ188R71E124KA01# |
|         |          |            | 0.15μF  | ±10% | GCJ188R71E154KA01# |
|         |          |            | 0.18μF  | ±10% | GCJ188R71E184KA12# |
|         |          |            | 0.22μF  | ±10% | GCJ188R71E224KA12# |
|         |          |            | 1.0μF   | ±10% | GCJ188R71E105KA01# |
|         | 16Vdc    | X8L        | 33000pF | ±10% | GCJ188L81C333KA01# |
|         |          |            | 39000pF | ±10% | GCJ188L81C393KA01# |
|         |          |            | 47000pF | ±10% | GCJ188L81C473KA01# |
|         |          |            | 56000pF | ±10% | GCJ188L81C563KA01# |
|         |          |            | 68000pF | ±10% | GCJ188L81C683KA01# |
|         |          |            | 82000pF | ±10% | GCJ188L81C823KA01# |
|         |          |            | 0.10μF  | ±10% | GCJ188L81C104KA01# |
|         |          |            | 0.12μF  | ±10% | GCJ188L81C124KA01# |
|         |          |            | 0.15μF  | ±10% | GCJ188L81C154KA01# |
|         |          |            | 0.18μF  | ±10% | GCJ188L81C184KA01# |
|         |          |            | 0.22μF  | ±10% | GCJ188L81C224KA01# |
|         |          | X7R        | 10000pF | ±10% | GCJ188R71C103KA01# |
|         |          |            | 27000pF | ±10% | GCJ188R71C273KA01# |
|         |          |            | 33000pF | ±10% | GCJ188R71C333KA01# |
|         |          |            | 39000pF | ±10% | GCJ188R71C393KA01# |
|         |          |            | 47000pF | ±10% | GCJ188R71C473KA01# |
|         |          |            | 56000pF | ±10% | GCJ188R71C563KA01# |
|         |          |            | 68000pF | ±10% | GCJ188R71C683KA01# |
|         |          |            | 82000pF | ±10% | GCJ188R71C823KA01# |
|         |          |            | 0.10μF  | ±10% | GCJ188R71C104KA01# |
|         |          |            | 0.12μF  | ±10% | GCJ188R71C124KA01# |
|         |          |            | 0.15μF  | ±10% | GCJ188R71C154KA01# |
|         |          |            | 0.18μF  | ±10% | GCJ188R71C184KA01# |
|         |          |            | 0.22μF  | ±10% | GCJ188R71C224KA01# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 0.9mm   | 16Vdc    | X7R        | 0.27μF | ±10% | GCJ188R71C274KA01# |
|         |          |            | 0.33μF | ±10% | GCJ188R71C334KA01# |
|         |          |            | 0.39μF | ±10% | GCJ188R71C394KA12# |
|         |          |            | 0.47μF | ±10% | GCJ188R71C474KA12# |
|         | 10Vdc    | X7R        | 0.12μF | ±10% | GCJ188R71A124KA01# |
|         |          |            | 0.15μF | ±10% | GCJ188R71A154KA01# |
|         |          |            | 0.18μF | ±10% | GCJ188R71A184KA01# |
|         |          |            | 0.22μF | ±10% | GCJ188R71A224KA01# |
|         | 6.3Vdc   | X7R        | 2.2μF  | ±10% | GCJ188R70J225KE01# |

■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 0.7mm   | 100Vdc   | X7R        | 1000pF  | ±10% | GCJ216R72A102KA01# |
|         |          |            | 1200pF  | ±10% | GCJ216R72A122KA01# |
|         |          |            | 1500pF  | ±10% | GCJ216R72A152KA01# |
|         |          |            | 1800pF  | ±10% | GCJ216R72A182KA01# |
|         |          |            | 2200pF  | ±10% | GCJ216R72A222KA01# |
|         |          |            | 2700pF  | ±10% | GCJ216R72A272KA01# |
|         |          |            | 3300pF  | ±10% | GCJ216R72A332KA01# |
|         |          |            | 3900pF  | ±10% | GCJ216R72A392KA01# |
|         |          |            | 4700pF  | ±10% | GCJ216R72A472KA01# |
|         |          |            | 5600pF  | ±10% | GCJ216R72A562KA01# |
|         |          |            | 6800pF  | ±10% | GCJ216R72A682KA01# |
|         |          |            | 8200pF  | ±10% | GCJ216R72A822KA01# |
|         |          |            | 10000pF | ±10% | GCJ216R72A103KA01# |
|         |          |            | 12000pF | ±10% | GCJ216R72A123KA01# |
|         |          |            | 15000pF | ±10% | GCJ216R72A153KA01# |
|         |          |            | 18000pF | ±10% | GCJ216R72A183KA01# |
|         |          |            | 22000pF | ±10% | GCJ216R72A223KA01# |
|         | 50Vdc    | X7R        | 330pF   | ±10% | GCJ216R71H331KA01# |
|         |          |            | 390pF   | ±10% | GCJ216R71H391KA01# |
|         |          |            | 470pF   | ±10% | GCJ216R71H471KA01# |
|         |          |            | 560pF   | ±10% | GCJ216R71H561KA01# |
|         |          |            | 680pF   | ±10% | GCJ216R71H681KA01# |
|         |          |            | 820pF   | ±10% | GCJ216R71H821KA01# |
|         |          |            | 1000pF  | ±10% | GCJ216R71H102KA01# |
|         |          |            | 1200pF  | ±10% | GCJ216R71H122KA01# |
|         |          |            | 1500pF  | ±10% | GCJ216R71H152KA01# |
|         |          |            | 1800pF  | ±10% | GCJ216R71H182KA01# |
|         |          |            | 2200pF  | ±10% | GCJ216R71H222KA01# |
|         |          |            | 2700pF  | ±10% | GCJ216R71H272KA01# |
|         |          |            | 3300pF  | ±10% | GCJ216R71H332KA01# |
|         |          |            | 3900pF  | ±10% | GCJ216R71H392KA01# |
|         |          |            | 4700pF  | ±10% | GCJ216R71H472KA01# |
|         |          |            | 5600pF  | ±10% | GCJ216R71H562KA01# |
|         |          |            | 6800pF  | ±10% | GCJ216R71H682KA01# |
|         |          |            | 8200pF  | ±10% | GCJ216R71H822KA01# |
|         |          |            | 10000pF | ±10% | GCJ216R71H103KA01# |
|         |          |            | 12000pF | ±10% | GCJ216R71H123KA01# |
|         |          |            | 15000pF | ±10% | GCJ216R71H153KA01# |
|         |          |            | 18000pF | ±10% | GCJ216R71H183KA01# |
|         |          |            | 22000pF | ±10% | GCJ216R71H223KA01# |

产品型号中 # 表示包装规格代码

GCJ 系列高介电常数型

AECQ200

无故障

偏转裂纹

产品型号列表

(→ ■ 2.0×1.25mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号         | 静电容量               | 公差                 | 品名                 |                    |                    |                    |
|---------|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 0.7mm   | 25Vdc    | X7R                | 470pF              | ±10%               | GCJ216R71E471KA01# |                    |                    |                    |
|         |          |                    | 560pF              | ±10%               | GCJ216R71E561KA01# |                    |                    |                    |
|         |          |                    | 680pF              | ±10%               | GCJ216R71E681KA01# |                    |                    |                    |
|         |          |                    | 820pF              | ±10%               | GCJ216R71E821KA01# |                    |                    |                    |
|         |          |                    | 1000pF             | ±10%               | GCJ216R71E102KA01# |                    |                    |                    |
|         |          |                    | 1200pF             | ±10%               | GCJ216R71E122KA01# |                    |                    |                    |
|         |          |                    | 1500pF             | ±10%               | GCJ216R71E152KA01# |                    |                    |                    |
|         |          |                    | 1800pF             | ±10%               | GCJ216R71E182KA01# |                    |                    |                    |
|         |          |                    | 2200pF             | ±10%               | GCJ216R71E222KA01# |                    |                    |                    |
|         |          |                    | 2700pF             | ±10%               | GCJ216R71E272KA01# |                    |                    |                    |
|         |          |                    | 3300pF             | ±10%               | GCJ216R71E332KA01# |                    |                    |                    |
|         |          |                    | 3900pF             | ±10%               | GCJ216R71E392KA01# |                    |                    |                    |
|         |          |                    | 4700pF             | ±10%               | GCJ216R71E472KA01# |                    |                    |                    |
|         |          |                    | 5600pF             | ±10%               | GCJ216R71E562KA01# |                    |                    |                    |
|         |          |                    | 6800pF             | ±10%               | GCJ216R71E682KA01# |                    |                    |                    |
|         |          |                    | 8200pF             | ±10%               | GCJ216R71E822KA01# |                    |                    |                    |
|         |          |                    | 10000pF            | ±10%               | GCJ216R71E103KA01# |                    |                    |                    |
|         |          |                    | 12000pF            | ±10%               | GCJ216R71E123KA01# |                    |                    |                    |
|         |          |                    | 0.95mm             | 100Vdc             | X7R                | 220pF              | ±10%               | GCJ219R72A221KA01# |
|         |          |                    |                    |                    |                    | 270pF              | ±10%               | GCJ219R72A271KA01# |
| 330pF   | ±10%     | GCJ219R72A331KA01# |                    |                    |                    |                    |                    |                    |
| 390pF   | ±10%     | GCJ219R72A391KA01# |                    |                    |                    |                    |                    |                    |
| 470pF   | ±10%     | GCJ219R72A471KA01# |                    |                    |                    |                    |                    |                    |
| 560pF   | ±10%     | GCJ219R72A561KA01# |                    |                    |                    |                    |                    |                    |
| 680pF   | ±10%     | GCJ219R72A681KA01# |                    |                    |                    |                    |                    |                    |
| 820pF   | ±10%     | GCJ219R72A821KA01# |                    |                    |                    |                    |                    |                    |
| 27000pF | ±10%     | GCJ219R72A273KA01# |                    |                    |                    |                    |                    |                    |
| 33000pF | ±10%     | GCJ219R72A333KA01# |                    |                    |                    |                    |                    |                    |
| 39000pF | ±10%     | GCJ219R72A393KA01# |                    |                    |                    |                    |                    |                    |
| 50Vdc   | X7R      | 27000pF            |                    |                    |                    | ±10%               | GCJ219R71H273KA01# |                    |
|         |          | 33000pF            |                    |                    |                    | ±10%               | GCJ219R71H333KA01# |                    |
|         |          | 39000pF            |                    |                    |                    | ±10%               | GCJ219R71H393KA01# |                    |
|         |          | 0.33μF             |                    |                    |                    | ±10%               | GCJ219R71H334KA12# |                    |
| 25Vdc   | X7R      | 15000pF            |                    |                    |                    | ±10%               | GCJ219R71E153KA01# |                    |
|         |          | 18000pF            |                    | ±10%               | GCJ219R71E183KA01# |                    |                    |                    |
|         |          | 22000pF            |                    | ±10%               | GCJ219R71E223KA01# |                    |                    |                    |
|         |          | 0.33μF             |                    | ±10%               | GCJ219R71E334KA01# |                    |                    |                    |
| 16Vdc   | X7R      | 0.47μF             |                    | ±10%               | GCJ219R71E474KA12# |                    |                    |                    |
|         |          | 0.68μF             |                    | ±10%               | GCJ219R71C684KA01# |                    |                    |                    |
|         |          | 0.82μF             |                    | ±10%               | GCJ219R71C824KA01# |                    |                    |                    |
|         |          | 1.0μF              |                    | ±10%               | GCJ219R71C105KA01# |                    |                    |                    |
| 1.0mm   | 250Vdc   | X7R                |                    | 1000pF             | ±10%               | GCJ21AR72E102KXJ1# |                    |                    |
|         |          |                    |                    | 1500pF             | ±10%               | GCJ21AR72E152KXJ1# |                    |                    |
|         |          |                    |                    | 2200pF             | ±10%               | GCJ21AR72E222KXJ1# |                    |                    |
|         |          |                    |                    | 3300pF             | ±10%               | GCJ21AR72E332KXJ1# |                    |                    |
|         |          |                    |                    | 4700pF             | ±10%               | GCJ21AR72E472KXJ1# |                    |                    |
|         |          |                    | 6800pF             | ±10%               | GCJ21AR72E682KXJ1# |                    |                    |                    |
|         |          |                    | 1.45mm             | 250Vdc             | X7R                | 10000pF            | ±10%               | GCJ21BR72E103KXJ3# |
|         |          |                    |                    |                    |                    | 15000pF            | ±10%               | GCJ21BR72E153KXJ3# |
| 22000pF | ±10%     | GCJ21BR72E223KXJ3# |                    |                    |                    |                    |                    |                    |
| 100Vdc  | X7R      | 47000pF            |                    |                    |                    | ±10%               | GCJ21BR72A473KA01# |                    |
|         |          | 56000pF            |                    |                    |                    | ±10%               | GCJ21BR72A563KA01# |                    |
| 68000pF | ±10%     | GCJ21BR72A683KA01# |                    |                    |                    |                    |                    |                    |
|         | 82000pF  | ±10%               |                    | GCJ21BR72A823KA01# |                    |                    |                    |                    |
| 1.45mm  | 100Vdc   | X7R                |                    | 0.10μF             | ±10%               | GCJ21BR72A104KA01# |                    |                    |
|         |          |                    | 27000pF            | ±10%               | GCJ21BL81H273KA01# |                    |                    |                    |
|         |          |                    | 33000pF            | ±10%               | GCJ21BL81H333KA01# |                    |                    |                    |
|         |          |                    | 39000pF            | ±10%               | GCJ21BL81H393KA01# |                    |                    |                    |
|         |          |                    | 47000pF            | ±10%               | GCJ21BL81H473KA01# |                    |                    |                    |
|         |          |                    | 56000pF            | ±10%               | GCJ21BL81H563KA01# |                    |                    |                    |
|         |          |                    | 68000pF            | ±10%               | GCJ21BL81H683KA01# |                    |                    |                    |
|         |          |                    | 82000pF            | ±10%               | GCJ21BL81H823KA01# |                    |                    |                    |
|         |          |                    | 0.10μF             | ±10%               | GCJ21BL81H104KA01# |                    |                    |                    |
|         |          |                    | 47000pF            | ±10%               | GCJ21BR71H473KA01# |                    |                    |                    |
|         | 35Vdc    | X8L                | 56000pF            | ±10%               | GCJ21BR71H563KA01# |                    |                    |                    |
|         |          |                    | 68000pF            | ±10%               | GCJ21BR71H683KA01# |                    |                    |                    |
|         |          |                    | 82000pF            | ±10%               | GCJ21BR71H823KA01# |                    |                    |                    |
|         |          |                    | 0.10μF             | ±10%               | GCJ21BR71H104KA01# |                    |                    |                    |
|         |          |                    | 0.12μF             | ±10%               | GCJ21BR71H124KA01# |                    |                    |                    |
|         |          |                    | 0.15μF             | ±10%               | GCJ21BR71H154KA01# |                    |                    |                    |
|         |          |                    | 0.18μF             | ±10%               | GCJ21BR71H184KA01# |                    |                    |                    |
|         |          |                    | 0.22μF             | ±10%               | GCJ21BR71H224KA01# |                    |                    |                    |
|         |          |                    | 0.47μF             | ±10%               | GCJ21BR71H474KA12# |                    |                    |                    |
|         |          |                    | 1.0μF              | ±10%               | GCJ21BR71H105KA01# |                    |                    |                    |
| 25Vdc   | X8L      | 0.12μF             | ±10%               | GCJ21BL81E124KA01# |                    |                    |                    |                    |
|         |          | 0.15μF             | ±10%               | GCJ21BL81E154KA01# |                    |                    |                    |                    |
|         |          | 0.18μF             | ±10%               | GCJ21BL81E184KA01# |                    |                    |                    |                    |
|         |          | 0.22μF             | ±10%               | GCJ21BL81E224KA01# |                    |                    |                    |                    |
|         |          | 0.33μF             | ±10%               | GCJ21BL81E334KA01# |                    |                    |                    |                    |
|         |          | 0.47μF             | ±10%               | GCJ21BL81E474KA01# |                    |                    |                    |                    |
|         |          | 0.68μF             | ±10%               | GCJ21BL81E684KA01# |                    |                    |                    |                    |
|         |          | 0.82μF             | ±10%               | GCJ21BL81E824KA01# |                    |                    |                    |                    |
|         |          | 1.0μF              | ±10%               | GCJ21BL81E105KA01# |                    |                    |                    |                    |
|         |          | X7R                | 27000pF            | ±10%               | GCJ21BR71E273KA01# |                    |                    |                    |
| 33000pF | ±10%     |                    | GCJ21BR71E333KA01# |                    |                    |                    |                    |                    |
| 39000pF | ±10%     |                    | GCJ21BR71E393KA01# |                    |                    |                    |                    |                    |
| 47000pF | ±10%     |                    | GCJ21BR71E473KA01# |                    |                    |                    |                    |                    |
| 56000pF | ±10%     |                    | GCJ21BR71E563KA01# |                    |                    |                    |                    |                    |
| 68000pF | ±10%     |                    | GCJ21BR71E683KA01# |                    |                    |                    |                    |                    |
| 82000pF | ±10%     |                    | GCJ21BR71E823KA01# |                    |                    |                    |                    |                    |
| 0.10μF  | ±10%     |                    | GCJ21BR71E104KA01# |                    |                    |                    |                    |                    |
| 0.27μF  | ±10%     |                    | GCJ21BR71E274KA01# |                    |                    |                    |                    |                    |
| 0.39μF  | ±10%     |                    | GCJ21BR71E394KA01# |                    |                    |                    |                    |                    |
| 16Vdc   | X8L      | 0.56μF             | ±10%               | GCJ21BL81C564KA01# |                    |                    |                    |                    |

产品型号中 # 表示包装规格代码

GCM系列

GCD系列

GCE系列

GCG系列

GCI系列

GCS系列

KCM系列

KCS系列

△警告/注意事项

G

C

J

系列高介电常数型

AEC-Q200

无故障

编转裂纹

产品型号列表

(→ ■ 2.0×1.25mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 1.45mm  | 16Vdc    | X8L        | 0.68μF | ±10% | GCJ21BL81C684KA01# |
|         |          |            | 0.82μF | ±10% | GCJ21BL81C824KA01# |
|         |          |            | 1.0μF  | ±10% | GCJ21BL81C105KA01# |
|         |          | X7R        | 0.27μF | ±10% | GCJ21BR71C274KA01# |
|         |          |            | 0.33μF | ±10% | GCJ21BR71C334KA01# |
|         |          |            | 0.39μF | ±10% | GCJ21BR71C394KA01# |
|         |          |            | 0.47μF | ±10% | GCJ21BR71C474KA01# |
|         |          |            | 0.56μF | ±10% | GCJ21BR71C564KA01# |
|         |          |            | 1.0μF  | ±10% | GCJ21BR71C105KA01# |
|         |          |            | 2.2μF  | ±10% | GCJ21BR71C225KA13# |
|         |          |            | 4.7μF  | ±10% | GCJ21BR71C475KA01# |
|         |          | 10Vdc      | 2.2μF  | ±10% | GCJ21BR71A225KA01# |
|         |          |            | 10μF   | ±10% | GCJ21BR71A106KE01# |
|         |          |            |        |      |                    |
|         |          |            |        |      |                    |
|         |          |            |        |      |                    |

■ 3.2×1.6mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差     | 品名                 |                    |
|---------|----------|------------|---------|--------|--------------------|--------------------|
| 0.95mm  | 100Vdc   | X7R        | 0.10μF  | ±10%   | GCJ319R72A104KA01# |                    |
|         | 50Vdc    | X7R        | 0.10μF  | ±10%   | GCJ319R71H104KA01# |                    |
|         |          |            | 0.12μF  | ±10%   | GCJ319R71H124KA01# |                    |
| 1.25mm  | 1000Vdc  | X7R        | 1000pF  | ±10%   | GCJ31BR73A102KXJ1# |                    |
|         |          |            | 1500pF  | ±10%   | GCJ31BR73A152KXJ1# |                    |
|         |          |            | 2200pF  | ±10%   | GCJ31BR73A222KXJ1# |                    |
|         |          |            | 3300pF  | ±10%   | GCJ31BR73A332KXJ1# |                    |
|         |          |            | 4700pF  | ±10%   | GCJ31BR73A472KXJ1# |                    |
|         | 630Vdc   | X7R        | 1000pF  | ±10%   | GCJ31BR72J102KXJ1# |                    |
|         |          |            | 1500pF  | ±10%   | GCJ31BR72J152KXJ1# |                    |
|         |          |            | 2200pF  | ±10%   | GCJ31BR72J222KXJ1# |                    |
|         |          |            | 3300pF  | ±10%   | GCJ31BR72J332KXJ1# |                    |
|         |          |            | 4700pF  | ±10%   | GCJ31BR72J472KXJ1# |                    |
|         |          |            | 6800pF  | ±10%   | GCJ31BR72J682KXJ1# |                    |
|         |          |            | 10000pF | ±10%   | GCJ31BR72J103KXJ1# |                    |
|         | 250Vdc   | X7R        | 15000pF | ±10%   | GCJ31BR72E153KXJ1# |                    |
|         |          |            | 22000pF | ±10%   | GCJ31BR72E223KXJ1# |                    |
|         |          |            | 68000pF | ±10%   | GCJ31BR72E683KXJ1# |                    |
|         | 1.35mm   | 100Vdc     | X7R     | 0.15μF | ±10%               | GCJ31MR72A154KA01# |
|         |          |            |         | 0.18μF | ±10%               | GCJ31MR72A184KA01# |
|         |          |            |         | 0.22μF | ±10%               | GCJ31MR72A224KA01# |
|         |          | 50Vdc      | X7R     | 0.15μF | ±10%               | GCJ31MR71H154KA01# |
|         |          |            |         | 0.18μF | ±10%               | GCJ31MR71H184KA01# |
|         |          |            |         | 0.22μF | ±10%               | GCJ31MR71H224KA01# |
|         |          |            |         | 0.27μF | ±10%               | GCJ31MR71H274KA01# |
| 0.33μF  |          |            |         | ±10%   | GCJ31MR71H334KA01# |                    |
| 0.39μF  |          |            |         | ±10%   | GCJ31MR71H394KA01# |                    |
| 0.47μF  |          |            |         | ±10%   | GCJ31MR71H474KA01# |                    |
| 0.56μF  |          |            |         | ±10%   | GCJ31MR71H564KA12# |                    |
| 0.68μF  |          |            |         | ±10%   | GCJ31MR71H684KA12# |                    |
| 0.82μF  |          |            |         | ±10%   | GCJ31MR71H824KA12# |                    |
| 1.0μF   |          |            |         | ±10%   | GCJ31MR71H105KA12# |                    |
| 25Vdc   |          | X7R        | 0.10μF  | ±10%   | GCJ31MR71E104KA01# |                    |
|         |          |            | 0.12μF  | ±10%   | GCJ31MR71E124KA01# |                    |
|         |          |            | 0.15μF  | ±10%   | GCJ31MR71E154KA01# |                    |
|         |          |            | 0.18μF  | ±10%   | GCJ31MR71E184KA01# |                    |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量               | 公差                 | 品名                 |                    |                    |
|---------|----------|------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1.35mm  | 25Vdc    | X7R        | 0.22μF             | ±10%               | GCJ31MR71E224KA01# |                    |                    |
|         |          |            | 1.0μF              | ±10%               | GCJ31MR71E105KA01# |                    |                    |
|         |          |            | 1.5μF              | ±10%               | GCJ31MR71E155KA12# |                    |                    |
|         |          |            | 2.2μF              | ±10%               | GCJ31MR71E225KA12# |                    |                    |
|         |          |            | 3.3μF              | ±10%               | GCJ31MR71E335KA12# |                    |                    |
|         | 16Vdc    | X7R        | 1.0μF              | ±10%               | GCJ31MR71C105KA01# |                    |                    |
|         |          |            | 1.5μF              | ±10%               | GCJ31MR71C155KA01# |                    |                    |
|         | 1.8mm    | 1000Vdc    | X7R                | 6800pF             | ±10%               | GCJ31CR73A682KXJ3# |                    |
|         |          |            |                    | 10000pF            | ±10%               | GCJ31CR73A103KXJ3# |                    |
|         |          | 630Vdc     | X7R                | 15000pF            | ±10%               | GCJ31CR72J153KXJ3# |                    |
| 22000pF |          |            |                    | ±10%               | GCJ31CR72J223KXJ3# |                    |                    |
| 250Vdc  |          | X7R        | 33000pF            | ±10%               | GCJ31CR72E333KXJ3# |                    |                    |
|         |          |            | 47000pF            | ±10%               | GCJ31CR72E473KXJ3# |                    |                    |
|         |          |            | 0.10μF             | ±10%               | GCJ31CR72E104KXJ3# |                    |                    |
| 1.9mm   |          | 100Vdc     | X7R                | 1.0μF              | ±10%               | GCJ31CR72A105KA01# |                    |
|         | 1.5μF    |            |                    | ±10%               | GCJ31CR71H155KA12# |                    |                    |
|         |          | X7S        | 2.2μF              | ±10%               | GCJ31CR71H225KA12# |                    |                    |
|         |          |            | 4.7μF              | ±10%               | GCJ31CC71H475KA01# |                    |                    |
|         | 35Vdc    | X8L        | 0.56μF             | ±10%               | GCJ31CL8YA564KA01# |                    |                    |
|         |          |            | 0.68μF             | ±10%               | GCJ31CL8YA684KA01# |                    |                    |
|         |          |            | 0.82μF             | ±10%               | GCJ31CL8YA824KA01# |                    |                    |
|         |          |            | 1.0μF              | ±10%               | GCJ31CL8YA105KA01# |                    |                    |
|         | 25Vdc    | X8L        | 0.56μF             | ±10%               | GCJ31CL81E564KA01# |                    |                    |
|         |          |            | 0.68μF             | ±10%               | GCJ31CL81E684KA01# |                    |                    |
|         |          |            | 0.82μF             | ±10%               | GCJ31CL81E824KA01# |                    |                    |
|         |          |            | 1.0μF              | ±10%               | GCJ31CL81E105KA01# |                    |                    |
|         |          | X7R        | 4.7μF              | ±10%               | GCJ31CR71E475KA12# |                    |                    |
|         |          |            | 16Vdc              | X8L                | 3.3μF              | ±10%               | GCJ31CL81C335KA01# |
|         |          |            |                    |                    | 4.7μF              | ±10%               | GCJ31CL81C475KA01# |
|         |          |            |                    | X7R                | 3.3μF              | ±10%               | GCJ31CR71C335KA01# |
|         | 4.7μF    | ±10%       |                    |                    | GCJ31CR71C475KA01# |                    |                    |
|         | 10μF     | ±10%       | GCJ31CR71C106KA15# |                    |                    |                    |                    |
|         | 10Vdc    | X7R        | 6.8μF              | ±10%               | GCJ31CR71A685KA13# |                    |                    |
|         |          |            | 10μF               | ±10%               | GCJ31CR71A106KA13# |                    |                    |
| 6.3Vdc  | X7R      | 22μF       | ±10%               | GCJ31CR70J226KE01# |                    |                    |                    |
| 2.0mm   | 25Vdc    | X7S        | 10μF               | ±10%               | GCJ31CC71E106KA15# |                    |                    |

■ 3.2×2.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差     | 品名                 |                    |
|---------|----------|------------|---------|--------|--------------------|--------------------|
| 1.5mm   | 630Vdc   | X7R        | 6800pF  | ±10%   | GCJ32QR72J682KXJ1# |                    |
|         |          |            | 10000pF | ±10%   | GCJ32QR72J103KXJ1# |                    |
|         | 250Vdc   | X7R        | 68000pF | ±10%   | GCJ32QR72E683KXJ1# |                    |
|         |          |            | 0.15μF  | ±10%   | GCJ32QR72E154KXJ1# |                    |
| 2.0mm   | 1000Vdc  | X7R        | 15000pF | ±10%   | GCJ32DR73A153KXJ1# |                    |
|         |          |            | 22000pF | ±10%   | GCJ32DR73A223KXJ1# |                    |
|         | 630Vdc   | X7R        | 15000pF | ±10%   | GCJ32DR72J153KXJ1# |                    |
|         |          |            | 22000pF | ±10%   | GCJ32DR72J223KXJ1# |                    |
|         |          |            | 33000pF | ±10%   | GCJ32DR72J333KXJ1# |                    |
|         |          |            | 47000pF | ±10%   | GCJ32DR72J473KXJ1# |                    |
|         |          | 250Vdc     | X7R     | 0.10μF | ±10%               | GCJ32DR72E104KXJ1# |
|         |          |            |         | 0.22μF | ±10%               | GCJ32DR72E224KXJ1# |
|         | 2.3mm    | 100Vdc     | X7R     | 2.2μF  | ±10%               | GCJ32DR72A225KA01# |
|         |          |            |         |        |                    |                    |

产品型号中#表示包装规格代码

GCJ 系列高介电常数型

AEC-Q200

无故障

偏转裂纹

产品型号列表

(→ ■ 3.2×2.5mm)

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差   | 品名                 |
|---------|----------|------------|-------|------|--------------------|
| 2.8mm   | 50Vdc    | X7R        | 4.7μF | ±10% | GCJ32ER71H475KA12# |
|         |          | X7S        | 10μF  | ±10% | GCJ32EC71H106KA01# |
|         | 25Vdc    | X8L        | 4.7μF | ±10% | GCJ32EL81E475KA01# |
|         | 16Vdc    | X7R        | 22μF  | ±10% | GCJ32ER71C226KE01# |
|         | 6.3Vdc   | X7R        | 47μF  | ±10% | GCJ32ER70J476KE01# |

■ 4.5×3.2mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 1.5mm   | 630Vdc   | X7R        | 68000pF | ±10% | GCJ43QR72J683KXJ1# |
|         | 250Vdc   | X7R        | 0.15μF  | ±10% | GCJ43QR72E154KXJ1# |
| 2.0mm   | 1000Vdc  | X7R        | 33000pF | ±10% | GCJ43DR73A333KXJ1# |
|         |          |            | 47000pF | ±10% | GCJ43DR73A473KXJ1# |
|         | 630Vdc   | X7R        | 33000pF | ±10% | GCJ43DR72J333KXJ1# |
|         |          |            | 47000pF | ±10% | GCJ43DR72J473KXJ1# |
|         |          |            | 0.10μF  | ±10% | GCJ43DR72J104KXJ1# |
|         |          |            |         |      |                    |
|         | 250Vdc   | X7R        | 0.22μF  | ±10% | GCJ43DR72E224KXJ1# |
|         |          |            | 0.33μF  | ±10% | GCJ43DR72E334KXJ1# |
|         |          |            | 0.47μF  | ±10% | GCJ43DR72E474KXJ1# |

■ 5.7×5.0mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 2.0mm   | 1000Vdc  | X7R        | 68000pF | ±10% | GCJ55DR73A683KXJ1# |
|         |          |            | 0.10μF  | ±10% | GCJ55DR73A104KXJ1# |
|         | 630Vdc   | X7R        | 0.10μF  | ±10% | GCJ55DR72J104KXJ1# |
|         |          |            | 0.15μF  | ±10% | GCJ55DR72J154KXJ1# |
|         |          |            | 0.22μF  | ±10% | GCJ55DR72J224KXJ1# |
|         | 250Vdc   | X7R        | 0.33μF  | ±10% | GCJ55DR72E334KXJ1# |
|         |          |            | 0.47μF  | ±10% | GCJ55DR72E474KXJ1# |
|         |          |            | 0.68μF  | ±10% | GCJ55DR72E684KXJ1# |
|         |          |            | 1.0μF   | ±10% | GCJ55DR72E105KXJ1# |

## 高效电容&允许高纹波电流

# GC3 系列



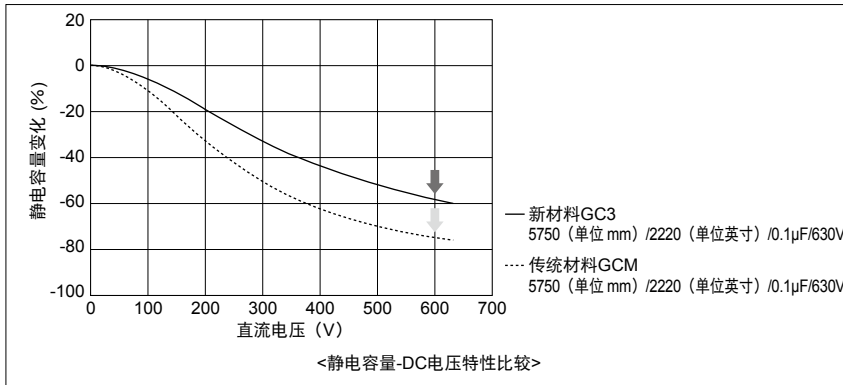
AEC-  
Q200

啸叫  
对策

这款车载的耐高纹波产品具有极佳的DC电压特性。

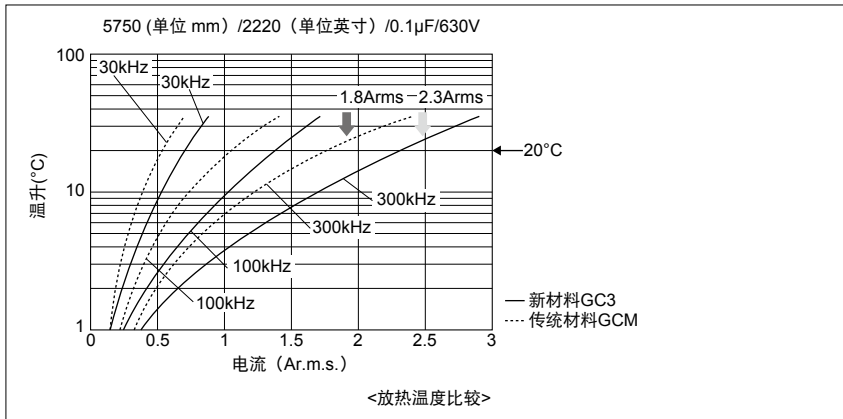
### 特性

- ① 在施加DC电压时，可获得比传统产品（X7R特性）更高的静电容量。  
施加DC600V时，可保证静电容量翻倍。



- ② 相较于传统产品（X7R特性），改进了纹波电阻性能。

若是静电容量为0.1μF的产品，在频率为300kHz的情况下，放热温度达20℃时，传统材料产品的电阻值为1.8Arms；而新材料产品的电阻值则为2.3 Arms。

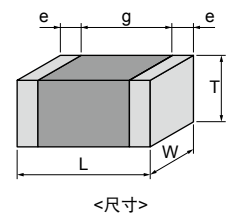


- ③ 该产品具有降噪功能。

由于使用了可降低噪声的介电材料，该产品较之于车载的GCM系列，具有更高效的降噪效果。

### 规格

|      |                                  |
|------|----------------------------------|
| 尺寸   | 2.0×1.25mm 到 5.7×5.0mm           |
| 额定电压 | 250Vdc 到 630Vdc                  |
| 静电容量 | 10000pF 到 1.0μF                  |
| 主要应用 | 用于电源的PFC（功率因数校正）电路、EMI抑制及汽车的平滑电路 |



GC3 系列高介电常数型

AECQ200

喇叭对策

产品型号列表

■ 2.0×1.25mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 1.0mm   | 250Vdc   | X7T        | 10000pF | ±10% | GC321AD72E103KX01# |
|         |          |            | 15000pF | ±10% | GC321AD72E153KX01# |
| 1.45mm  | 250Vdc   | X7T        | 22000pF | ±10% | GC321BD72E223KX03# |

■ 3.2×1.6mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 1.0mm   | 450Vdc   | X7T        | 10000pF | ±10% | GC331AD72W103KX01# |
|         |          |            | 15000pF | ±10% | GC331AD72W153KX01# |
|         | 250Vdc   | X7T        | 33000pF | ±10% | GC331AD72E333KX01# |
| 1.25mm  | 630Vdc   | X7T        | 10000pF | ±10% | GC331BD72J103KX01# |
|         | 450Vdc   | X7T        | 22000pF | ±10% | GC331BD72W223KX01# |
|         |          |            | 33000pF | ±10% | GC331BD72W333KX01# |
|         | 250Vdc   | X7T        | 47000pF | ±10% | GC331BD72E473KX01# |
| 1.8mm   | 630Vdc   | X7T        | 15000pF | ±10% | GC331CD72J153KX03# |
|         | 450Vdc   | X7T        | 47000pF | ±10% | GC331CD72W473KX03# |
|         | 250Vdc   | X7T        | 68000pF | ±10% | GC331CD72E683KX03# |

■ 3.2×2.5mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 1.5mm   | 630Vdc   | X7T        | 22000pF | ±10% | GC332QD72J223KX01# |
|         | 250Vdc   | X7T        | 0.10μF  | ±10% | GC332QD72E104KX01# |
| 2.0mm   | 630Vdc   | X7T        | 33000pF | ±10% | GC332DD72J333KX01# |
|         |          |            | 47000pF | ±10% | GC332DD72J473KX01# |
|         | 450Vdc   | X7T        | 68000pF | ±10% | GC332DD72W683KX01# |
|         |          |            | 0.10μF  | ±10% | GC332DD72W104KX01# |
|         | 250Vdc   | X7T        | 0.15μF  | ±10% | GC332DD72E154KX01# |

■ 4.5×3.2mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量    | 公差   | 品名                 |
|---------|----------|------------|---------|------|--------------------|
| 1.5mm   | 250Vdc   | X7T        | 0.22μF  | ±10% | GC343QD72E224KX01# |
| 2.0mm   | 630Vdc   | X7T        | 68000pF | ±10% | GC343DD72J683KX01# |
|         | 450Vdc   | X7T        | 0.15μF  | ±10% | GC343DD72W154KX01# |
|         | 250Vdc   | X7T        | 0.33μF  | ±10% | GC343DD72E334KX01# |

■ 5.7×5.0mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 2.0mm   | 630Vdc   | X7T        | 0.10μF | ±10% | GC355DD72J104KX01# |
|         |          |            | 0.15μF | ±10% | GC355DD72J154KX01# |
|         | 450Vdc   | X7T        | 0.22μF | ±10% | GC355DD72W224KX01# |
|         |          |            | 0.33μF | ±10% | GC355DD72W334KX01# |
|         |          |            | 0.47μF | ±10% | GC355DD72W474KX01# |
|         | 250Vdc   | X7T        | 0.47μF | ±10% | GC355DD72E474KX01# |
|         |          |            | 0.68μF | ±10% | GC355DD72E684KX01# |
| 2.7mm   | 630Vdc   | X7T        | 0.22μF | ±10% | GC355XD72J224KX05# |

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 2.7mm   | 630Vdc   | X7T        | 0.27μF | ±10% | GC355XD72J274KX05# |
|         | 450Vdc   | X7T        | 0.56μF | ±10% | GC355XD72W564KX05# |
|         | 250Vdc   | X7T        | 1.0μF  | ±10% | GC355XD72E105KX05# |

GCM 系列

GCD 系列

GCE 系列

GGC 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

△警告/注意事项

## 金属端子型

# KCM 系列



AEC-Q200

啸叫对策

偏转裂纹

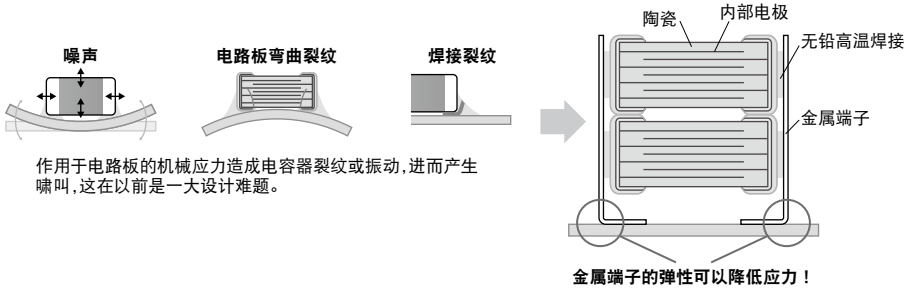
焊接裂纹

通过将金属端子粘合在芯片的外部电极上，彻底解决了如何设计一种可以贴装在大型MLCC上的电容器的难题！

## 特性

### ① 将金属端子粘合在芯片的外部电极上。

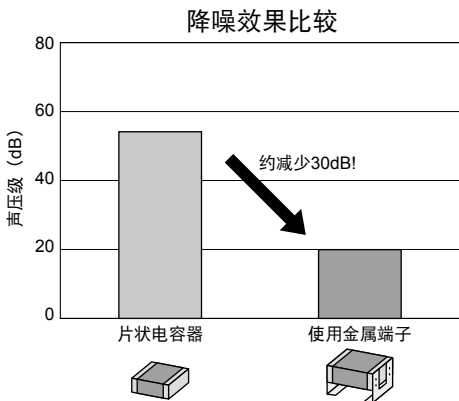
由于金属端子具有弹性特性，这大大减低了芯片承受的应力。



### ② 这大大减少了啸叫、电路板偏转裂纹和焊接裂纹。

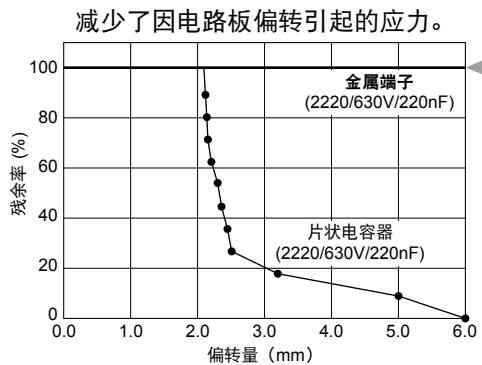
即便电路板弯曲6mm，也不会发生断裂。

即使经受2000次热应力循环，也不会出现焊接裂纹。



评估项目：2220 尺寸/DC630V/220nF  
 测试条件：50V, AC10Vp-p/3kHz  
 电路板样品：玻璃-环氧电路板 (T: 1.6mm)  
 样品数量：3  
 麦克风和电路板之间的距离：3mm

注：使用村田评估板获得的结果



即便偏转达6mm也不会断裂！

减少了因热应力造成的焊接裂纹。

| 片状大小     | 单个芯片 (2220尺寸) |  | 金属端子 (2220尺寸) |  |
|----------|---------------|--|---------------|--|
| 1000 个周期 |               |  |               |  |
| 2000 个周期 |               |  |               |  |

测试条件：-55 至 +125°C，5分钟 (液相)  
 使用的电路板：玻璃-环氧电路板 (FR-4)

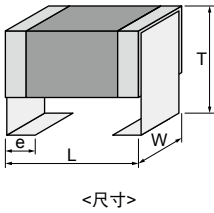
相较于单个芯片，使用金属端子获得了极佳的抗焊接裂纹效果。

③ 贴片堆叠

将两个电容器相互堆叠，可获得较大的静电电容。

规格

|      |                                        |
|------|----------------------------------------|
| 尺寸   | 6.1×5.3mm                              |
| 额定电压 | 25Vdc 到 100Vdc                         |
| 静电容量 | 4.7μF 到 68μF                           |
| 主要应用 | 用于发动机ECU驱动控制装置等。<br>用于其他驱动系统控制装装置和安全装置 |



KCM 系列高介电常数型

AEC-Q200

啸叫对策

偏转裂纹

焊接裂纹

产品型号列表

■ 6.1×5.3mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量  | 公差   | 品名                 |
|---------|----------|------------|-------|------|--------------------|
| 3.0mm   | 100Vdc   | X7R        | 4.7μF | ±10% | KCM55LR72A475KH01# |
|         | 63Vdc    | X7R        | 4.7μF | ±10% | KCM55LR71J475KH01# |
|         | 50Vdc    | X7R        | 4.7μF | ±10% | KCM55LR71H475KH01# |
|         |          |            | 10μF  | ±10% | KCM55LR71H106KH01# |
|         | 35Vdc    | X7R        | 10μF  | ±10% | KCM55LR7YA106KH01# |
|         |          |            | 15μF  | ±10% | KCM55LR7YA156KH01# |
|         | 25Vdc    | X7R        | 15μF  | ±10% | KCM55LR71E156KH01# |
| 3.9mm   | 100Vdc   | X7R        | 6.8μF | ±10% | KCM55QR72A685KH01# |
|         | 63Vdc    | X7R        | 10μF  | ±10% | KCM55QR71J106KH01# |
|         | 50Vdc    | X7R        | 17μF  | ±10% | KCM55QR71H176KH01# |
|         | 35Vdc    | X7R        | 17μF  | ±10% | KCM55QR7YA176KH01# |
|         |          |            | 22μF  | ±10% | KCM55QR7YA226KH01# |
|         | 25Vdc    | X7R        | 22μF  | ±10% | KCM55QR71E226KH01# |
|         |          |            | 33μF  | ±10% | KCM55QR71E336KH01# |
| 5.0mm   | 100Vdc   | X7R        | 10μF  | ±20% | KCM55TR72A106MH01# |
|         | 50Vdc    | X7R        | 22μF  | ±20% | KCM55TR71H226MH01# |
|         | 35Vdc    | X7R        | 22μF  | ±20% | KCM55TR7YA226MH01# |
|         |          |            | 33μF  | ±20% | KCM55TR7YA336MH01# |
|         | 25Vdc    | X7R        | 33μF  | ±20% | KCM55TR71E336MH01# |
| 6.7mm   | 100Vdc   | X7R        | 15μF  | ±20% | KCM55WR72A156MH01# |
|         | 63Vdc    | X7R        | 22μF  | ±20% | KCM55WR71J226MH01# |
|         | 50Vdc    | X7R        | 33μF  | ±20% | KCM55WR71H336MH01# |
|         | 35Vdc    | X7R        | 47μF  | ±20% | KCM55WR7YA476MH01# |
|         | 25Vdc    | X7R        | 47μF  | ±20% | KCM55WR71E476MH01# |
|         |          |            | 68μF  | ±20% | KCM55WR71E686MH01# |

## 金属端子型/高效电容&允许高纹波电流

# KC3 系列



AEC-Q200

啸叫对策

偏转裂纹

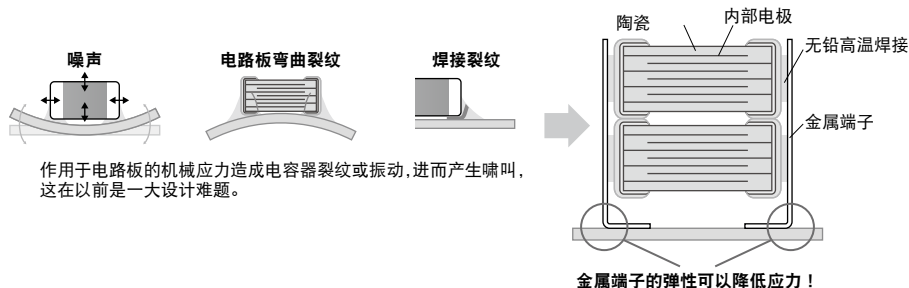
焊接裂纹

通过将金属端子粘合在芯片的外部电极上，彻底解决了如何设计一种可以贴装在大型MLCC上的电容器的难题！

### 特性

#### ① 将金属端子粘合在芯片的外部电极上。

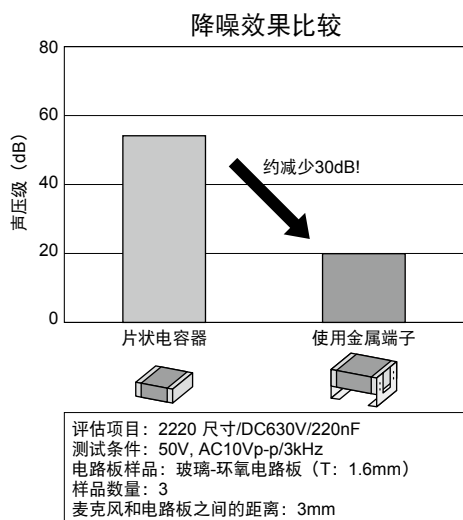
由于金属端子具有弹性特性，这大大减低了芯片承受的应力。



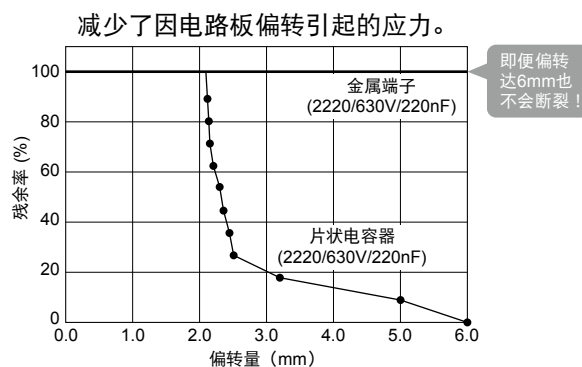
#### ② 这大大减少了啸叫、电路板偏转裂纹和焊接裂纹。

即便电路板弯曲6mm，也不会发生断裂。

即使经受2000次热应力循环，也不会出现焊接裂纹。



注: 使用村田评估板获得的结果



减少了因热应力造成的焊接裂纹。

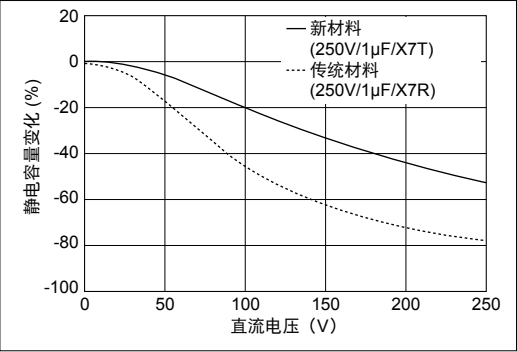
| 片状大小     | 单个芯片 (2220尺寸) |  | 金属端子 (2220尺寸) |  |
|----------|---------------|--|---------------|--|
| 1000 个周期 |               |  |               |  |
| 2000 个周期 |               |  |               |  |

测试条件: -55 至 +125°C, 5分钟 (液相)  
使用的电路板: 玻璃-环氧电路板(FR-4)

相较于单个芯片，使用金属端子获得了极佳的抗焊接裂纹效果。

③ 使用低介电常数材料。

与传统电容器（X7R特性）相比较，本系列具有更高的实效容量和更佳的耐高纹波性。

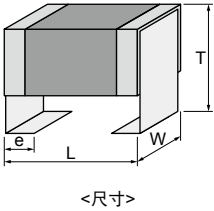


④ 贴片堆叠

将两个电容器相互堆叠，可获得较大的静电电容。

规格

|      |                                        |
|------|----------------------------------------|
| 尺寸   | 6.1×5.3mm                              |
| 额定电压 | 250Vdc 到 630Vdc                        |
| 静电容量 | 0.1μF 到 2.2μF                          |
| 主要应用 | 用于发动机ECU驱动控制装置等。<br>用于其他驱动系统控制装装置和安全装置 |



KC3 系列高介电常数型

AEC-Q200

啸叫对策

偏转裂纹

焊接裂纹

产品型号列表

■ 6.1×5.3mm

| T<br>最大 | 额定<br>电压 | 温度特<br>性代号 | 静电容量   | 公差   | 品名                 |
|---------|----------|------------|--------|------|--------------------|
| 3.0mm   | 630Vdc   | X7T        | 0.10μF | ±10% | KC355LD72J104KH01# |
|         |          |            | 0.15μF | ±10% | KC355LD72J154KH01# |
|         | 450Vdc   | X7T        | 0.22μF | ±10% | KC355LD72W224KH01# |
|         |          |            | 0.33μF | ±10% | KC355LD72W334KH01# |
|         |          |            | 0.47μF | ±10% | KC355LD72W474KH01# |
|         | 250Vdc   | X7T        | 0.47μF | ±10% | KC355LD72E474KH01# |
|         |          |            | 0.68μF | ±10% | KC355LD72E684KH01# |
| 3.9mm   | 630Vdc   | X7T        | 0.22μF | ±10% | KC355QD72J224KH01# |
|         |          |            | 0.27μF | ±10% | KC355QD72J274KH01# |
|         | 450Vdc   | X7T        | 0.56μF | ±10% | KC355QD72W564KH01# |
| 5.0mm   | 450Vdc   | X7T        | 1.0μF  | ±10% | KC355QD72E105KH01# |
|         |          |            | 0.68μF | ±20% | KC355TD72W684MH01# |
|         | 250Vdc   | X7T        | 1.0μF  | ±20% | KC355TD72W105MH01# |
|         |          |            | 1.5μF  | ±20% | KC355TD72E155MH01# |
| 6.7mm   | 630Vdc   | X7T        | 0.47μF | ±20% | KC355WD72J474MH01# |
|         |          |            | 0.56μF | ±20% | KC355WD72J564MH01# |
|         | 450Vdc   | X7T        | 1.2μF  | ±20% | KC355WD72W125MH01# |
|         | 250Vdc   | X7T        | 2.2μF  | ±20% | KC355WD72E225MH01# |

- GCM 系列
- GCD 系列
- GCE 系列
- GCG 系列
- GCJ 系列
- GC3 系列
- KCM 系列
- KC3 系列
- △警告/注意事项

汽车用

⚠警告/注意事项

⚠警告

注意事项

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警告

## ■ 保管与使用条件

### 1. 片状多层陶瓷电容器的性能可能会受到存放条件的影响。

#### 1-1. 将电容器存放在以下环境条件下:

+5°C至+40°C的室温和20%至70%的相对湿度下70%。

- (1) 存放期间的日照、灰尘、温度急剧变化、腐蚀性气体或高温和高湿等可能会影响其可焊性及封装性能。因此，请维持存放温度和湿度。由于长时间存放可导致电极氧化，因此产品请在6个月内使用。
- (2) 超过6个月后，使用之前请确认其可焊性。存放电容器时不要打开原包装袋。即使存放时间很短，也不要超过规定的环境条件。

1-2. 腐蚀性气体可能会对外部电极或电容器引线产生影响，导致可焊性变差。切勿在腐蚀性气体（例如硫化氢、二氧化硫、氯气和氨气等）环境中存放电容器。

1-3. 由于湿度急剧变化引起的水气凝结，或者经阳光直射引起外部电极、树脂、环氧涂层发生的光化学变化，都会导致可焊性和电气性能变差。切勿在阳光直射或高温条件下存放电容器。

<适用于GCG系列>

1-4. 打开包装后立即重新密封，或存放在含有干燥剂的干燥器中。

## ■ 额定值

### 1. 温度依赖特性

#### 1. 电容器的电气特性随着温度的变化而变化。

##### 1-1. 对于具有较大温度依赖性的电容器，其静电容量可能会随温度变化而变化。

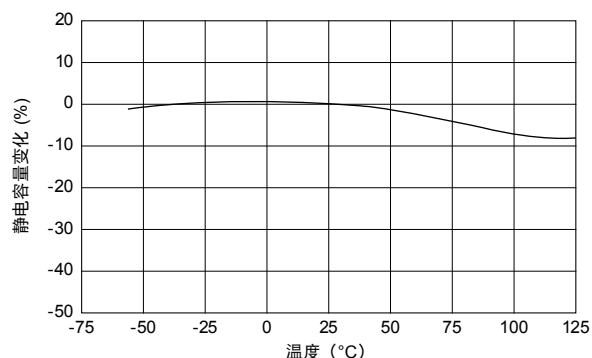
为了确保获得合适的电容值，建议采取以下措施。

- (1) 选择在工作温度范围内合适的静电容量。
- (2) 该静电容量可能会在额定温度范围内变化。

当您在静电容量许容差小的电路中使用高介电常数型电容器时，例如时间常数电路，请仔细考虑温度特性，并仔细确认实际应用条件及实际系统下的不同特性。

[典型温度特性图 X7R(R7)]

示例: 0.1μF, 额定电压 50VDC



## 2. 静电容量测量

### 1. 在产品规格规定的电压和频率下测量静电容量。

#### 1-1. 测量大容量电容时有时会导致测量设备输出电压降低。请确认实际施加于电容上的电压是否符合指定条件。

#### 1-2. 高介电常数型电容器的静电容量会随施加的交流电压而变化。选择在交流电路中使用的电容器时，请考虑交流电压特性。

接下页。

GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCG 系列

GCG 系列

GCG 系列

KC3 系列

警告

## 警告

☐ 接上页。

### 3. 施加电压

#### 1. 向电容器施加的电压切勿超过其规定的额定电压。

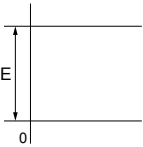
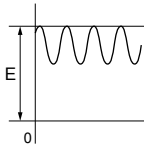
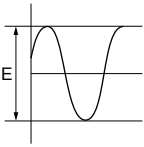
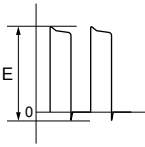
##### 1-1. 电容器外部电极之间的施加电压应小于或等于额定电压。

(1) 交流电压与直流电压叠加时，零到峰值不应超过额定直流电压。

施加AC电压或脉冲电压时，峰峰值电压不应超过额定DC电压。

(2) 异常电压（浪涌电压、静电和脉冲电压等）不应超过额定直流电压。

#### 施加到直流电容上的典型电压

| 直流电压                                                                              | 直流电压+交流                                                                           | 交流电压                                                                               | 脉冲电压                                                                                |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |

(E: 可能施加的最大电压。)

##### 1-2. 过电压影响

对电容器施加过电压可能会导致电容内部介电层击穿而引起的电气短路。

击穿前的可持续时间取决于施加电压和周围温度

#### 2. 考虑到每个设备的耐电压和冲击耐受电压，在电源输入电路（AC滤波器）中要使用经安全标准认证的电容器。

### 4. 施加的电压类型和自发热温度

#### 1. 确认工作条件，确保在连续施加AC电压和脉冲电压时不会有太电流流经电容器。

在AC电压电路或脉冲电压电路中使用DC额定电压产品时，AC电流或脉冲电流会流入到电容器；因此，请检查自发热条件。

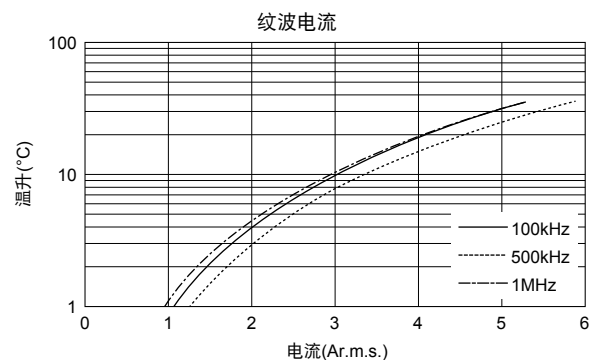
请确认电容器的表面温度，包括因自发热引起的温升，确保温度处于工作温度的上限之内。当电容器在高频电压或脉冲电压下使用时，介电损耗可能产生热。

<适用于小于100VDC的额定电压>

##### 1-1. 负荷应达到以下水平：周围温度为 25°C 时进行测量时，产品自发热保持在 20°C 以下，实际电路中的电容器表面温度保持在最高工作温度范围内。

[与纹波电流相比，片状多层陶瓷电容器温升（热生成）示例]

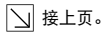
示例：R(R1) 特性10μF，  
额定电压：DC10V



接下页。☐



警告



接上页。

<适用于温度特性 X7R(R7), X7T(D7) 超过250VDC的额定电压>

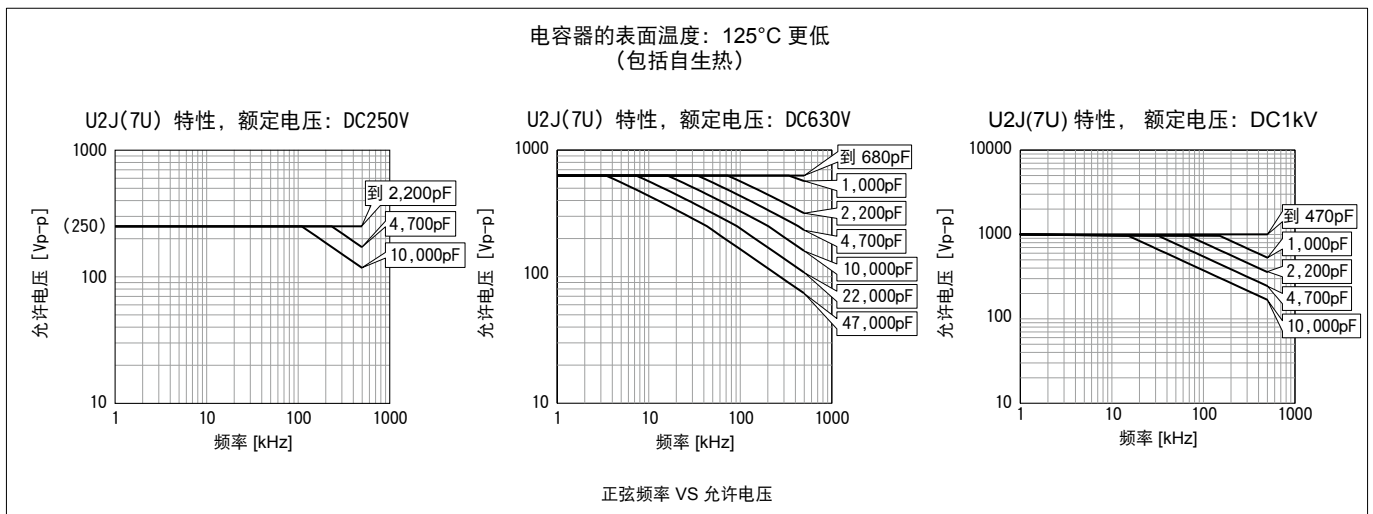
1-2. 负载应达到以下水平：在25°C的环境温度下进行测量时，电容器器体的自发热温度应保持在20°C以下。此外，测量时使用较小热容量的直径为0.1mm 的电热偶，在没有其他其他元件热辐射及对流造成空气流动影响的条件下进行测量。过多热量的产生可能会导致电容器功能减退和可靠度降低。（由于在冷却风扇正运转时无法准确测量，因此绝对不要在此条件下进行测量。）

<适用于温度特性 U2J(7U) 超过250VDC的额定电压>

1-3. 由于低损耗系列中自发热率较低，相较于常见的 X7R(R7) 特性，容许功率变得极高。

然而，在额定电压下施加自发热温度达20°C的负载时，可能会超出容许功率范围。电容器在1kHz或更高的高频电压回路中使用，外施电压的频率应小于500kHz正弦波（额定电压为DC3.15kV的产品应小于100kHz），以限制电压负载，确保负载保持在下图所示的降低定额值之内。在非正弦波的情况下，可使用超过基本频率的高频元件。这种情况下，请联系村田公司。过多热量的产生可能会导致电容器功能退化和可靠度降低。

（由于在冷却风扇正运转时无法准确测量，因此绝对不要在此条件下进行测量。）



#### <设计工具>

##### · Simsurfing

Simsurfing是一款网络应用程序，用来显示产品的特性图表以及下载产品特性数据。可查看频率特性、温度特性、偏压特性等。

（网址：<http://www.murata.com/simsurfing/>）

##### · 压陶瓷电容器选择工具

上述 SimSurfing 中安装有选择工具“按照电压波状的村田制作所中高压电容器选择工具”，通过该工具可根据不同应用（包括汽车）来确定首选中高压陶瓷电容器的可用性。

通过该工具，可按各种规格，比如功率、电压以及输入至电容器的电压波形的基本频率来检查首选产品。

\*支持产品系列

GCM/DC250V 或以上的温度特性 U2J(7U)

接下页。

## 警告

☐ 接上页。

### 5. 直流电压和交流电压特性

1. 高介电常数型电容器的静电容量会随施加的交流电压而变化。

选择在直流电路中使用的电容器时，请考虑直流电压特性。

1-1. 陶瓷电容器的静电容量可能会随施加电压发生急剧变化。（参见图）。

为了确保静电容量请确认以下情况。

- (1) 施加电压引起的静电容量变化是否处于允许值范围内。
- (2) 在直流电压特性方面，即使施加电压低于额定电压时，静电容量变化率会随着电压增加而变得更大。当在静电容量许容差小的电路中使用高介电常数型电容器时，例如时间常数电路，请仔细检查电压特性，并仔细确认实际应用条件及实际系统下的不同特性。

2. 高介电常数型电容器的静电容量会随施加的交流电压而变化。

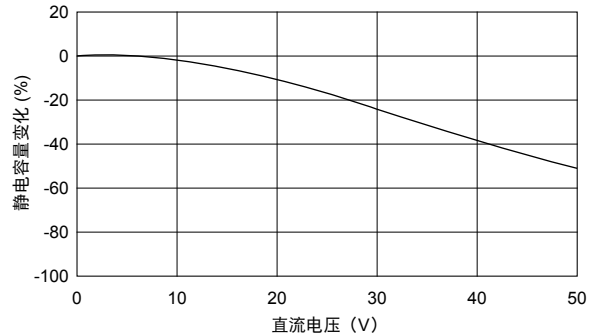
### 6. 电容老化

1. 高介电常数型电容器有一个特性，即静电容量会随时间推移而降低。

当您在需要静电容量公差小的电路中使用高介电常数型电容器时，例如时间常数电路，请仔细考虑此类电容器的特性，例如其老化、电压和温度特性。并在预期环境和工作条件下使用实际设备测试电容器。

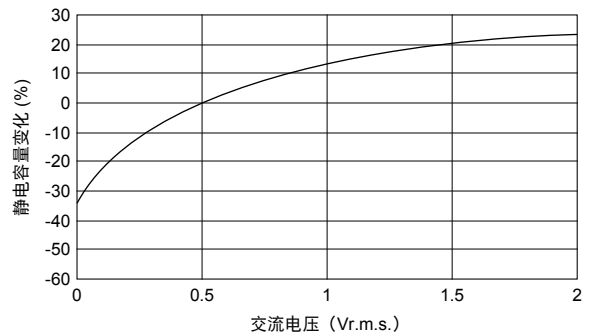
#### [直流电压特性]

示例：R(R1) 特性10 $\mu$ F，  
额定电压 50VDC

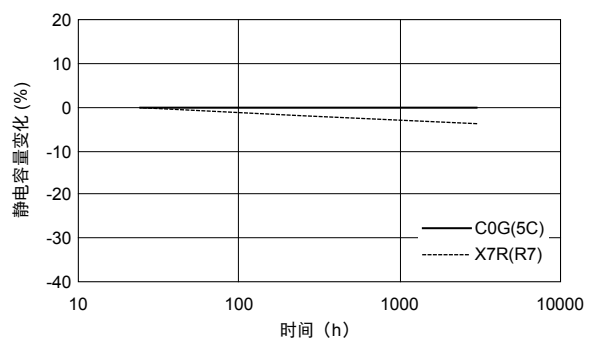


#### [交流电压特性]

示例：X7R(R7) 特性 10 $\mu$ F，  
额定电压 6.3VDC



#### [随时间而变化的示例（老化特性）]



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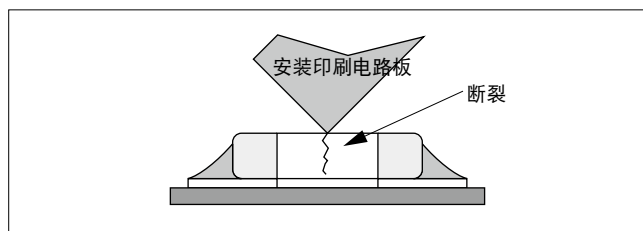
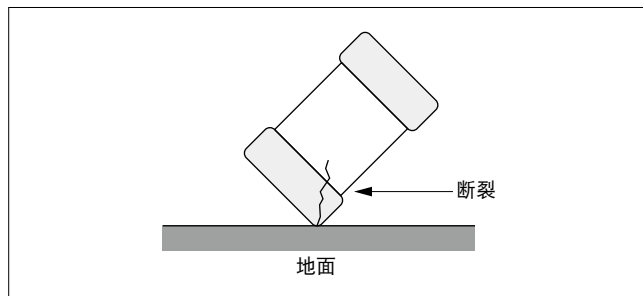


警告

☐ 接上页。

## 7. 振动和冲击

1. 应根据使用环境规定电容器机械应力（振动和冲击）。请确认振动和/或冲击类型、条件和谐振产生。  
请在安装电容器时，避免产生谐振。不允许对端子产生任何影响。
2. 坠落形成的机械冲击可能会导致电容器的介质材料损坏或断裂。  
切勿使用坠落后的电容器，因为其质量和可靠性可能已变差。
3. 印刷电路板堆放或搬运时，请勿用另一印刷电路板边角撞击电容器，以免造成电容器断裂或损坏。

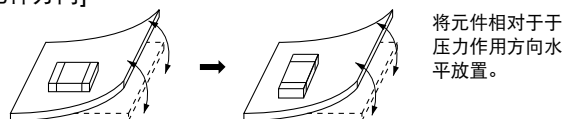


## ■ 焊接和贴装

### 1. 安装位置

1. 应选择适当的安装位置和方向，以使电路板弯折时施加在该电容器上的应力为最小。  
1-1. 应选择适当的贴装位置，以使电路板弯折时施加在该元件上的应力最小。

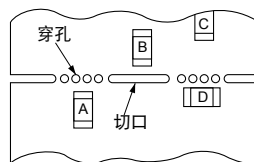
#### [元件方向]



#### [元件贴装位置靠近PCB分离处]

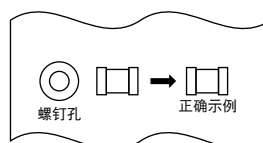
为减少分离电路板时产生的应力，采取以下措施非常有效。  
最好采取以下全部3种措施；但最好采取尽可能多的措施来减少应力。

| 措施内容                         | 应力级   |
|------------------------------|-------|
| (1) 转动元件的贴装方向，使之与电路板分离面保持平行。 | A > D |
| (2) 在电路板分离部位处增多切口。           | A > B |
| (3) 让元件的贴装位置远离电路板分离表面。       | A > C |



#### [电容器贴装位置靠近螺钉孔]

将电容器贴装在某个螺钉孔附近时，螺钉拧紧期间出现的电路板偏转可能会对电容器造成不良影响。电容器的贴装位置应尽可能远离螺钉孔。



接下页。

GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

警告

## 警告

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### 2. 安装前信息

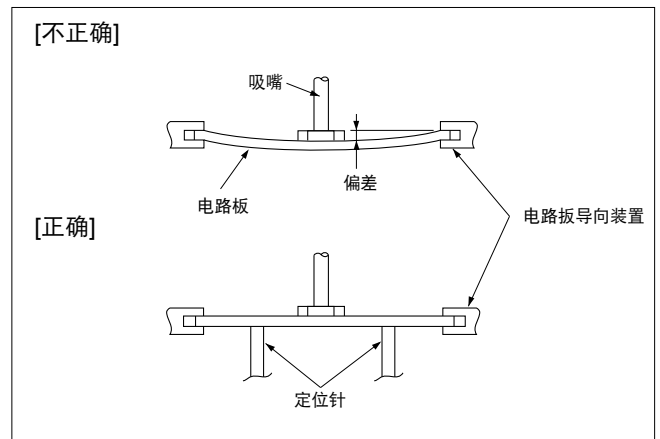
1. 切勿再次使用从设备上拆下的电容器。
2. 确认实际电压下的静电容量特性。
3. 确认实际过程中和设备使用下的机械应力。
4. 装配之前，确认额定静电容量、额定电压和其他电气特性。
5. 使用之前，请确认已长期储存的电容器的可焊性。
6. 电容经长期存放后，测量静电容量前须进行预热。
7. 使用Sn-Zn焊料会严重影响MLCC的可靠性。

有关Sn-Zn焊料的使用，请事先向村田销售代表或产品工程师咨询。

8. 有关贴装的预防措施，我们还制作了一张DVD，概括性地阐述了我方的见解。如需要该DVD，请联系我公司销售代表。

### 3. 贴片设备维护

1. 确保不向电容器施加以下过大的力量。
  - 1-1. 在印刷电路板上贴装电容器时，应保持施加最小的弯曲力，以防出现任何弯曲造成的损坏或断裂。使用过程中，请考虑以下预防措施和建议。
    - (1) 将吸嘴的最低位置，以免弯曲印刷电路板。
    - (2) 贴装时将吸嘴压力调节在1N到3N的静载荷范围内。
2. 吸嘴与圆柱内壁之间沉积的尘土颗粒及粉尘会使吸嘴移动不畅。这会在贴装时对元件施加较大的力量，从而导致元件损坏。同样，在定位时对元件用力不均，从而导致元件破损。吸嘴及定位爪必须定期维修、检查更换。



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GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCI 系列

GC3 系列

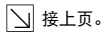
KCM 系列

KC3 系列

警告



警告



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#### 4-1. 回流焊接

- 当使用烙铁时，如果元件突然受热，则会降低其机械强度。原因是较大的温度变化会导致元件内部变形。为防止造成机械损坏，应对元件和PCB板进行预热。有关预热条件的说明，请参见表1。应将烙铁与元件表面之间的温差( $\Delta T$ )保持尽可能小。
- 当采用的低温焊接特性的峰值焊接温度低于焊锡熔点时，镀锡芯片端子的可焊性可能会下降。使用之前请确认镀锡芯片端子的可焊性。
- 贴装元件后浸泡溶剂中时，请确保元件与溶剂之间的温差( $\Delta T$ )保持在表1所示的范围内。

表 1

| 品名                                          | 温差                                |
|---------------------------------------------|-----------------------------------|
| GC3/GCD/GCE/GCJ/GCM 系列<br>03/15/18/21/31 尺寸 | $\Delta T \leq 190^\circ\text{C}$ |
| GCJ/GCM 系列 32/43/55 尺寸<br>KC3/KCM 系列 55 尺寸  | $\Delta T \leq 130^\circ\text{C}$ |

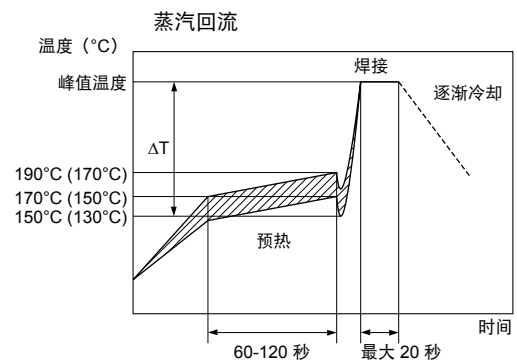
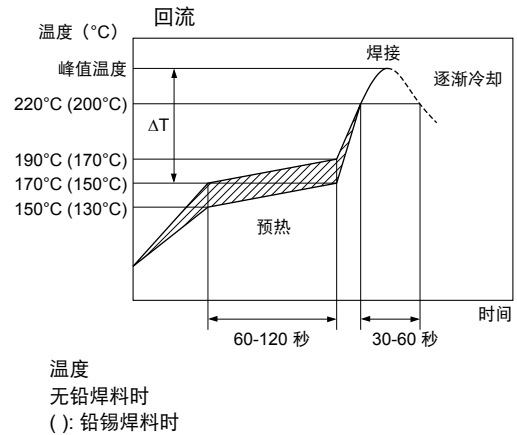
#### 建议采用条件

|      | Pb-Sn焊料     |             | 无铅焊料               |
|------|-------------|-------------|--------------------|
|      | 回流          | 蒸汽回流        |                    |
| 峰值温度 | 230 到 250°C | 230 到 240°C | 240 到 260°C        |
| 环境   | 空气          | 惰性溶剂的饱和蒸汽   | 空气或 N <sub>2</sub> |

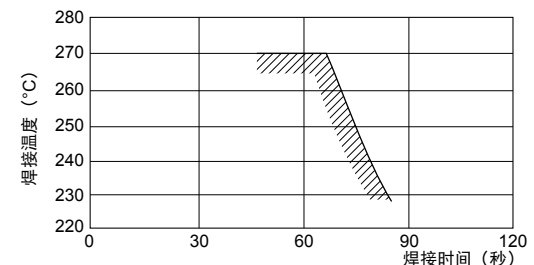
Pb-Sn焊料: Sn-37Pb

无铅焊料: Sn-3.0Ag-0.5Cu

#### [回流焊接的标准条件]



#### [允许焊接温度及时间]



若是重复焊接，则累计焊接时间必须在以上所示的范围内。

#### 4. 回流焊接的最佳焊料用量

##### 4-1. 使用的锡膏过厚会导致焊接圆角偏高。

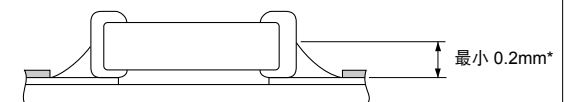
这会使PCB上的元件更易受机械及热应力影响，而且可能导致元件破损。

##### 4-2. 锡膏太少会造成外部电极上结合强度不够，从而导致元件从PCB上脱落。

##### 4-3. 务必使锡膏均匀分布在终端表面上，厚度至少为 0.2mm\*。

#### 倒置 PCB

勿使PCB承受异常机械冲击。



\* 03 尺寸: 元件最小厚度的1/3

剖面图

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## 警告

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### 4-2. 波峰焊接

#### 1. 请勿对表2未列出的元件进行波峰焊接。

表 2

| 品名                                                   | 温差                                  |
|------------------------------------------------------|-------------------------------------|
| GC3/GCD/GCM 系列 18/21/31 尺寸<br>(X8L(L8)、X8G(5G)的特性除外) | $\Delta T \leq 150^{\circ}\text{C}$ |
| GCJ 系列额定电压250VDC或多种<br>18/21/31 尺寸                   |                                     |

- 当使用烙铁时，如果元件突然受热，则会降低其机械强度。原因是较大的温度变化会导致元件内部变形。为防止造成机械损坏，应对元件和PCB板进行预热。  
有关预热条件的说明，请参见表2。应将烙铁与元件表面之间的温差 ( $\Delta T$ ) 保持尽可能小。
- 焊接时间过长或温度过高会造成外部电极浸析，从而会因电极与外部端子之间接触不良而导致结合不牢，或静电容量值降低。
- 贴装元件后浸泡溶剂中时，请确保元件与溶剂之间的温差 ( $\Delta T$ ) 保持在表2所示的范围内。

#### 建议采用条件

|        | Pb-Sn 焊料    | 无铅焊料        |
|--------|-------------|-------------|
| 预热峰值温度 | 90 到 110°C  | 100 到 120°C |
| 焊接峰值温度 | 240 到 250°C | 250 到 260°C |
| 环境     | 空气          | 空气          |

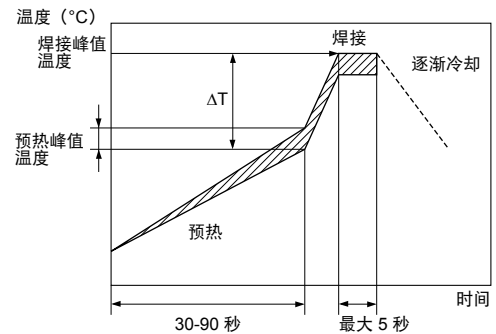
Pb-Sn 焊料: Sn-37Pb

无铅焊料: Sn-3.0Ag-0.5Cu

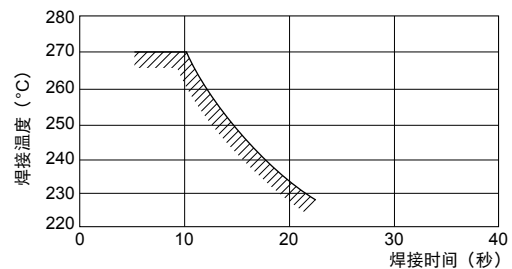
#### 5. 波峰焊接的最佳焊料用量

- 焊接圆角顶部应低于元件的厚度。如果焊料量过大，则在弯曲或其他应力条件下存在很大的断裂危险。

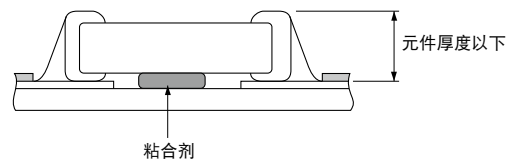
#### [波峰焊接的标准条件]



#### [允许波峰焊接温度及时间]



若是重复焊接，则累计焊接时间必须在以上所示的范围内。



剖面图

接下页。☐



警告

☐ 接上页。

#### 4-3. 焊接部位的校正

当电容器突然受热时，较大的温度变化会导致电容器内部变形，且可导致裂纹。根据电路板预热温度或焊接圆角形状，电容器还可能受机械应力和热应力的影响，且可导致裂纹。请参考“1. PCB设计”或“3. 最佳焊料用量”来了解有关焊料用量和圆角形状的信息。

##### 1. 使用烙铁进行校正

- 1-1. 为减低对电容器的损坏，确保对电容器和贴装电路板进行预热处理。预热的温度范围见表3。可使用高温焊盘、高温空气型预加热器进行预热。
- 1-2. 焊接后，切勿使元件/PCB快速冷却。
- 1-3. 尽快使用烙铁进行校正。如长时间使用烙铁，可能会导致端子电极上的焊料浸析，进而导致粘结剂强度变差以及其他问题。

##### 2. 使用热点加热器校正

- 与使用烙铁进行局部加热相比，热点加热器生成的高温空气对元件和电路板进行整体加热，因此能减少热冲击。若是高密度贴装电路板，热点加热器还可以防止烙铁的拐角直接接触元件。
- 2-1. 若热点加热器的热空气出口离元件的距离过近，可能会因为热冲击而出现裂纹。为防止出现该问题，请遵从表4中所列的条件。

- 2-2. 为形成合适的焊接圆角形状，建议按照图1中所示的角度施加热空气。

##### 3. 使用烙铁返修时的最佳焊料量

- 3-1. 如果尺寸小于0603（GC3/GCD/GCE/GCJ/GCM系列，03/15/18 大小），那么焊锡圆角顶部应小于元件厚度的 $\frac{2}{3}$ 或0.5mm（以较小者为准）。如果尺寸为0805和更大尺寸（GC3/GCD/GCE/GCJ/GCM系列，21/31/32/43/55大小），那么焊锡圆角顶部应小于元件厚度的 $\frac{2}{3}$ 。如果焊料量过大，则在弯曲或其他应力条件下存在很大的断裂危险。

表 3

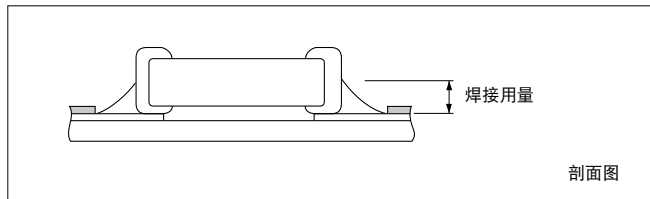
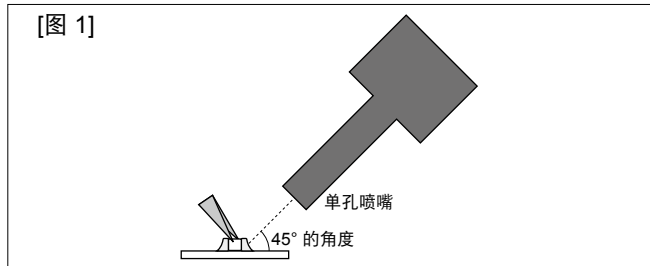
| 品名                                              | 烙铁头温度    | 预热温度     | 温差 (ΔT)  | 环境 |
|-------------------------------------------------|----------|----------|----------|----|
| GC3/GCD/GCE/<br>GCJ/GCM 系列<br>03/15/18/21/31 尺寸 | 最大 350°C | 最小 150°C | ΔT≤190°C | 空气 |
| GCJ/GCM 系列<br>32/43/55 尺寸                       | 最大 280°C | 最小 150°C | ΔT≤130°C | 空气 |

\*Pb-Sn 焊料和无铅焊料均可使用。  
Pb-Sn焊料：Sn-37Pb  
无铅焊料：Sn-3.0Ag-0.5Cu

表 4

|           |                                   |
|-----------|-----------------------------------|
| 距离        | 5mm 或更多                           |
| 热空气施加角度   | 45° *图 1                          |
| 热空气温度喷嘴出口 | 最大 400°C                          |
| 运行时间      | 小于 10 秒<br>(1206 (3216 mm) 大小或更小) |
|           | 小于 30 秒<br>(1210 (3225 mm) 大小或更大) |

[图 1]



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GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

警告

## 警告

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3-2. 应使用 $\phi 3\text{mm}$ 或更小直径的烙铁头。在返修过程中也需要防止烙铁直接接触元件。

3-3. 要求使用 $\phi 0.5\text{mm}$ 或更细的焊条进行焊接。

<适用于KC3/KCM系列>

4. 关于烙铁头的形状，请参见右图。

关于焊料类型，请使用 $\phi 0.5\text{mm}$ 或更小直径的焊条（松香芯线焊料）。

4-1. 如何使用烙铁

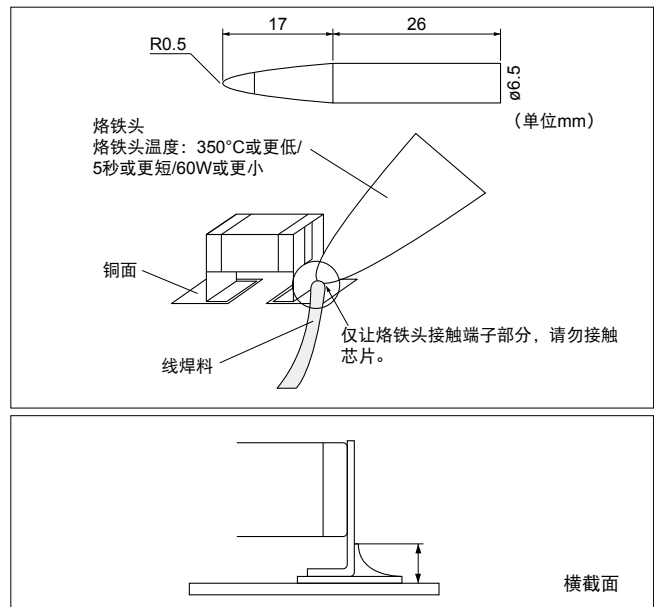
将烙铁头靠在金属端子的下端。

1) 为防止陶瓷装置突然受热而形成裂纹，请不要直接接触陶瓷基底。

2) 为防止芯片出现偏离和脱位，请不要直接接触芯片与金属端子的连接处以及外部的金属部分。

4-2. 最佳焊料用量

用烙铁校正的焊料用量应低于芯片较低一侧的高度。



5. 清洗

清洗时若超声波振荡过大会导致PCB产生共振，从而造成元件破损或焊缝开裂。请注意不要振动PCB。

6. 印刷电路板电气试验

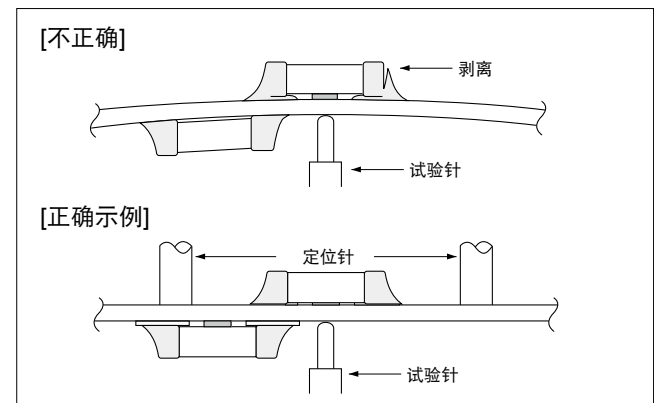
1. 将电容器安装在印刷电路板后，检验电容器的电气性能时，确认定位针或专用夹具的位置。

1-1. 避免试验针等的压力弯曲印刷电路板。

测试探针的推力可使PCB发生弯曲，从而导致元件破损或焊缝开裂。

请在PCB背面提供定位针，以免发生扭曲或弯曲。将定位针尽可能安装在靠近试验针处。

1-2. 试验针接触印刷电路板时，要避免冲击引起的印刷电路板振动。

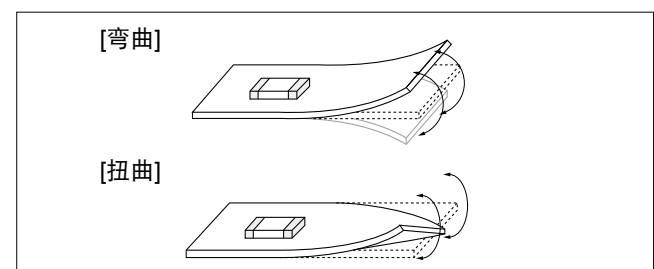


7. 印刷电路板裁切

1. 在印刷电路板上贴装电容器后，不要通过弯曲或扭曲该板向电容器施加任何应力。

1-1. 裁切该板时，右图所示弯曲或扭曲电路板可能会导致电容器断裂。

避免向电容器施加这种类型的应力。



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警告

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## 2. 预先检查印刷电路板的裁切方法。

- 2-1. 应使用夹具或器具（圆盘分离器、槽刨型分离器等）  
进行印刷电路板裁切，以防止在电路板上出现机械应力。

| 电路板分离方法  | 手动分离夹钳分离                    | (1) 电路板分离夹具                     | 电路板分离器具                                            |            |
|----------|-----------------------------|---------------------------------|----------------------------------------------------|------------|
|          |                             |                                 | (2) 圆盘分离器                                          | (3) 槽刨型分离器 |
| 电路板上的应力级 | 高                           | 中                               | 中                                                  | 低          |
| 正确示例     | ×                           | △*                              | △*                                                 | ○          |
| 注        | 手动和夹钳分离施加较大的应力级。<br>使用另一方法。 | • 电路板搬运<br>• 电路板弯曲方向<br>• 电容器布局 | • 电路板搬运<br>• 切口布局<br>• V型槽设计<br>• 刀片布置<br>• 控制刀片寿命 | 电路板搬运      |

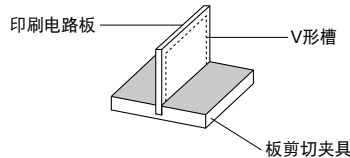
\* 使用电路板分离夹具或圆盘分离器时，若不遵守以下预防措施，则会出现较严重的板偏转，且电容器可能会出现裂纹。只要有可能，请使用槽刨型分离器。

### (1) 适当夹具示例

[若为单侧贴装]

电路板分离夹具的概略图如下图所示。正确示例：  
紧握靠近夹具的部分，并将其沿贴装电容器一侧的方向弯曲可最大程度地减低元件贴装位置上的应力。  
不正确示例：若握住距离夹具较远的部位并沿贴装电容器一侧相反的方向弯曲，由于在元件贴装位置施加了较大应力，因此电容器存在出现裂纹的风险。

[夹具略图]



| 正确示例 | 不正确 |
|------|-----|
|      |     |

[若为双侧贴装]

由于元件贴装在电路板的两侧，使用上述方法不可避免电容器出现裂纹。  
因此，请采取以下措施来防止在元件上施加应力。  
(测量)

- (1) 考虑使用槽刨型分离器。  
如很难使用槽刨型分离器，则请采取以下措施。  
(请参见第1项：贴装位置)
- (2) 贴装元件，使其与电路板分离表面平行。
- (3) 将元件贴装在电路板分离处附近时，在元件附近分离处增多切口。
- (4) 让元件的贴装位置远离电路板分离处。

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警告

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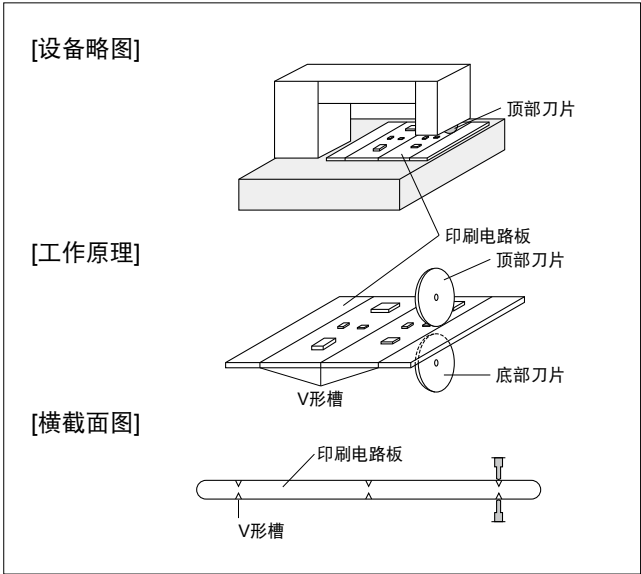
(2) 圆盘分离器示例

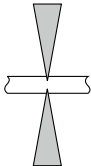
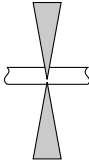
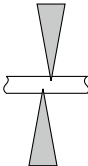
圆盘分离器的概略图如下图所示。如工作原理所示，使用印刷电路板上的V型槽对齐顶部刀片和底部刀片，进而将电路板分离。

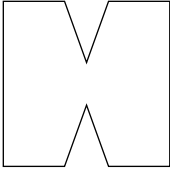
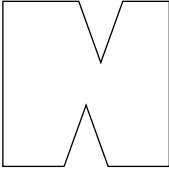
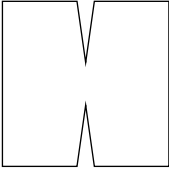
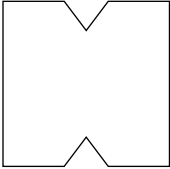
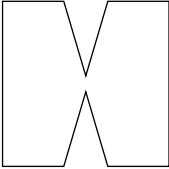
在以下情况下，将施加电路板偏转应力并导致电容器出现裂纹。

- (1) 当顶部和底部刀片的调整未对齐时，例如沿顶部-底部、左-右或前-后方向偏离
- (2) V型槽的角度过低；V型槽的深度过窄或V型槽顶部-底部未对齐

若V型槽过深，当搬运电路板时可能会卡住。精心设计V型槽的深度，并考虑印刷电路板所用材料的强度。



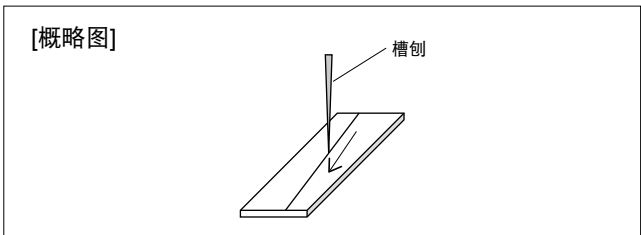
| 正确示例                                                                                                                          | 不正确                                                                                                                           |                                                                                                                                |                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                               | 上下偏离                                                                                                                          | 左右偏离                                                                                                                           | 前后偏离                                                                                                                            |
| <div></div> <div>顶部刀片</div> <div>底部刀片</div> | <div></div> <div>顶部刀片</div> <div>底部刀片</div> | <div></div> <div>顶部刀片</div> <div>底部刀片</div> | <div></div> <div>顶部刀片</div> <div>底部刀片</div> |

| 推荐的V型槽设计示例                                                                          | 不正确                                                                                 |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                     | 左右偏离                                                                                | 小角度                                                                                 | 深度过浅                                                                                  | 深度过深                                                                                  |
|  |  |  |  |  |

(3) 槽刨型分离器示例

槽刨型分离器通过槽刨高速旋转进行裁切。由于裁切过程中电路板不会弯曲，因此电路板分离期间可抑制电路板上的应力。

当将电路板固定在槽刨型分离器上或从其上拆下时，小心搬运电路板，以防其弯曲。



接下页。



警告

☐ 接上页。

## 8. 组装

### 1. 搬运

若用一只手握住贴装有电容器的电路板，则该电路板可能会弯曲。搬运时，用双手牢牢握住电路板的边缘。

若贴装有电容器的电路板掉落，则电容器上可能会出现裂纹。

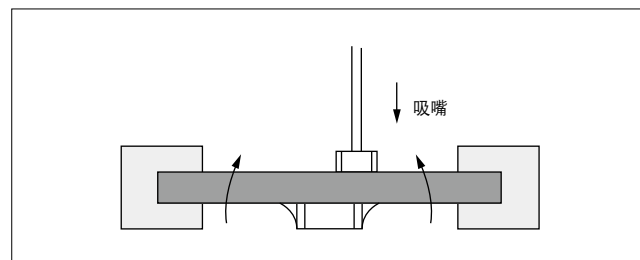
勿使用掉落过的电路板，原因在于电容器的质量可能已受损。

### 2. 固定其他元件

#### 2-1. 贴装其他元件

已将电容器贴装在对立侧后，在电路板的背侧贴装其他元件时，请注意以下各项。若吸嘴的下止点设置过低，板偏转应力可能会施加在背侧（底部侧）电容器上，且电容器上可能会出现裂纹。

- 将电路板竖直后，在电路板上表面处设置吸嘴的下止点。
- 定期检查并调节下止点。

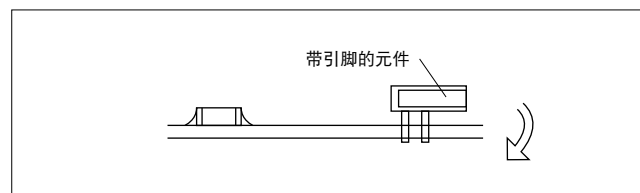


#### 2-2. 将带有引脚的元件插入电路板

将元件（变压器、IC等）插入电路板时，弯曲电路板可导致电容器出现裂纹或焊料上出现裂纹。

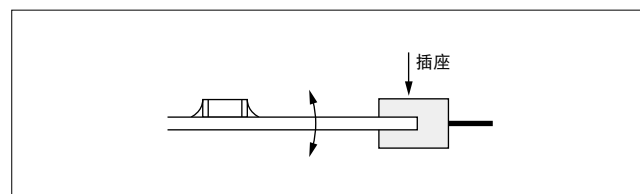
请注意以下各点。

- 增大孔的尺寸来插入引脚，以减小插入期间施加在电路板上的应力。
- 插入之前，使用定位针或专用夹具固定电路板。
- 从下方支撑住电路板，这样电路板不会弯曲。当在电路板上使用多个定位针时，定期确认每个定位针的高度无任何差别。



#### 2-3. 插接/拆卸插座

当电路板本身作为连接器时，插接或拆卸插座时电路板可能会弯曲。对作业进行规划，这样在插接或拆卸插座时电路板不会弯曲。

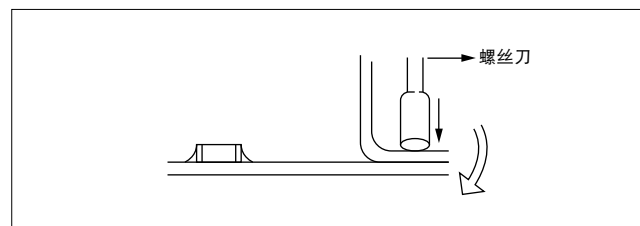


#### 2-4. 拧紧螺钉

将电路板固定在屏蔽罩或底盘期间对螺钉进行拧紧操作等时，电路板可能会弯曲。

进行作业之前，请注意以下各项。

- 对要执行的作业进行规划，以防电路板变形。
- 请使用扭矩螺丝刀，以防止过度拧紧螺钉。
- 通过回流焊接等贴装后，电路板可能会弯曲。由于拧紧螺钉时用力整平电路板可能会在元件上施加应力，因此请务必注意。



接下页。 ☐

GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

警告

## 警告

☐ 接上页。

<适用于GCG系列>

### 9. 导电性粘合剂、贴装方法及粘合强度的选择

所需的粘合强度可能会随所用导电性粘合剂的不同而发生显著变化。

### 10. 防潮处理

为防止发生移位，请进行防潮处理，例如使用树脂覆膜或注入惰性气体。

### 11. 用途

该产品适合采用导电性粘合剂贴装。进行焊接贴装前，请联系村田公司。

## ■ 其他

### 1. 设备运行中

- 1-1. 设备运行期间，切勿用裸手直接触摸电容器，以免发生电击危险。
- 1-2. 切勿使电容器端子接触任何导电物体（短路）。  
切勿使电容器暴露于导电液体中，包括任何酸溶液或碱溶液。
- 1-3. 确认设备工作环境符合规定条件。  
切勿在以下环境中使用该设备。
  - (1) 飞溅到水或油。
  - (2) 受阳光直射。
  - (3) 暴露于臭氧、紫外线或辐射中。
  - (4) 暴露于毒气（例如硫化氢、二氧化硫、氯气和氨气等）中。
  - (5) 超过规定限制的任何振动或机械冲击。
  - (6) 水气凝结环境。
- 1-4. 若在任何可能产生凝结的条件下使用，则需采用防潮措施。

### 2. 其他

#### 2-1. 紧急情况下

- (1) 如果设备产生烟雾、火灾或异味，应立即关闭设备或拔下设备插头。  
如果未关闭设备或拔下设备插头，继续供电可能会造成更严重危险。
- (2) 在此类情况下，不允许脸和手接触电容器，否则会被电容器的高温灼伤。

#### 2-2. 废物处置

处置电容器时，必须由具有适执照的工业废物处理商进行焚烧或掩埋。

#### 2-3. 电路设计

##### (1) 增添故障安全功能

因电路板掉落或弯曲导致电容器开裂可能会引起绝缘阻抗变差，并导致短路。

电容器短路时若所用电路可能会引起电击、冒烟或火灾，确保安装诸如保险丝这样的故障安全功能件，以防止二次事故。

- (2) 在主要的AC侧电路中用来防止电磁干扰的电容器，或作为连接器/绝缘装置的电容器必须经过安全标准认证，或符合电气设备与材料安全法的规定。  
如存在短路可能，在每条线路上安装保险丝。

- (3) GC3、GCD、GCE、GCG、GCJ、GCM、KC3和KCM系列电容器为非安全标准认证产品。

#### 2-4. 备注

使用本产品时，如忽略上述警告事项，则在严重情况下可能导致短路及冒烟。

以上注意事项针对标准用途及标准使用条件。如果产品用于特殊的贴装条件，请与我们联系。

请选择最佳的工作条件，这些条件的好坏可决定产品安装后使用的可靠性。

## 注意事项

### ■ 额定值

#### 1. 工作温度

##### 1. 工作温度限制视电容器而定。

##### 1-1. 切勿应用于超过工作温度上限的温度。

需要选择能覆盖工作温度范围并具有适当额定温度的电容器。

同样必需考虑设备温度分布和季节温度变化因素。

##### 1-2. 考虑电容器自发热。

自发热因素计算在内时，电容器表面温度应为工作温度上限或略低。

#### 2. 周围环境（气体和液体）

##### 1. 电容器工作环境限制。

##### 1-1. 在上述不适当的环境中使用电容器时，由于端子腐蚀，

水汽渗入，电容器的特性可能会退化。

##### 1-2. 电容器的电极或端子遭受水气凝结时，可能会出现上述相同现象。

##### 1-3. 电容器长时间暴露于腐蚀性气体、挥发气体或溶剂时，端子电极氧化或腐蚀引起的电容器特性和绝缘阻抗变差可能会导致电容器击穿。

#### 3. 压电现象

##### 1. 在交流电路或脉冲电路中使用高介电常数类型电容器时，在特定频率时电容器本身会振动，并可能会产生噪声。此外，电容器受到机械振动或冲击时，也可能产生噪声。

### ■ 焊接和贴装

#### 1. PCB设计

##### 1. 布局注意事项

##### 1-1. 与引脚元件不同的是，片状元件由于直接贴装于基板上，因此易受弯曲应力影响。

而且它们对机械及热应力比引脚元件更敏感。

焊接圆角过高会加大此类应力，从而导致元件开裂。因此在设计基板时，请考虑焊盘布局及尺寸，以免焊接圆角偏高。

##### 1-2. PCB材料与结构不同，芯片所承受的应力也各不相同，当PCB遇热膨胀或收缩时，可能会导致芯片出现裂纹。当用来贴装元件的电路板和元件的热膨胀系数相差很大时，这会因热膨胀和热收缩引起元件开裂。当将0402尺寸或更小的小尺寸电容器贴装在单层环氧树脂电路板上时，也会因相同原因导致元件开裂。

#### 布局

|               | 禁止 | 正确 |
|---------------|----|----|
| 靠近底盘贴装        |    |    |
| 贴装片状元件及引脚元件   |    |    |
| 在片状元件之后贴装引脚元件 |    |    |
| 横向贴装          |    |    |

接下一页。

GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

恒意

注意事项

☐ 接上页。

2. 焊盘尺寸

2-1. 如果合模面面积大于所需面积并使用过量的焊料，则PCB弯曲产生的应力会导致电容器芯片断裂。  
关于波峰焊接请参见表1的焊盘尺寸，关于回流焊接请参见表2。  
请通过评估实际SET/PCB确认适当的焊盘尺寸。

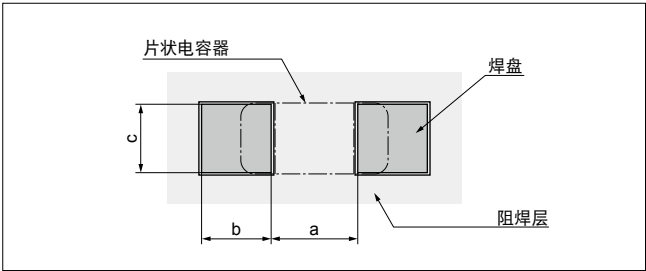


表 1 波峰焊接方式

| 品名                                                     | 尺寸 | 片状 (长×宽) | a         | b         | c         |
|--------------------------------------------------------|----|----------|-----------|-----------|-----------|
| GC3/GCD/GCM/GCJ 系列 18 尺寸<br>(额定电压: 250VDC以上 (仅适用于GCJ)) |    | 1.6×0.8  | 0.6 到 1.0 | 0.8 到 0.9 | 0.6 到 0.8 |
| GC3/GCD/GCM/GCJ 系列 21 尺寸<br>(额定电压: 250VDC以上 (仅适用于GCJ)) |    | 2.0×1.25 | 1.0 到 1.2 | 0.9 到 1.0 | 0.8 到 1.1 |
| GC3/GCD/GCM/GCJ 系列 31 尺寸<br>(额定电压: 250VDC以上 (仅适用于GCJ)) |    | 3.2×1.6  | 2.2 到 2.6 | 1.0 到 1.1 | 1.0 到 1.4 |

流动焊接只适用于芯片尺寸为 1.6x0.8mm 到 3.2x1.6mm 的产品。(单位 mm)

表2 回流焊接方式

| 品名                           | 尺寸 | 片状 (长×宽) | a         | b           | c         |
|------------------------------|----|----------|-----------|-------------|-----------|
| GC3/GCD/GCE/GCJ/GCM 系列 03 尺寸 |    | 0.6×0.3  | 0.2 到 0.3 | 0.2 到 0.35  | 0.2 到 0.4 |
| GC3/GCD/GCE/GCJ/GCM 系列 15 尺寸 |    | 1.0×0.5  | 0.3 到 0.5 | 0.35 到 0.45 | 0.4 到 0.6 |
| GQM/GR3/GRJ/GRM 系列 18 尺寸     |    | 1.6×0.8  | 0.6 到 0.8 | 0.6 到 0.7   | 0.6 到 0.8 |
| GC3/GCD/GCE/GCJ/GCM 系列 21 尺寸 |    | 2.0×1.25 | 1.0 到 1.2 | 0.6 到 0.7   | 0.8 到 1.1 |
| GC3/GCD/GCE/GCJ/GCM 系列 31 尺寸 |    | 3.2×1.6  | 2.2 到 2.4 | 0.8 到 0.9   | 1.0 到 1.4 |
| GC3/GCD/GCE/GCJ/GCM 系列 32 尺寸 |    | 3.2×2.5  | 2.0 到 2.4 | 1.0 到 1.2   | 1.8 到 2.3 |
| GC3/GCD/GCE/GCJ/GCM 系列 43 尺寸 |    | 4.5×3.2  | 3.0 到 3.5 | 1.2 到 1.4   | 2.3 到 3.0 |
| GC3/GCD/GCE/GCJ/GCM 系列 55 尺寸 |    | 5.7×5.0  | 4.0 到 4.6 | 1.4 到 1.6   | 3.5 到 4.8 |

(单位 mm)

<适用于零件号KC3/KCM>

| 品名               | 尺寸 | 片状 (长×宽) | a   | b   | c   |
|------------------|----|----------|-----|-----|-----|
| KC3/KCM 系列 55 尺寸 |    | 5.7×5.0  | 2.6 | 2.7 | 5.6 |

(单位 mm)

<适用于超过250VDC的额定电压>

2-2. 切口尺寸 (示例)

在电路板上开切口有助于在电容器背面进行助焊剂清洁和树脂涂抹等作业。  
不过，切口设计的长度应尽可能短，以防止电容器出现机械损坏。  
切口设计过长可能会承受来自印刷电路板过大的机械应力。  
推荐的切口设计如右侧表格所示。

| L×W      | d         | e         |
|----------|-----------|-----------|
| 1.6×0.8  | —         | —         |
| 2.0×1.25 | —         | —         |
| 3.2×1.6  | 1.0 到 2.0 | 3.2 到 3.7 |
| 3.2×2.5  | 1.0 到 2.0 | 4.1 到 4.6 |
| 4.5×2.0  | 1.0 到 2.8 | 3.6 到 4.1 |
| 4.5×3.2  | 1.0 到 2.8 | 4.8 到 5.3 |
| 5.7×2.8  | 1.0 到 4.0 | 4.4 到 4.9 |
| 5.7×5.0  | 1.0 到 4.0 | 6.6 到 7.1 |

(单位 mm)

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## 注意事项

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### 3. 电路板设计

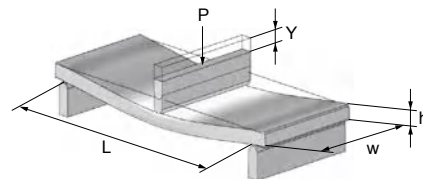
在设计电路板时，请牢记出现的应力会增大，这取决于电路板尺寸和材料。

[应力与电路板厚度、长度、宽度等之间的关系]

$$\varepsilon = \frac{3PL}{2Ewh^2}$$

负载和应力间的关系

ε: 电路板中央处的应力 (μst)  
L: 支撑点间的距离 (mm)  
w: 电路板宽度 (mm)  
h: 电路板厚度 (mm)  
E: 电路板弹性模数 (N/m<sup>2</sup>=Pa)  
Y: 偏差 (mm)  
P: 负载 (N)



负载为常数时，可确定以下关系。

- 由于支撑点间的距离增大，应力值也会增大。  
→ 缩短各支撑点之间的距离。
- 由于弹性模数 (E) 降低，应力值将增大。  
→ 增大弹性模数。
- 由于电路板宽度 (W) 减小，应力值将增大。  
→ 增大电路板宽度。
- 由于电路板厚度 (h) 降低，应力值将增大。  
→ 增大电路板厚度。

由于电路板厚度呈方形，应力值的影响甚至会变得更大。

### 2. 粘合剂的使用

1. 粘合剂过薄或用量不足会导致元件在波峰焊接时松动或脱落。

粘合剂的用量应大于右图所示尺寸C，以达到合适的粘结强度。

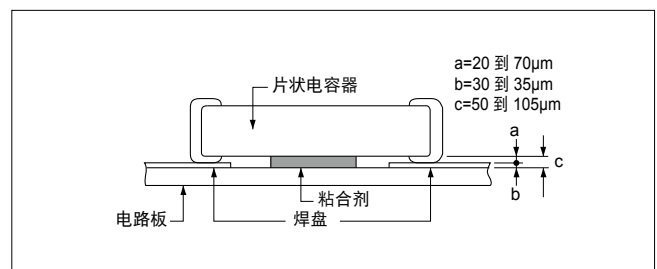
必须同时考虑到元件的电极厚度及焊盘厚度。

2. 低粘性粘合剂会导致元件在贴装后滑动。粘合剂的粘性必须最少达到5000Pa·s (500ps)。(25°C时)。

### 3. 粘合剂覆盖层

| 尺寸 (长×宽) (单位: mm) | 粘合剂覆盖层*   |
|-------------------|-----------|
| 1.6×0.8           | 最小 0.05mg |
| 2.0×1.25          | 最小 0.1mg  |
| 3.2×1.6           | 最小 0.15mg |

\*标称值



### 3. 粘合剂固化

1. 粘合剂固化不充分会导致元件在波峰焊接时脱落，而且使外部电极之间因吸湿而造成绝缘电阻下降。

请控制好固化温度及时间以免固化不充分。

接下一页。

## 注意事项

☐ 接上页。

### 4. 用于回流焊接和波峰焊接的助焊剂

1. 助焊剂用量过大会产生大量的气体，从而导致可焊性降低。因此应在整个过程中均匀使用少量的助焊剂。（波峰焊接一般采用发泡系统。）
2. 助焊剂中卤化物含量太高可能会导致外部电极腐蚀，除非经过充分的清洗。使用最大卤化物含量为0.1%的助焊剂。

3. 勿使用强酸性助焊剂。

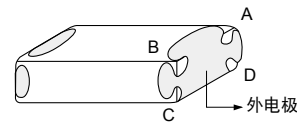
4. 请勿使用水溶性助焊剂。\*

（\*水溶性助焊剂可定义为非树脂型助焊剂，包括水洗型和非水洗型助焊剂。）

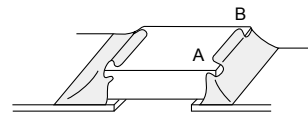
### 5. 波峰焊接

- 注意温度及时间，以确保外部电极的浸析不会超过单个元件面积（即如右图所示A-B-C-D面的全长）的25%，以及贴装在基片上时如右图所示A-B长度的。

[单个元件]



[贴装在基片上]



### 6. 清洗

1. 请使用现有的清洗设备和条件评估电容器，以确认电容器质量并选择相应的溶剂进行清洗。
2. 不适当的清洗溶剂可能会留下残留助焊剂和其他杂质，从而致使电容器的电气特性和可靠性变差。

3. 选择合适的清洗条件。

3-1. 不当清洗条件（过度或不足）可能会致使电容器性能变差。

### 7. 涂层

1. 固化处理过程中，树脂热收缩应力可能会致使电容器产生断裂。这种应力受树脂量和固化收缩力的影响。选择固化收缩小的树脂。涂层树脂或成型树脂和电容器之间的热膨胀系数差异，可能会导致电容器损坏或变差，例如断裂或剥离，并导致绝缘阻抗变差或介质击穿。选择热膨胀系数尽可能接近电容器热膨胀系数的树脂。硅酮树脂可用作内涂层，以缓解应力。

2. 选择吸湿较少的树脂。

在高湿条件下使用吸湿树脂，可能会致使电容器绝缘阻抗变差。

所有环氧树脂都可用作吸湿较少的树脂。

接下页。 ☐

注意事项

接上页。

其他

1. 运输

1. 运输过程中的各种条件可能会影响到电容器的性能。

1-1. 运输过程中电容器应该防止超温、湿气和机械力。

(1) 气候条件

- 低空气温度：-40°C
- 空气/空气温度变化：-25°C/+25°C
- 低气压：30 kPa
- 气压变化：6 kPa/分

(2) 机械条件

运输应在外包装箱不变形，不受外部应力直接作用的方式下完成。

1-2. 切勿向电容器施加过度振动、冲击或压力。

(1) 向电容器施加过度机械振动或压力时，电容器陶瓷体可能会发生破碎或断裂。

(2) 空气驱动装置、烙铁、小钳和底盘等的锐边强烈碰撞电容器表面时，电容器可能会断裂或短路。

1-3. 切勿使用因坠落受到过度冲击的电容器。

处理过程中意外坠落的电容器可能已损坏。

2. 实际系统中的特性评估

1. 评估实际系统中的电容器，确认使用前成品的性能和规格值没有问题。

2. 由于高介电常数型陶瓷电容器的静电容量具有电压依赖性和温度依赖性，静电容量可能会随实际系统的工作条件不同而有所变化。因此，确保评估各种将影响电容器静电容量值的特性，比如漏电电流和啸叫吸收性。

3. 此外，超过预设浪涌的电压可能会通过实际系统的电感施加在电容器上。根据需要评估实际系统的浪涌电阻。

GCM 系列

GCD 系列

GCE 系列

GCG 系列

GCJ 系列

GC3 系列

KCM 系列

KC3 系列

项  
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# 设计辅助工具：SimSurfing SimSurfing

现在可使用MLCC了！

设计辅助工具“SimSurfing”已更新，现在您可查找MLCC的所有特性。

## MLCC的可用功能：

- ① 产品搜索
- ② 查看频率特性(S 参数、Z、R、X、Q、DF、L、C)  
DC 偏压可应用在现有产品型号上。
- ③ DC 偏压特性(绝对静电电容/变化率)
- ④ 温度特性(绝对静电电容/变化率)
- ⑤ AC 偏压特性(绝对静电电容/变化率)
- ⑥ 下载SPICE网表/S 参数

### 1 选择产品

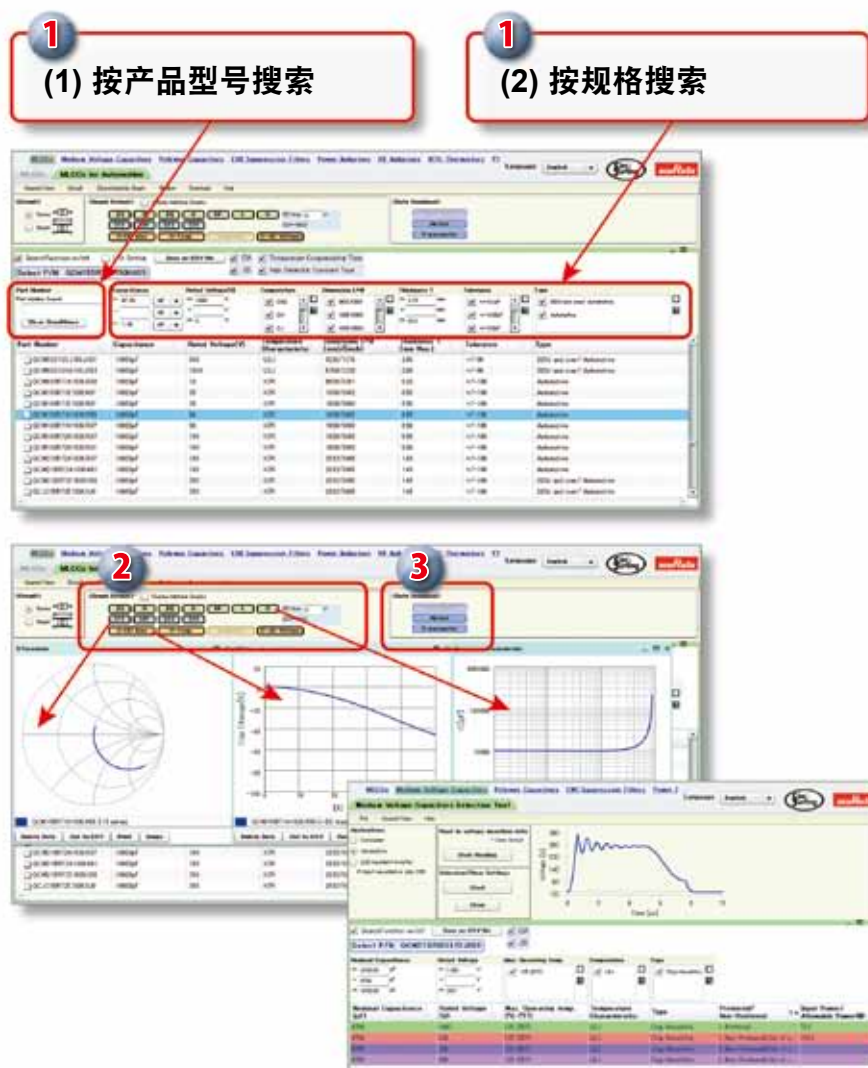
- (1) 按产品型号
- (2) 按规格

### 2 查看特性

单击该区域内的所选产品型号的按钮，您便可阅览任何电气特性表。

### 3 数据下载

您可下载SPICE网表和S参数文件(S2P)



新增了电容器搜索工具，以查找可用于指定电压波形的中高压电容器。

这些图片于2013年5月截取。确保经常更新该软件。

<http://ds.murata.com/software/simsurfing/en-us/mlcc/>



请查收村田的电子杂志!  
您可以轻松了解电子元器件知识。  
[http://www.murata.com/products/emicon\\_fun/](http://www.murata.com/products/emicon_fun/)

EMICON-FUN! 实际应用时，可以使用广为发行的EMICON-FUN!来了解电容器、电感器及EMI抑制滤波器的基础知识（原理、特性、封装等）相关信息。  
最新的信息也通过邮递杂志分发。

点击此处注册为读者：→ [http://go.murata.co.jp/Email\\_Newsletter\\_EN.html](http://go.murata.co.jp/Email_Newsletter_EN.html)

您可以在株式会社村田制作所网站的产品页面进行注册。  
<http://www.murata.com/products/>



← 这个标题就是注册入口

**电容器PLAZA**

- ※ 谐振中的电容器—表面贴装电容器—Part2 技术篇—封装—
- ※ 谐振中的电容器—表面贴装电容器—Part2 技术篇—封装—
- ※ 谐振中的电容器—表面贴装电容器—Part1 封装篇—封装—
- ※ 谐振中的电容器—表面贴装电容器—Part1 封装篇—封装—
- ※ 谐振中的电容器—表面贴装电容器—Part1 封装篇—封装—

**噪声对策PLAZA**

- ※ 噪声对策的基础
- ※ 第13回 信号线用共模扼流圈的使用方法
- ※ 噪声对策的基础
- ※ 第13回 信号线用共模扼流圈的使用方法
- ※ 噪声对策的基础
- ※ 第12章 LC组合型EMI抑制滤波器的使用方法
- ※ 噪声对策的基础
- ※ 第12章 LC组合型EMI抑制滤波器的使用方法
- ※ 噪声对策的基础
- ※ 第12章 LC组合型EMI抑制滤波器的使用方法

**电感器PLAZA**

- ※ 实现超小型01005尺寸(0.4×0.2mm)世界最高Q值特性!!
- ※ 实现超小型01005尺寸(0.4×0.2mm)世界最高Q值特性!!
- ※ 全球首创、全球最小片状电感器008004尺寸(0.25×0.125mm)的开发
- ※ 全球首创、全球最小片状电感器008004尺寸(0.25×0.125mm)的开发
- ※ 实现世界最高电感!! 智能手机用超小型0603尺寸高频片状电感器产品阵容扩大—LQP03TN\_02系列—

**村田制作所电子杂志“EMICON-FUN!”**

☆主题☆

- 1) 电容器室
- 2) 产品新闻
- 3) 行业信息收集—智能手机
- 4) 应用示例—电感器—手机(SAW滤波器)

1) 电容器室

演变中的电容器—多层陶瓷电容器—第1部分：趋势篇(第2/2部分)

本文是“不断演变的电容器—多层陶瓷电容器—第1部分：趋势篇(第1/2部分)”的延续。

在第2部分，我们将讨论多层陶瓷电容器的应用。去耦和平滑滤波器应用的占多层陶瓷电容器应用市场的70%。其他典型应用包括高频滤波器、阻抗匹配和温度补偿。

单击此处

2) 产品新闻

高温保证低损耗引线型陶瓷电容器<DEH系列>

1. 这款低损耗产品是高频脉冲和高电压应用的理想选择，例如电源电路的缓冲电路。

2. 涂有阻燃环氧树脂(相当于UL94V-0级)，且保证工作温度高达125°C。

# 电容器网站介绍

陶瓷电容器网站和搜索引擎已彻底更新。

村田电容器

Search

<http://www.murata.com.cn/products/capacitor/>

## ▶ 搜索便利

增加了多种搜索类型，以满足不同的搜索要求。  
可从 40,000 款产品中轻松找到您要搜索的产品！  
增加了手册修订和废止的频率，随时提供最新信息！

## ▶ 大量技术信息

- 可以用 PDF 格式下载参考图（规格和试验方法）。
- 可显示电气特性数据图（静电容量 — 温度特性 /DC 偏压特性 /AC 电压特性 / 频率特性）。
- 可下载可靠性试验数据。



### 1 解决问题事例

我们致力于为客户排忧解难。  
• 互换事例(动画)  
• 关于降低成本的提案  
• 啸叫实例  
对策事例(动画)等

### 2 行业信息

为您介绍首推的产品系列及村田在各个行业的最新信息。  
• 汽车  
• 智能手机等

### 3 村田电容器的优势

为您介绍村田电容器的独特优势、无与伦比的质量、市场业绩、供货体系及研发实力等内容。

您可联系我们并从此处下载目录。

### 1 按特点搜索

可按问题、形状或贴装方法来搜索产品。

### 2 按产品系列搜索

可按整个产品线来搜索产品。

### 3 按规格搜索

可按静电容量、额定电压或温度特性来搜索产品。

### 4 交叉参考搜索

可按竞争对手的产品型号来搜索同类的村田产品。

### 5 按产品型号搜索

可按村田产品型号搜索产品。



### 按产品系列查阅安全证书

### SimSurfing

此网络提供村田产品的特性表,也可在其上下载特性数据。

- S 参数
- 网表 (SPICE模型)
- 数据库 (适用于Agilent ADS、AWR Microwave Office)

### 常见问题及解答 (FAQ)

这是客户所提出各种问题的汇集。通过在该搜索功能中输入关键词,可容易地搜索到相关的问题。

### 特性数据

(尺寸/静电容量 — 温度特性/DC偏压特性/AC电压/频率特性/纹波电流发热等)

### 可靠性测试数据

初始特性/电路板耐弯曲性/耐湿性/高温负载/可焊性等

### ISO14001认证工厂一览表

# 全球分布

欲知更多详情请访问：[www.murata.com.cn](http://www.murata.com.cn)



## △注：

### 1 出口管制

〈对于日本国外客户〉：

不应该通过任何渠道将村田产品用于或者销售给下列用途的设计、开发、生产、利用、维护保养或者运行，或者用作下列用途：(1) 武器（大规模杀伤性武器(核武器、化学武器或生物武器或导弹)或常规武器），或者(2) 专门为军事最终用途或军事最终用户的应用而设计的产品或系统。

〈对于日本国内客户〉：

根据日本“海外流通以及对外贸易管制法”（Foreign Exchange and Foreign Trade Law）受到管制的产品在出口时必须办理出口许可证。

2 若将本目录中的产品用于需要极高可靠性以防直接危及第三方生命、身体或财产的下列用途时，或当其中产品用于本目录规定以外的用途时，请提前与我公司销售代表或产品工程师联系。

- ① 飞行设备
- ② 宇航设备
- ③ 海底设备
- ④ 电厂设备
- ⑤ 医疗设备
- ⑥ 运输设备（汽车、火车、船舶等）
- ⑦ 交通信号设备
- ⑧ 防灾/预防犯罪设备
- ⑨ 数据处理设备
- ⑩ 与上述用途具有类似复杂性和（或）可靠性要求的其它用途

3 本目录中的产品规格以截止2014年3月的为准。规格若有变更，或若其中产品停产，恕不另行通知。请在订购之前向我公司销售代表或产品工程师查询。若有任何疑问，请与我公司销售代表或产品工程师联系。

4 请阅读本产品目录中的产品规格，以及有关保管、使用环境、规格上的注意事项、装配时的注意事项、使用时的注意事项的△注意事项，以免发生冒烟和（或）燃烧等。

5 本目录仅载明标准规格。因此，在订购产品之前，请核准其规格或者办理产品规格表。

6 请注意，对由于使用我公司产品和（或）本产品目录中所述或记载的产品信息而发生有关我公司和（或）第三方知识产权及其它权利的冲突或争端，我公司概不负责，除非另有规定。由此而论，未经我公司许可，禁止自作主张将上述授权权利转授任何第三方。

7 我公司在生产过程中未使用蒙特利尔议定书（Montreal Protocol）规定的消耗臭氧层物质（ODS）。

Murata Manufacturing Co., Ltd.

[www.murata.com.cn](http://www.murata.com.cn)

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