



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

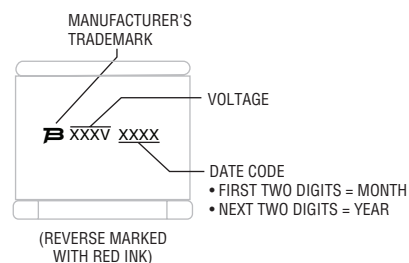
Notes:

- **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.

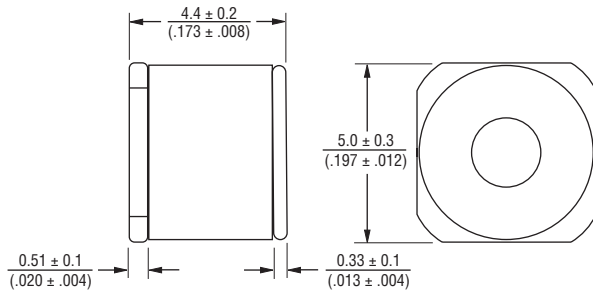
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

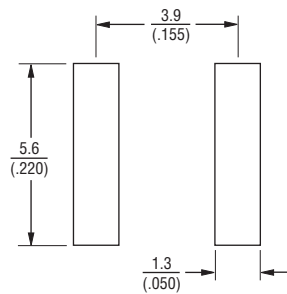
2031-xxT-SM Series - Miniature 2-Pole Gas Discharge Tube

BOURNS®

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

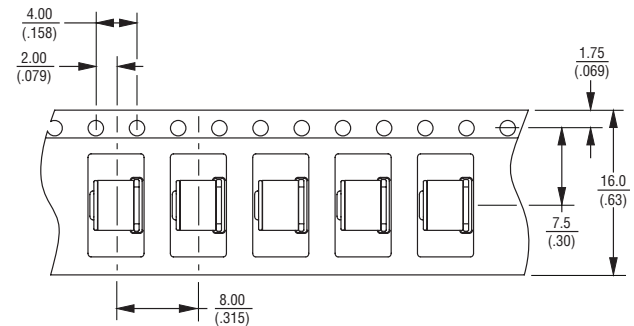
LF = RoHS Compliant Product

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

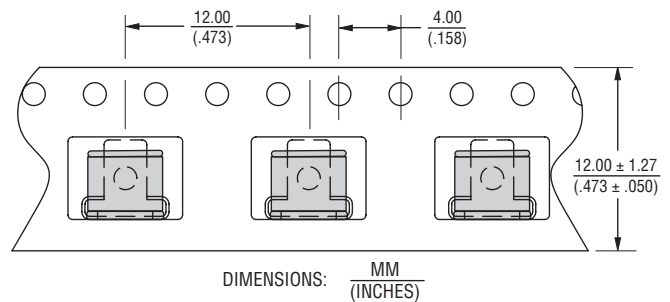
-RP

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



-RP3

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



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.

REV. I 09/17

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