Bourns now offers a surface mount (SM) 3-electrode Gas Discharge Tube (GDT) surge protection device. The industry-leading quality and features of the Bourns® miniature 2036 TRIGARD™ series GDT continue in this new SM version for “pick and place” manufacturing techniques. The 2036 SM device is ideal for board level protection of high bandwidth applications such as xDSL, cable broadband and high speed Ethernet, due to its high energy handling capability, long and stable life performance and low capacitance of less than 2 pF. Bourns subminiature family of GDTs measure only 5 mm in diameter and are the smallest high performance GDTs in the telecom industry. Bourns® GDTs are designed to prevent damage from transient disturbances by acting as a “crowbar” in creating a short-to-ground circuit during conduction. When a voltage transient surge exceeds the defined breakdown voltage level of the GDT, the device becomes ionized and conduction takes place within a fraction of a microsecond. When the surge passes and system voltage returns to normal levels, the GDT returns to its high-impedance (off) state.

**Features**
- Balanced Mini-TRIGARD™ Series (5 mm diameter, 7.3 mm length)
- Ideal for board level protection of broadband circuits
- Leadless, surface mount for economical assembly
- Stable breakdown throughout life
- High surge current rating, low insertion loss
- Recognized per UL 497B (File: E153537)
- RoHS compliant* version available

### 2036-xx-SM Precision Gas Discharge Tube Surge Protector

**Characteristics**

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

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Model No.</th>
<th>2036-07</th>
<th>2036-09</th>
<th>2036-15</th>
<th>2036-20</th>
<th>2036-23</th>
<th>2036-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Sparkover ±20 % @ 100 V/s</td>
<td>75 V</td>
<td>90 V</td>
<td>150 V</td>
<td>200 V</td>
<td>230 V</td>
<td>250 V</td>
<td></td>
</tr>
<tr>
<td>Impulse Sparkover (1)</td>
<td>100 V/µs</td>
<td>250 V</td>
<td>250 V</td>
<td>350 V</td>
<td>425 V</td>
<td>450 V</td>
<td>475 V</td>
</tr>
<tr>
<td>1000 V/µs</td>
<td>525 V</td>
<td>550 V</td>
<td>500 V</td>
<td>575 V</td>
<td>600 V</td>
<td>625 V</td>
<td></td>
</tr>
<tr>
<td>Impulse Sparkover (1)</td>
<td>100 V/µs</td>
<td>500 V</td>
<td>600 V</td>
<td>650 V</td>
<td>675 V</td>
<td>750 V</td>
<td>850 V</td>
</tr>
<tr>
<td>1000 V/µs</td>
<td>650 V</td>
<td>750 V</td>
<td>825 V</td>
<td>850 V</td>
<td>950 V</td>
<td>1100 V</td>
<td></td>
</tr>
</tbody>
</table>

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

### Specifications

- Operating characteristics per RUS PE-80 and Telcordia GR 1361 available on request.
- Line to Line voltage is approximately 1.8 to 2 times the stated Line to Ground breakdown voltage.
- At delivery AQL 0.65 Level II, DIN ISO 2859.
- Recognized per UL 497B (File: E153537)
- RoHS compliant* version available

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.
2036-xx-SM Precision Gas Discharge Tube Surge Protector

**Product Dimensions**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.3 ± 0.2</td>
<td>0.9 ± 0.2</td>
<td>(0.287 ± 0.008)</td>
</tr>
<tr>
<td>3.3 ± 0.2</td>
<td>0.7 ± 0.2</td>
<td>(0.130 ± 0.008)</td>
</tr>
<tr>
<td>0.5 ± 0.2</td>
<td></td>
<td>(0.020 ± 0.008)</td>
</tr>
<tr>
<td>5.9 ± 0.2</td>
<td></td>
<td>(0.197 ± 0.008)</td>
</tr>
</tbody>
</table>

**Recommended Pad Layout**

**How to Order**

<table>
<thead>
<tr>
<th>Model Number Designator</th>
<th>Voltage (Divided by 10)</th>
<th>Surface Mount</th>
<th>Packaging Options*</th>
<th>RoHS Compliant Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>2036 - xx - SM - RP LF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Blank = Bulk Packaging (Standard)  
RP = Reelpack - 1000 pcs./reel (Optional)  
RP2 = Reelpack - 1000 pcs./reel (Optional)

* The optional -RP & -RP2 reelpacks contain 1000 pcs./reel.  
The reels are 330 mm in diameter. The -RP reelpack is 16 mm wide.  
The -RP2 reelpack is 24 mm wide.

Specifications are subject to change without notice.  
Users should verify actual device performance in their specific applications.  
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Packaging Specifications

The Model 2036-xx-SM ships standard bulk pack, 250 pieces per bag, 4 bags per box.

The optional -RP & -RP2 reelpacks contain 1,000 pcs./reel. The reels are 330 mm in diameter. The -RP reelpack is 16 mm wide. The -RP2 reelpack is 24 mm wide.

-RP

-RP2

TOLERANCES: ±0.13 UNLESS OTHERWISE NOTED

DIMENSIONS: MILLIMETERS
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