




## Features

- Fast acting
- Small size
- Stable breakdown throughout life
- Designed to operate with TBU® devices
- RoHS compliant\* versions available
-  UL Recognized

## Additional Information

Click these links for more information:



# 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 <sup>(1)</sup> (5k V 1.2/50 μs) 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> 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 μs, 1 kA .....	2 operations
	10/1000 μs, 1 kV, 100 A .....	50 operations
	2/10 μs, 5 kV, 500 A .....	20 operations
	10/700 μs, 6 kV, 150 A .....	10 operations
	8/20 μs 250 A, 1.2/50 μs, 500 V (IEC 61643-21) .....	150 operations
	600 V rms, 1 A, 0.2 s .....	5 operations
Operating and Storage Temperature, Climatic Category (IEC 60068-1) 40 / 90 / 21 .....		-40 °C to +90 °C
Moisture Sensitivity Level .....		1
ESD Classification (HBM) .....		N/A

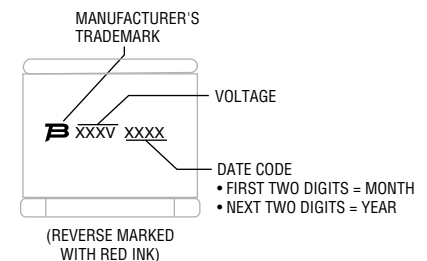
### Notes:

- **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



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

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 \*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
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 Users should verify actual device performance in their specific applications.  
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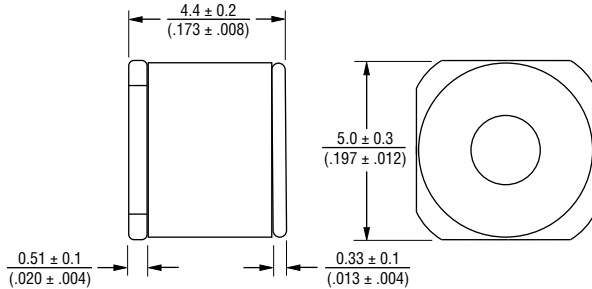
## Applications

- Telecommunications
- Industrial electronics
- Avionics

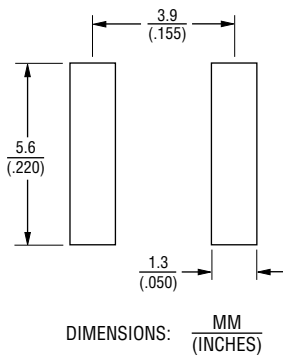
# 2031-xxT-SM Series - Miniature 2-Pole Gas Discharge Tube

**BOURNS®**

### Product Dimensions



### Recommended Pad Layout



### 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

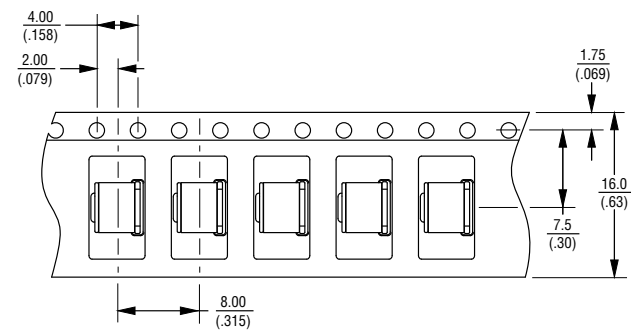
LF = RoHS Compliant Product

### 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

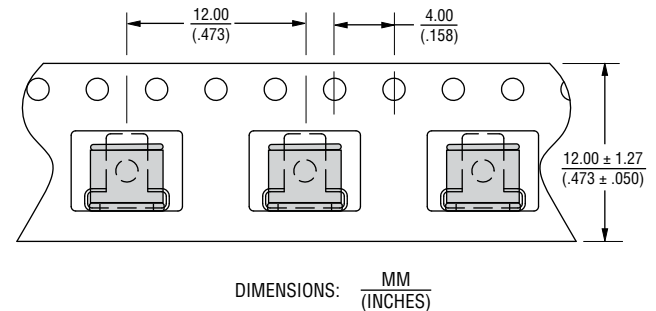
#### -RP

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.

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Users should verify actual device performance in their specific applications.

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