Surge arrester

2-electrode arrester

Series/Type: EM3000X6ST7
Ordering code: B88069X9401****
Date: 2018-08-22
Version: 06
Surge arrester
B88069X9401****
2-electrode arrester
EM3000X6ST7

Features
- Small size
- Fast response time
- Stable performance over service life
- Low capacitance and insertion loss
- High insulation resistance
- RoHS-compatible

Applications
- AC power line devices
- Consumer electronics
- Power supply

Electrical specifications

- **DC spark-over voltage**

<table>
<thead>
<tr>
<th>Tolerance</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>±20 V</td>
<td>2400 V</td>
<td>3600 V</td>
</tr>
</tbody>
</table>

- **Impulse spark-over voltage**

<table>
<thead>
<tr>
<th>At 100 V/µs</th>
<th>For 99% of measured values</th>
<th>Typical values of distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3800 V</td>
<td>&lt; 3600 V</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At 1 kV/µs</th>
<th>For 99% of measured values</th>
<th>Typical values of distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4000 V</td>
<td>&lt; 3800 V</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At 5 kV/µs</th>
<th>For 99% of measured values</th>
<th>Typical values of distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 4500 V</td>
<td>&lt; 4300 V</td>
<td></td>
</tr>
</tbody>
</table>

- **Service life**

<table>
<thead>
<tr>
<th>10 operations</th>
<th>50 Hz; 1 s</th>
<th>1 min</th>
<th>1 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 operations</td>
<td>8/20 µs</td>
<td>100 A</td>
<td></td>
</tr>
<tr>
<td>10 operations</td>
<td>8/20 µs</td>
<td>2 kA</td>
<td></td>
</tr>
<tr>
<td>1 operation</td>
<td>8/20 µs</td>
<td>5 kA</td>
<td></td>
</tr>
</tbody>
</table>

- **Insulation resistance at 100 V<sub>DC</sub>**

> 1 GΩ

- **Capacitance at 1 MHz**

< 1 pF

- **Arc voltage at 1 A**

~ 35 V

- **Glow to arc transition current**

< 0.3 A

- **Glow voltage at 0.1 A**

~ 170 V

- **AC withstand voltage**

<table>
<thead>
<tr>
<th>1 min</th>
<th>1 s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1250 V</td>
<td>1500 V</td>
</tr>
</tbody>
</table>

- **Weight**

~ 1 g

- **Operation and storage temperature**

−40 ... +125 °C

- **Recommended storage**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Humidity</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>+5 ... +35 °C</td>
<td>45 ... 80 %</td>
<td>≤ 2 years</td>
</tr>
</tbody>
</table>

- **Climatic category (IEC 60068-1)**

40/125/21

Continued on next page
Marking, red positive

<table>
<thead>
<tr>
<th>EPCOS EM 3000 YY O</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM - Series</td>
</tr>
<tr>
<td>3000 - Nominal voltage</td>
</tr>
<tr>
<td>YY - Year of production</td>
</tr>
<tr>
<td>O - Non radioactive</td>
</tr>
</tbody>
</table>

Certifications

UL 1449 (E319264)

1) At delivery AQL 0.65 level II, DIN ISO 2859.
2) In ionized mode.
3) Test conditions in acc. with MIL-STD-202G at 25 ±5 °C, relative humidity ≤55% and atmospheric pressure 860 ... 1100mbar.

Terms and current waveforms in accordance with: ITU-T Rec. K. 12; IEC 61643-21; 61643-311.

Dimensional drawing in mm

wires tin-plated
Ordering codes and packing advices

*B88069X9401A802* = 800 pcs. in ammo pack

*B88069X9401A103* = 1000 pcs. in ammo pack
Soldering parameter

Wave soldering

![Wave soldering profile diagram]

Soldering profile applied to a single soldering process.

Cautions and warnings

- Do not operate surge arresters in power supply networks, whose maximum operating voltage exceeds the minimum spark-over voltage of the surge arresters.
- Surge arresters may become hot in the event of longer periods of current stress (burn risk). In the event of overload the connectors may fail or the component may be destroyed.
- If the contacts of the surge arresters are defective, current load can cause sparks and loud noises.
- Surge arresters must be handled with care and must not be dropped.
- Do not continue to use damaged surge arresters.

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