



Features

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

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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 > 10⁹ 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 60068-1) 40 / 90 / 21 -40 °C to +90 °C

Moisture Sensitivity Level 1

ESD Classification (HBM) N/A

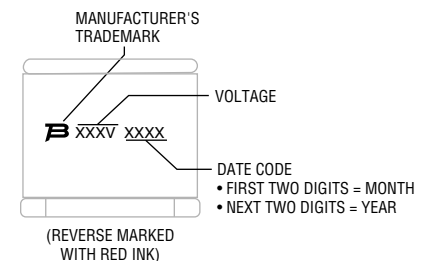
Notes:

- **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

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All references to TBU® in this document for use in Japan shall be deemed to be replaced with Bourns® TBU™.

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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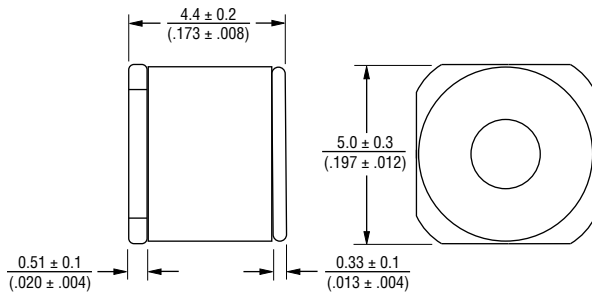
Applications

- Telecommunications
- Industrial electronics
- Avionics

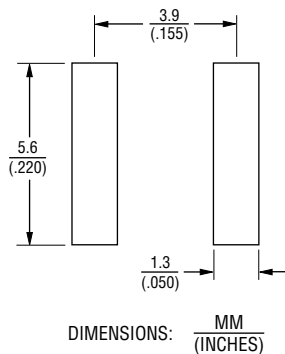
2031-xxT-SM Series - Miniature 2-Pole Gas Discharge Tube

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

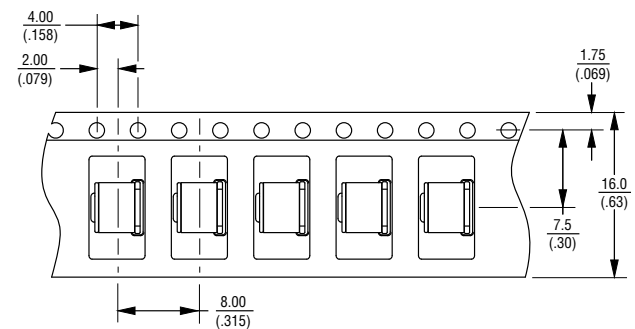
LF = RoHS Compliant Product

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

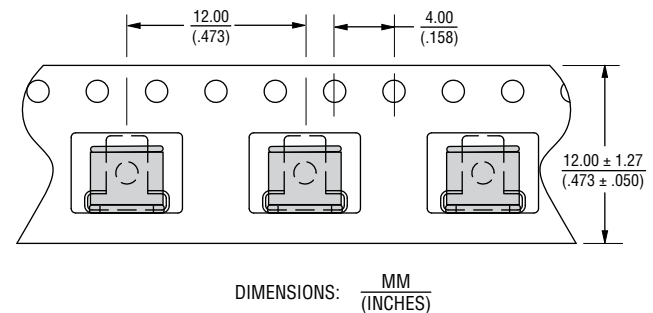
-RP

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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