Features

- Size: 5 mm diameter, 7.3 mm length
- Very fast acting
- Small size
- Stable breakdown throughout life
- Designed to operate with TBU® devices
- RoHS compliant* versions available
- Recognized per UL 497B

(File: E153537)

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>2030-23T</th>
<th>2030-42T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial DC Sparkover (100 V/s) Typical</td>
<td>230 V</td>
<td>420 V</td>
<td></td>
</tr>
<tr>
<td>Minimum DC Sparkover (100 V/s) Throughout Service Life</td>
<td>185 V</td>
<td>360 V</td>
<td></td>
</tr>
<tr>
<td>Maximum Impulse Sparkover (1) (5 kV/μs) Throughout Service Life</td>
<td>650 V</td>
<td>850 V</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

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

Insulation Resistance (IR) ........................................... 50 V / 100 V ................................................................. > 10¹⁰ Ω
Glow Voltage ......................................................... 10 mA ......................................................................................... ~ 70 V
Arc Voltage ............................................................... >1 A ......................................................................................... ~ 10 V
Glow-Arc Transition Current .................................................. ........................................................................ < 0.5 A
Capacitance................................................................. 1 MHz ......................................................................................... < 1 pF
DC Holdover Voltage (Network Applied per ITU-T K.12)

2030-23T ......................................................... 80 V ......................................................................................... < 150 ms
2030-42T ......................................................... 135 V ......................................................................................... < 150 ms
Impulse Service Life ............................................... 8/20 μs, 4 kA ................................................................. 1 operation (2)

1.2/50 μs, 500 V ................................................................. 150 operations (2) (3)
10/1000 μs, 1 kV, 100 A .................................................. 25 operations (2)
2/10 μs, 6 kV, 500 A .................................................. 10 operations (2)
10/700 μs, 6 kV, 150 A .................................................. 5 operations (2)
AC Service Life ................................................................. 600 V, 1 Arms, 0.2 sec ................................................. 5 operations
Operating Temperature Range .......................................................... -40 °C to +90 °C
Storage Temperature Range ................................................................. -55 °C to +90 °C
Moisture Sensitivity Level ................................................................. ........................................................................ 1
ESD Classification (HBM)................................................................. ........................................................................ 6

Notes:

(2) The rated discharge current is the total current equally divided between each line to ground and operation(s) are performed in both polarities. The polarity of lightning surge tests should be reversed between consecutive surges.

(3) Per IEC 61643-21.

Applications

<table>
<thead>
<tr>
<th>Port Protection</th>
<th>GDT Device P/N</th>
<th>TBU® Device P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>CanBus</td>
<td>2030-23T-SM-RPLF</td>
<td>TBU-CA065-100-WH</td>
</tr>
<tr>
<td>RS232</td>
<td>2030-23T-SM-RPLF</td>
<td>TBU-CA065-200-WH</td>
</tr>
<tr>
<td>RS422</td>
<td>2030-23T-SM-RPLF</td>
<td>TBU-CA065-200-WH</td>
</tr>
<tr>
<td>RS485</td>
<td>2030-23T-SM-RPLF</td>
<td>TBU-CA065-200-WH</td>
</tr>
<tr>
<td>RS485</td>
<td>2030-42T-SM-RPLF</td>
<td>TBU-CA085-200-WH</td>
</tr>
<tr>
<td>SDI</td>
<td>2030-23T-SM-RPLF</td>
<td>TBU-CA065-200-WH</td>
</tr>
</tbody>
</table>

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Applications

- Telecommunications
- Industrial electronics
- Avionics

2030-xxT-SM Series - Fast Acting 3-Electrode Miniature Gas Discharge Tube

Product Dimensions

2030-23T-SM

<table>
<thead>
<tr>
<th>Dimension</th>
<th>MM</th>
<th>(Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>0.3</td>
<td>(.291 ± .012)</td>
</tr>
<tr>
<td>0.9</td>
<td>0.3</td>
<td>(.035 ± .012)</td>
</tr>
<tr>
<td>0.5</td>
<td>0.3</td>
<td>(.020 ± .012)</td>
</tr>
<tr>
<td>0.7</td>
<td>0.3</td>
<td>(.028 ± .012)</td>
</tr>
<tr>
<td>5.0</td>
<td>0.3</td>
<td>(.197 ± .012)</td>
</tr>
<tr>
<td>5.6</td>
<td></td>
<td>(.220 ± .008)</td>
</tr>
</tbody>
</table>

2030-42T-SM

<table>
<thead>
<tr>
<th>Dimension</th>
<th>MM</th>
<th>(Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>0.3</td>
<td>(.291 ± .008)</td>
</tr>
<tr>
<td>1.3</td>
<td>0.13</td>
<td>(.051 ± .005)</td>
</tr>
<tr>
<td>0.5</td>
<td>0.13</td>
<td>(.020 ± .005)</td>
</tr>
<tr>
<td>0.7</td>
<td>0.2</td>
<td>(.028 ± .008)</td>
</tr>
<tr>
<td>5.0</td>
<td>0.3</td>
<td>(.197 ± .012)</td>
</tr>
<tr>
<td>8.2</td>
<td></td>
<td>(.323 ± .008)</td>
</tr>
</tbody>
</table>

Recommended Pad Layout

DIMENSIONS: MILLIMETERS

How to Order

Model Number Designator
2030 - xxT - SM - RP LF

Voltage (Divided by 10)
- 23 = 230 V
- 42 = 420 V

Surface Mount
Packaging Options
- Blank = Bulk Packaging (Standard)
- RP = Reelpack (Optional)
- RP2 = Reelpack (Optional)

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

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## Packaging Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Standard Packaging Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bulk (Bag)</td>
</tr>
<tr>
<td>2030-xxT-SM</td>
<td>250</td>
</tr>
<tr>
<td>2030-xxT-SM-RP</td>
<td></td>
</tr>
<tr>
<td>2030-xxT-SM-RP2</td>
<td></td>
</tr>
</tbody>
</table>

The optional -RP & -RP2 reels are 330 mm in diameter and 23 mm wide.

### -RP

![Diagram of -RP packaging](image1)

### -RP2

![Diagram of -RP2 packaging](image2)

**DIMENSIONS: MILLIMETERS**

Unless otherwise specified, tolerances in decimals are \( X \pm 0.3 \), \( XX \pm 0.15 \) for lengths in millimeters and \( \pm 1^\circ \) for degrees.

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**REV. J 08/20**

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