Bourns now offers a surface mount (SM) 2-electrode GDT surge protection device. The high quality and outstanding features of the Bourns® miniature 2035 Series GDT continues in this new SM version for 'pick and place' manufacturing techniques. The 2035-xx-SM Series is ideal for high-density applications such as PCBs for telecommunications, commercial and industrial applications.

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>
</tr>
</thead>
<tbody>
<tr>
<td>DC Sparkover ±15 %</td>
<td>2035-09 2035-15 2035-20 2035-23 2035-25 2035-30</td>
</tr>
<tr>
<td>(+20 % for Model 2035-09) @ 100 V/s</td>
<td>90 V 150 V 200 V 230 V 250 V 300V</td>
</tr>
<tr>
<td>Impulse Sparkover (1)</td>
<td></td>
</tr>
<tr>
<td>100 V/µs</td>
<td>350 V 400 V 425 V 450 V 475 V 525 V</td>
</tr>
<tr>
<td>1000 V/µs</td>
<td>525 V 550 V 575 V 600 V 625 V 650 V</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Sparkover ±15 % @ 100 V/s</td>
<td>2035-35 2035-40 2035-42 2035-47 2035-60</td>
</tr>
<tr>
<td>(-12 %, +15 % for Model 2035-60) @ 100 V/s</td>
<td>350 V 400 V 420 V 470 V 600 V</td>
</tr>
<tr>
<td>Impulse Sparkover (1)</td>
<td></td>
</tr>
<tr>
<td>100 V/µs</td>
<td>600 V 650 V 675 V 750 V 950 V</td>
</tr>
<tr>
<td>1000 V/µs</td>
<td>750 V 800 V 850 V 950 V 1100 V</td>
</tr>
</tbody>
</table>

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

Insulation Resistance (IR) ..................100 V (50 V for Model 2035-09) ..........................>10¹⁰ Ω
Glow Voltage ......................................10 mA .................................................................~70 V
Arc Voltage ........................................>1 A .................................................................~10 V
Glow-Arc Transition Current .................<0.5 A .............................................................<1 pF
Capacitance ........................................1 MHz .................................................................<1 pF
DC Holdover Voltage (2) ....................>135 V, (52 V for Model 2035-09, 80 V for Model 2035-15) .........................................<150 ms
Impulse Discharge Current .................10000 A, 8/20 µs (3) ..............................................>1 operation minimum
| | 5000 A, 8/20 µs .................................................................>10 operations
| | 1000 A, 10/350 µs .........................................................1 operation
| | 100 A, 10/1000 µs .........................................................>300 operations
| | 100 A, 10/700 µs .........................................................>500 operations
Alternating Discharge Current .............20 Arms, 11 cycles (3) ..............................................1 operation minimum
| | 5 Arms, 1 s .................................................................>10 operations
Operating Temperature ......................-55 to +85 °C
Climatic Category (IEC 60068-1) ............40/90/21

Notes:
- UL Recognized component, UL File E153537
- Surface Mount (SM) parts may show a temporary increase in DCBD after the solder reflow process. Most devices will recover within 24 hours. It should be noted that there is no quality defect nor change in protection levels during the temporary change in DCBD.
- Sparkover limits after life ±20 % (-25 %, +30 % for Model 2035-09, 2035-60), IR >10⁹.
- At delivery AQL 0.65 Level II, DIN ISO 2859.
- Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev D.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.
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2035-xx-SM Precision Gas Discharge Tube Surge Protector

**Model Number Designator**

Voltage

Surface Mount

Packaging Options
- Blank = Bulk Packaging (Standard)
- RP = Reelpack (Optional)
- RP3 = Reelpack (Optional)
- RP4 = Reelpack (Optional)

RoHS Compliant Option
- Blank = Standard Product
- LF = RoHS Compliant Product

**Packaging Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Standard Packaging Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2035-SM</td>
<td>250</td>
</tr>
<tr>
<td>2035-SM-RP</td>
<td>1500</td>
</tr>
<tr>
<td>2035-SM-RP3</td>
<td>1000</td>
</tr>
<tr>
<td>2035-SM-RP4</td>
<td>1000</td>
</tr>
</tbody>
</table>

- **RP**
  - Reel is 13 inches in diameter and 3/4 inch wide.

- **RP3**
  - Reel is 13 inches in diameter and 11/16 inch wide.

- **RP4**
  - Reel is 13 inches in diameter and 11/16 inch wide.
  - RP4 features the GDTs placed upside-down inside the carrier tape.

**How to Order**

How to Order

2035 - xx - SM - RP LF

**Product Dimensions**

**Recommended Pad Layout**

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

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