Bourns offers a heavy duty 2-electrode GDT surge arrester in an 8x6 mm surface mount (SM) package. The Model 2029-xx-SMLF Series is categorized as a Class 5 rated GDT and attains the highest performance classification available under ITU-T K.12 requirements. High performance in a compact surface mount package makes this series ideal for use in heavily exposed telecommunications, commercial and industrial applications.

**Features**
- Surface mount for economical assembly
- High surge current rating
- Designed to meet ITU-T K.12 class 5 surge current requirements
- Low capacitance and insertion loss
- Stable breakdown throughout life
- UL Recognized

**Applications**
- Telecommunications
- Industrial electronics
- Commercial electronics

### Characteristics

Test Methods per ITU-T K.12, IEEE C62.31 and IEC 61643-311 GDT standards.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Sparkover ±20 % @ 100 V/s</td>
<td>90 V</td>
<td>150 V</td>
<td>230 V</td>
<td>350 V</td>
<td>420 V</td>
</tr>
<tr>
<td>Impulse Sparkover (1) (100 V/μs)</td>
<td>275 V</td>
<td>325 V</td>
<td>450 V</td>
<td>600 V</td>
<td>650 V</td>
</tr>
<tr>
<td>Impulse Sparkover (1) (100 V/μs)</td>
<td>375 V</td>
<td>375 V</td>
<td>500 V</td>
<td>625 V</td>
<td>750 V</td>
</tr>
<tr>
<td>Impulse Sparkover (1) (1 kV/μs)</td>
<td>525 V</td>
<td>525 V</td>
<td>650 V</td>
<td>775 V</td>
<td>850 V</td>
</tr>
<tr>
<td>Impulse Sparkover (1) (1 kV/μs)</td>
<td>600 V</td>
<td>625 V</td>
<td>750 V</td>
<td>875 V</td>
<td>1000 V</td>
</tr>
</tbody>
</table>

(1) Impulse Sparkover voltage is defined as typical values of distribution.

**Notes:**
- UL recognized component, UL File E153537.
- Model number marking on tube: 2029-xxxV.
- Surface Mount (SM) parts may show a temporary increase in DCBD after the solder reflow process. Most devices will recover within 24 hours time. It should be noted that there is no quality defect nor change in protection levels during the temporary change in DCBD.
- Sparkover limits ±25% and IR >10\(^7\) Ω after life (-25%/+30% for Model 2029-09-SM)
- At delivery AOL 0.65 Level II, DIN ISO 2859.
- Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev D.

**WARNING**
Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

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** Bourns considers a product to be “halogen free” if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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Users should verify actual device performance in their specific applications.

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2029-xx-SMLF Heavy Duty Gas Discharge Tube Surge Arrester

---

### How to Order

<table>
<thead>
<tr>
<th>Model Number Designator</th>
<th>Voltage (Divided by 10)</th>
<th>Surface Mount</th>
<th>Packaging Option</th>
<th>RoHS Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2029 - xx - SM -RP LF</td>
<td>- 09 = 90 V</td>
<td></td>
<td>Blank = Bulk Packaging (Standard)</td>
<td>LF = RoHS Compliant Product</td>
</tr>
<tr>
<td></td>
<td>- 23 = 230 V</td>
<td></td>
<td>-RP = 16 mm Reelpack (Optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 42 = 420 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 15 = 150 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 35 = 350 V</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### Product Dimensions

<table>
<thead>
<tr>
<th>Dimension (MM)</th>
<th>Tolerance (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.9 ± 0.2</td>
<td>0.25 ± 0.008</td>
</tr>
<tr>
<td>0.48 ± 0.1</td>
<td>0.019 ± 0.004</td>
</tr>
<tr>
<td>6.9 ± 0.3</td>
<td>0.256 ± 0.012</td>
</tr>
<tr>
<td>0.43 ± 0.1</td>
<td>0.017 ± 0.004</td>
</tr>
<tr>
<td>7.50 ± 0.2</td>
<td>0.305 ± 0.009</td>
</tr>
</tbody>
</table>

---

### Recommended Pad Layout

<table>
<thead>
<tr>
<th>Dimension (INCHES)</th>
<th>Tolerance (INCHES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 (1/8)</td>
<td>± 0.25 (0.10)</td>
</tr>
<tr>
<td>5.84 (230)</td>
<td></td>
</tr>
<tr>
<td>8.25 (325)</td>
<td></td>
</tr>
</tbody>
</table>

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Packaging Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Standard Packaging Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2029-xx-SMLF</td>
<td>250 1000 Reel</td>
</tr>
<tr>
<td>2029-xx-SM-RPLF</td>
<td>500</td>
</tr>
</tbody>
</table>

- RP
Reel is 33 cm in diameter and 3 cm wide.

DIMENSIONS: MM (INCHES)

Unless otherwise specified, tolerances in decimals are X ± 0.3, XX ± 0.15 for lengths in millimeters and ±1° for degrees.

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REV. A 09/19
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