CHIP FUSE

TF16SN Chip Current Fuses

Coating color: Black

Features:
- Small and light chip current fuses for the secondary circuit.
- The original manufacturing method makes the fusing characteristics stable.
- Able to reduce an occupied area.
- Low power consumption and less voltage dropping due to low internal resistance.
- Suitable for overcurrent protection of circuit block in small electronic devices.
- Suitable for both flow and reflow solderings.
- Products meet EU-RoHS requirements.

Approvals Awarded:
UL 248.14 File No. E131375
c−UL (CSA) C22.2 No. 248.14 File No. E131375

Applications:
- Notebook personal computers
- HDDs
- Mobile phones
- Digital still cameras

Construction

Dimensions

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions (mm)</th>
<th>Weight (g) (1000pcs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF16SN (0603)</td>
<td>1.6±0.2 0.8±0.1</td>
<td>2.15</td>
</tr>
</tbody>
</table>

Type Designation

Example

<table>
<thead>
<tr>
<th>TF</th>
<th>0603</th>
<th>Fusing Characteristics</th>
<th>Taping</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF</td>
<td>16S</td>
<td>Normal blow</td>
<td>4mm pitch punch</td>
</tr>
<tr>
<td>TF</td>
<td>N</td>
<td>TD</td>
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</table>

Ratings

<table>
<thead>
<tr>
<th>Type</th>
<th>Marking</th>
<th>Rated Current</th>
<th>Fusing Time</th>
<th>Internal R. (mΩ) Max.</th>
<th>Rated Voltage</th>
<th>Rated Ambient Temp.</th>
<th>Operating Temperature Range</th>
<th>Taping &amp; Q’ty/Reel (pcs)</th>
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</thead>
<tbody>
<tr>
<td>TF16SN0.20</td>
<td>A</td>
<td>0.20A</td>
<td></td>
<td>1500</td>
<td>32V</td>
<td>70℃</td>
<td>−40~+125℃</td>
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Contact our sales representatives before you use our products for applications including automobiles, medical equipment and aerospace equipment. Malfunction or failure of the products in such applications may cause loss of human life or serious damage.

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Oct. 2019
### Derating

- **Stationary current**
  
  Regard the peak of stationary current waveform as stationary current value when the stationary current is repeated pulse.

- **Temperature Derating**
  
  Rated current needs to be derated if used at an ambient temperature of 70℃ or higher. Refer to the derating coefficient on the right figure.

### Fusing Characteristics

#### (Average Fusing Time)

![Fusing Characteristics Graph]

- **Fusing characteristics**
  - Within 1s — 200% of rated current shall be carried. (at 25℃)
- **Bending test**
  - No mechanical damages. — Distance between holding points 90mm, bending width 2mm, 1 time.
- **Resistance to soldering heat**
  - 10 4.5 — 260℃±5℃, 10s±0.5s
- **Solderability**
  - 95% coverage min. — 245℃±3℃, 3s±0.5s
- **Load life**
  - 10 4.5 — 70℃±2℃, 1000h, Rated current×100%, 1.5h ON/0.5h OFF cycle
- **Load life moisture**
  - 10 4.5 — 40℃±2℃, 90%〜95%RH, 1000h, Rated current×100%, 1.5h ON/0.5h OFF cycle
- **Rapid change of temperature**
  - 10 4 — 40℃ (30min) / +125℃ (30min) 10 cycles
- **Resistance to solvent**
  - No evidence of damages to protective coating and marking. — Conforming to MIL-STD-202F
- **Residual resistance**
  - 10kΩ or more — Measure DC resistance after fusing

### Precautions for Use

- The substrate material of TF16SN applies ceramics to achieve good fusing characteristics. Keep the product free from excessive stress when it is to be mounted. Keep it also away from excessive thermal stress continuously. It may cause cracks. Please confirm on actual device before use.

- When you select fuse product, please make sure to confirm "Precautions for Use of Fusing Components" in this catalogue and ask KOA sales.

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