




## 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
-  UL Recognized

## Applications

- Telecommunications
- Industrial electronics
- Avionics

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

### Characteristics

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

| Characteristic                                                             | Model No. |          |
|----------------------------------------------------------------------------|-----------|----------|
|                                                                            | 2030-23T  | 2030-42T |
| Minimum DC Sparkover (100 V/s) Throughout Service Life                     | 185 V     | 360 V    |
| Maximum Impulse Sparkover <sup>(1)</sup> (5 kV/μs) Throughout Service Life | 650 V     | 850 V    |

<sup>(1)</sup> Impulse Sparkover voltage is defined as typical values of distribution.

|                                                      |                               |                                   |
|------------------------------------------------------|-------------------------------|-----------------------------------|
| Insulation Resistance (IR) .....                     | 50 V / 100 V .....            | > 10 <sup>10</sup> 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 <sup>(2)</sup>        |
|                                                      | 1.2/50 μs - 500 V .....       | 150 operations <sup>(2) (3)</sup> |
|                                                      | 10/1000 μs, 1 kV, 100 A ..... | 25 operations <sup>(2)</sup>      |
|                                                      | 2/10 μs, 6 kV, 500 A .....    | 10 operations <sup>(2)</sup>      |
|                                                      | 10/700 μs, 6 kV, 150 A .....  | 5 operations <sup>(2)</sup>       |
| 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                  |

#### Notes:

<sup>(2)</sup> 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.

<sup>(3)</sup> Per IEC 61643-21.

• At delivery AQL 0.65 Level II, DIN ISO 2859.

• Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev D.

### Applications

| Port Protection | GDT Device P/N   | TBU® Device P/N                  |
|-----------------|------------------|----------------------------------|
| CanBus          | 2030-23T-SM-RPLF | <a href="#">TBU-CA065-100-WH</a> |
| RS232           | 2030-23T-SM-RPLF | <a href="#">TBU-CA065-200-WH</a> |
| RS422           | 2030-23T-SM-RPLF | <a href="#">TBU-CA065-200-WH</a> |
| RS485           | 2030-23T-SM-RPLF | <a href="#">TBU-CA065-200-WH</a> |
| RS485           | 2030-42T-SM-RPLF | <a href="#">TBU-CA085-200-WH</a> |
| SDI             | 2030-23T-SM-RPLF | <a href="#">TBU-CA065-100-WH</a> |

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\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

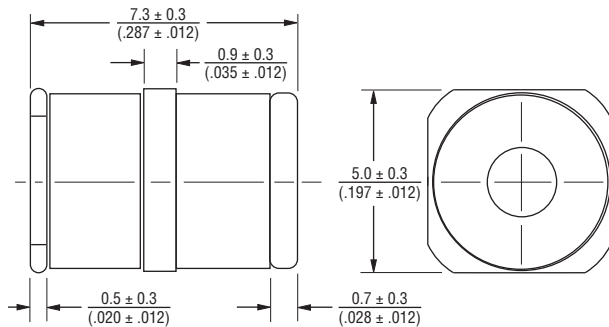
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

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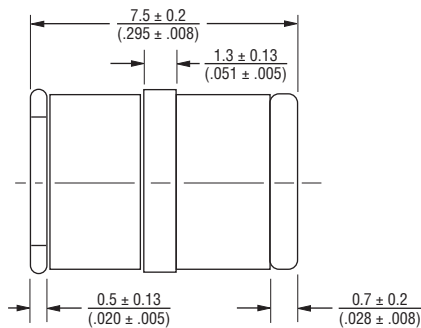
**BOURNS®**

### Product Dimensions

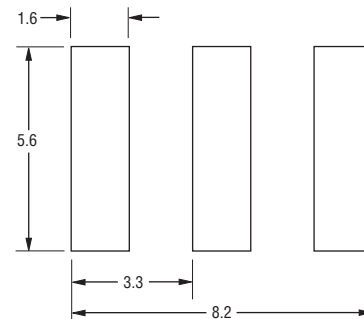
#### 2030-23T-SM



#### 2030-42T-SM



### Recommended Pad Layout



DIMENSIONS: MILLIMETERS

### How to Order

**2030 - xxT - SM - RP LF**

Model Number Designator

Voltage

23 = 185 V

42 = 360 V

Surface Mount

Packaging Options

Blank = Bulk Packaging - 250 pcs./bag, 1,000 pcs./box (Standard)

RP = Reelpack - (Optional)

RP2 = Reelpack - (Optional)

RoHS Compliant Option

Blank = Standard Product

LF = RoHS Compliant Product

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

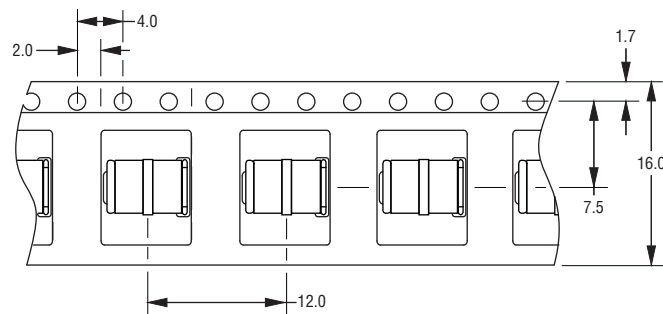
**BOURNS®**

### Packaging Specifications

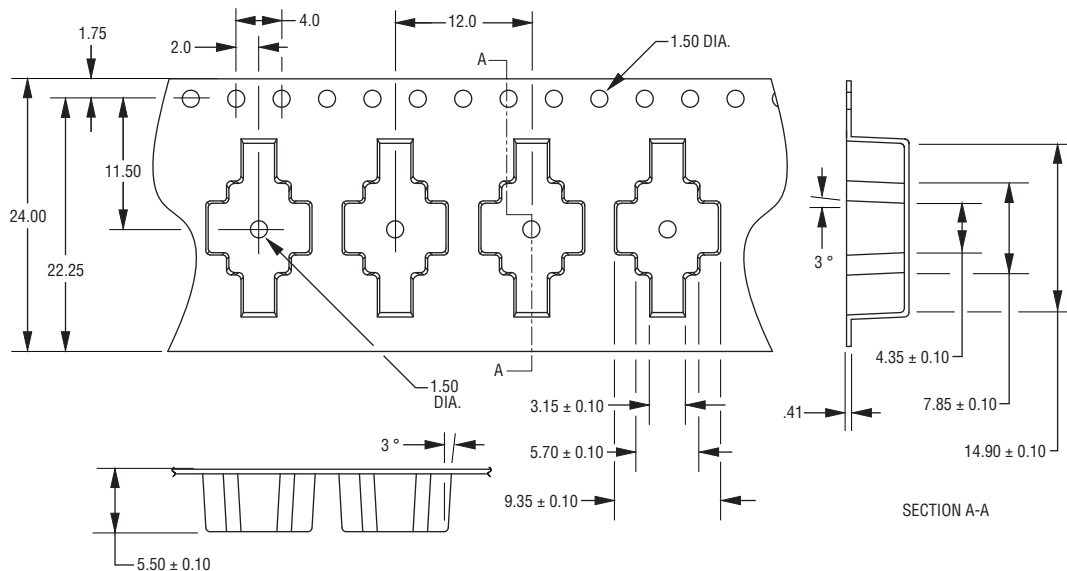
| Model           | Standard Packaging Quantity |      |      |      |
|-----------------|-----------------------------|------|------|------|
|                 | Bulk (Bag)                  | Tray | Box  | Reel |
| 2030-xxT-SM     | 250                         |      | 1000 |      |
| 2030-xxT-SM-RP  |                             |      |      | 500  |
| 2030-xxT-SM-RP2 |                             |      |      | 500  |

The optional -RP & -RP2 reels are 330 mm in diameter. The -RP reelpack is 18 mm wide. The -RP2 reelpack is 26 mm wide.

#### -RP



#### -RP2



**DIMENSIONS: MILLIMETERS**

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

REV. F 08/15

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