




## 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
Minimum DC Sparkover (100 V/s) Throughout Service Life	60 V	185 V	360 V
Maximum Impulse Sparkover <sup>(1)</sup> (5k V 1.2/50 $\mu$ s) Throughout Service Life	500 V	650 V	850 V

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

Insulation Resistance (IR) .....	50 / 100 V .....	> 10 <sup>9</sup> $\Omega$
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 $\mu$ s, 1 kA .....	2 operations
	10/1000 $\mu$ s, 1 kV, 100 A .....	50 operations
	2/10 $\mu$ s, 5 kV, 500 A .....	20 operations
	10/700 $\mu$ s, 6 kV, 150 A .....	10 operations
	8/20 $\mu$ s 250 A, 1.2/50 $\mu$ 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

### 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	<a href="#">TBU-CA065-100-WH</a>
RS232	2031-23T-SM-RPLF	<a href="#">TBU-CA065-200-WH</a>
RS422	2031-23T-SM-RPLF	<a href="#">TBU-CA065-200-WH</a>
RS485	2031-23T-SM-RPLF	<a href="#">TBU-CA065-200-WH</a>
RS485	2031-42T-SM-RPLF	<a href="#">TBU-CA085-200-WH</a>
SDI	2031-23T-SM-RPLF	<a href="#">TBU-CA065-100-WH</a>
VDSL	2031-15T-SM-RPLF	<a href="#">TBU-CA050-500-WH</a>

"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.

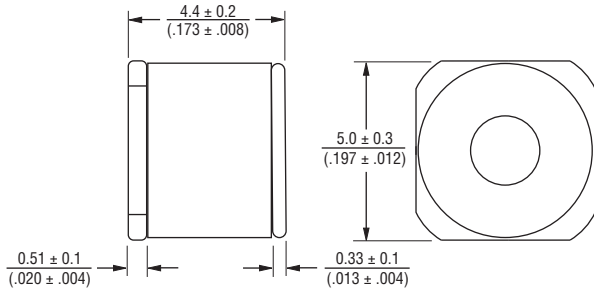
Specifications are subject to change without notice.

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.

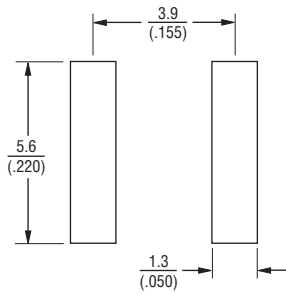
# 2031-xxT-SM Series - Miniature 2-Pole Gas Discharge Tube

**BOURNS®**

## Product Dimensions



## Recommended Pad Layout



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

## How to Order

2031 - xxT - SM - RP LF

Model Number Designator

Voltage

- 15 = 60 V
- 23 = 185 V
- 42 = 360 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

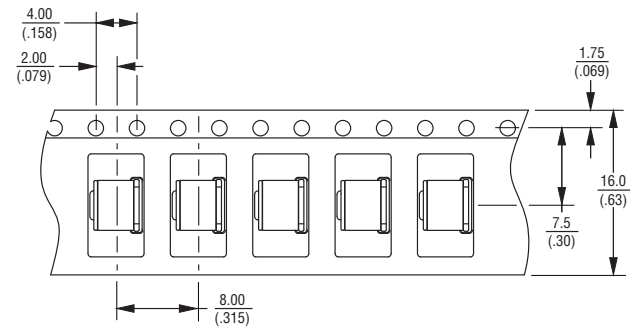
- Blank = Standard Product
- LF = RoHS Compliant Product

## 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

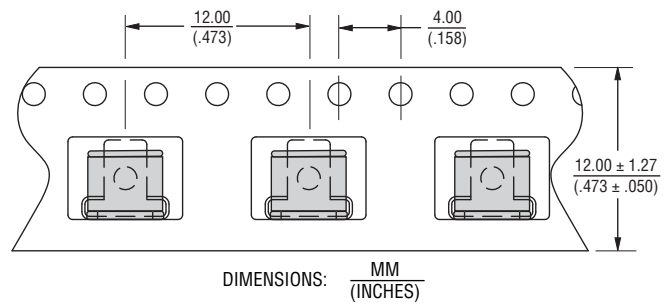
### -RP

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



### -RP3

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



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

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

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