




Features

- 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

2031-xxT-SM Series - Miniature 2-Pole Gas Discharge Tube

Characteristics

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

| Characteristic | Model No. | | |
|---|-----------|----------|----------|
| | 2031-15T | 2031-23T | 2031-42T |
| Initial DC Sparkover (100 V/s) Typical | 150 V | 230 V | 420 V |
| Minimum DC Sparkover (100 V/s) Throughout Service Life | 60 V | 185 V | 360 V |
| Maximum Impulse Sparkover ⁽¹⁾ (5k V 1.2/50 μ s) Throughout Service Life | 500 V | 650 V | 850 V |

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

| | | |
|---|--|----------------------------|
| Insulation Resistance (IR) | 50 / 100 V | > 10 ⁹ 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) | | |
| 2031-15T | 52 V | < 150 ms |
| 2031-23T | 80 V | < 150 ms |
| 2031-42T | 135 V | < 150 ms |
| Service Life | 8/20 μ s, 1 kA | 2 operations |
| | 10/1000 μ s, 1 kV, 100 A | 50 operations |
| | 2/10 μ s, 5 kV, 500 A | 20 operations |
| | 10/700 μ s, 6 kV, 150 A | 10 operations |
| | 8/20 μ s 250 A, 1.2/50 μ s, 500 V (IEC 61643-21) | 150 operations |
| | 600 V rms, 1 A, 0.2 s | 5 operations |
| Operating and Storage Temperature, Climatic Category (IEC 6068-1) 40 / 90 / 21 | | -40 °C to +90 °C |
| Moisture Sensitivity Level | | 1 |
| ESD Classification (HBM) | | 6 |

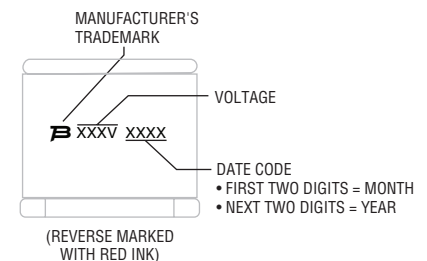
Notes:

- **UL Recognized component, UL File E153537.**
- Surge polarity should be reversed between consecutive surges (+--+).
- 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 | 2031-23T-SM-RPLF | TBU-CA065-100-WH |
| RS232 | 2031-23T-SM-RPLF | TBU-CA065-200-WH |
| RS422 | 2031-23T-SM-RPLF | TBU-CA065-200-WH |
| RS485 | 2031-23T-SM-RPLF | TBU-CA065-200-WH |
| RS485 | 2031-42T-SM-RPLF | TBU-CA085-200-WH |
| SDI | 2031-23T-SM-RPLF | TBU-CA065-100-WH |
| VDSL | 2031-15T-SM-RPLF | TBU-CA050-500-WH |

Typical Part Marking



"TBU" is a registered trademark of Bourns, Inc. in the U.S., Taiwan and European Community.

*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.

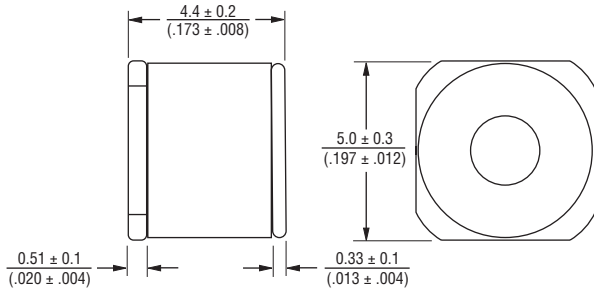
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

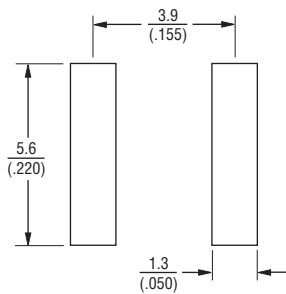
2031-xxT-SM Series - Miniature 2-Pole Gas Discharge Tube



Product Dimensions



Recommended Pad Layout



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

How to Order

2031 - xxT - SM - RP LF

Model Number Designator

Voltage (Divided by 10)

- 15 = 150 V
- 23 = 230 V
- 42 = 420 V

Surface Mount

Packaging Options

- Blank = Bulk Packaging - 250 pcs./bag (Standard)
- RP = Reelpack - 1,500 pcs./reel (Optional)
- RP3 = Reelpack - 1,000 pcs./reel (Optional)

RoHS Compliant Option

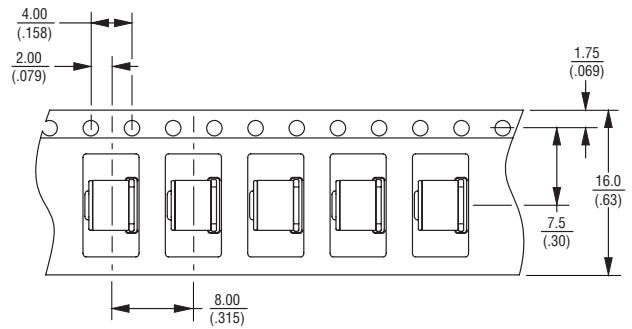
- Blank = Standard Product
- LF = RoHS Compliant Product

Packaging Specifications

| Model | Standard Packaging Quantity | | | |
|-----------------|-----------------------------|------|------|------|
| | Bulk (Bag) | Tray | Box | Reel |
| 2031-xxT-SM | 250 | | 1000 | |
| 2031-xxT-SM-RP | | | | 1500 |
| 2031-xxT-SM-RP3 | | | | 1000 |

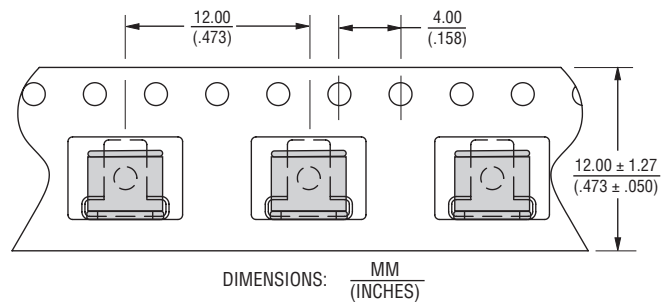
-RP

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



-RP3

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



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

REV. I 09/17