Key Features

- Case sizes 0603, 0805, 1206
- A semi-precision thick film resistor with a temperature coefficient of 50ppm/°C and tolerance down to 0.5%
- CPG chip resistors are suitable for most applications, including high frequency operation, owing to the short lead structure and low capacitance
- Particularly suitable for use where low TC or tolerance are important at a low cost

Type CPG Series

TE Connectivity is pleased to offer this Thick Film Precision Chip Resistor. With Temperature Coefficient of ±50PPM, and tolerance down to 0.5% this part features a highly reliable multi-layer electrode construction, along with an additional glass overcoat for improved performance and longevity.

Characteristics - Electrical

<table>
<thead>
<tr>
<th></th>
<th>0603</th>
<th>0805</th>
<th>1206</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated power @ 70°C (W)</td>
<td>0.1</td>
<td>0.125</td>
<td>0.25</td>
</tr>
<tr>
<td>Resistance range (Ohms)</td>
<td>Min</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Max</td>
<td>10M</td>
<td>10M</td>
</tr>
<tr>
<td>Tolerance %</td>
<td>0.5</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Code letter</td>
<td>D</td>
<td>F</td>
<td>D</td>
</tr>
<tr>
<td>Temperature coefficient (ppm/°C)</td>
<td>±50</td>
<td>±50</td>
<td>±50</td>
</tr>
<tr>
<td>Code letter</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Limiting element voltage (V)</td>
<td>75</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>Maximum overload voltage (V)</td>
<td>150</td>
<td>300</td>
<td>400</td>
</tr>
<tr>
<td>Dialectic strength min. (V)</td>
<td>150</td>
<td>300</td>
<td>400</td>
</tr>
<tr>
<td>Operating temperature range (°C)</td>
<td>-55 to +155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climatic category</td>
<td>55/125/56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation resistance dry min (MΩ)</td>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stability (%)</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface temperature rise max. (°C)</td>
<td>400</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dimensions

<table>
<thead>
<tr>
<th>Style</th>
<th>L</th>
<th>W</th>
<th>t</th>
<th>a</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>0603</td>
<td>1.6 ±0.1</td>
<td>0.80 ±0.1</td>
<td>0.45 ±0.1</td>
<td>0.30 ±0.2</td>
<td>0.30 ±0.2</td>
</tr>
<tr>
<td>0805</td>
<td>2.0 ±0.1</td>
<td>1.25 ±0.1</td>
<td>0.50 ±0.1</td>
<td>0.35 ±0.2</td>
<td>0.40 ±0.2</td>
</tr>
<tr>
<td>1206</td>
<td>3.10 ±0.1</td>
<td>1.55 ±0.1</td>
<td>0.55 ±0.1</td>
<td>0.50 ±0.25</td>
<td>0.50 ±0.2</td>
</tr>
</tbody>
</table>
Type CPG Series

Power Derating Curve

Mounting

The resistors are suitable for processing on automatic insertion equipment

Performance characteristics

The evaluation of the performance characteristics is carried out with reference to IEC 60115-1, 60068-2-58 and JIS-C 5201-1

<table>
<thead>
<tr>
<th>TEST REF</th>
<th>Long Term Tests ±(1.0% + 0.1 ohm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.23</td>
<td>Climatic sequence</td>
</tr>
<tr>
<td>4.24</td>
<td>Damp heat, steady state</td>
</tr>
<tr>
<td>4.25.1</td>
<td>Endurance at 70°C</td>
</tr>
<tr>
<td>4.25.3</td>
<td>Endurance at 125°C</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>TEST REF</th>
<th>Short Term Tests ±(1.0% + 0.1 ohm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.13</td>
<td>Overload</td>
</tr>
<tr>
<td>4.32</td>
<td>Adhesion</td>
</tr>
<tr>
<td>4.33</td>
<td>Bond strength of end face plating</td>
</tr>
<tr>
<td>4.19</td>
<td>Rapid change of temperature</td>
</tr>
<tr>
<td>4.18</td>
<td>Resistance to soldering heat</td>
</tr>
</tbody>
</table>

Storage

Storage Temperature 25 ±3°C, Humidity <80% RH. Protect from any dust, chemicals and solvent based materials. Non-adherence to this procedure could affect the solderability of this product.

How to order

<table>
<thead>
<tr>
<th>Common Part</th>
<th>Size</th>
<th>Tolerance</th>
<th>Resistance Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPG - Thick Film</td>
<td>0603</td>
<td>±1%</td>
<td>10 ohms</td>
</tr>
<tr>
<td>Precision Chip Resistor</td>
<td>0805</td>
<td>±0.5%</td>
<td>(100 ohms)</td>
</tr>
<tr>
<td></td>
<td>1206</td>
<td></td>
<td>1K ohms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1000 ohms) 1K0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10K ohms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(10000 ohms) 100K</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1M ohms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1000000 ohms) 1M0</td>
</tr>
</tbody>
</table>