




## Features

- Size: 5 mm diameter, 7.3 mm length
- Very 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

## 2030-xxT-SM Series - Fast Acting 3-Electrode Miniature Gas Discharge Tube

### Characteristics

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

Characteristic	Model No.	
	2030-23T	2030-42T
Initial DC Sparkover (100 V/s) Typical	230 V	420 V
Minimum DC Sparkover (100 V/s) Throughout Service Life	185 V	360 V
Maximum Impulse Sparkover <sup>(1)</sup> (5 kV/μs) Throughout Service Life	650 V	850 V

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

Insulation Resistance (IR) .....	50 V / 100 V .....	> 10 <sup>10</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)		
2030-23T .....	80 V .....	< 150 ms
2030-42T .....	135 V .....	< 150 ms
Impulse Service Life .....	8/20 μs, 4 kA .....	1 operation <sup>(2)</sup>
	1.2/50 μs - 500 V .....	150 operations <sup>(2) (3)</sup>
	10/1000 μs, 1 kV, 100 A .....	25 operations <sup>(2)</sup>
	2/10 μs, 6 kV, 500 A .....	10 operations <sup>(2)</sup>
	10/700 μs, 6 kV, 150 A .....	5 operations <sup>(2)</sup>
AC Service Life .....	600 V, 1 Arms, 0.2 sec .....	5 operations
Operating Temperature Range .....		-40 °C to +90 °C
Storage Temperature Range .....		-55 °C to +90 °C
Moisture Sensitivity Level .....		1
ESD Classification (HBM) .....		6

#### Notes:

<sup>(2)</sup> The rated discharge current is the total current equally divided between each line to ground and operation(s) are performed in both polarities. The polarity of lightning surge tests should be reversed between consecutive surges.

<sup>(3)</sup> Per IEC 61643-21.

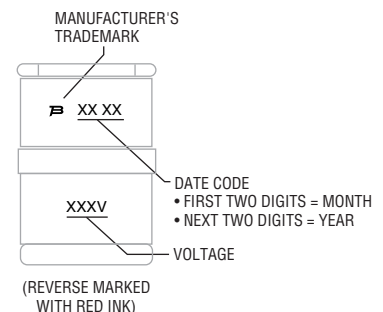
• At delivery AQL 0.65 Level II, DIN ISO 2859.

• 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	2030-23T-SM-RPLF	TBU-CA065-100-WH
RS232	2030-23T-SM-RPLF	TBU-CA065-200-WH
RS422	2030-23T-SM-RPLF	TBU-CA065-200-WH
RS485	2030-23T-SM-RPLF	TBU-CA065-200-WH
RS485	2030-42T-SM-RPLF	TBU-CA085-200-WH
SDI	2030-23T-SM-RPLF	TBU-CA065-100-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.

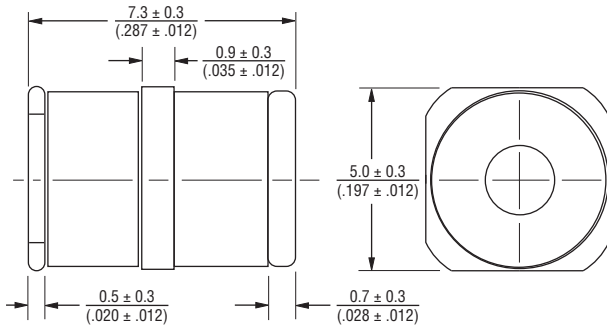
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# 2030-xxT-SM Series - Fast Acting 3-Electrode Miniature Gas Discharge Tube

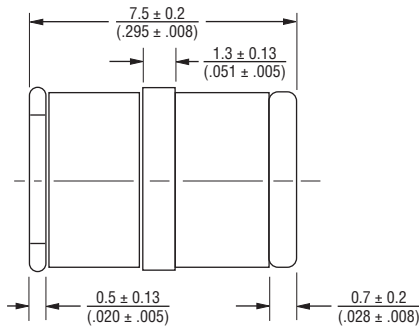


## Product Dimensions

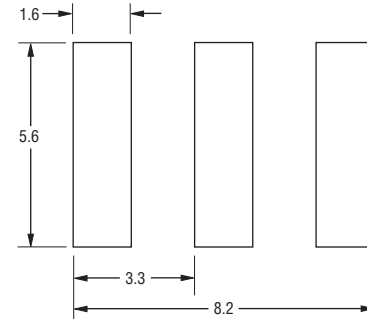
### 2030-23T-SM



### 2030-42T-SM



## Recommended Pad Layout



DIMENSIONS: MILLIMETERS

## How to Order

2030 - xxT - SM - RP LF

- Model Number Designator \_\_\_\_\_
- Voltage (Divided by 10) \_\_\_\_\_  
 23 = 230 V  
 42 = 420 V
- Surface Mount \_\_\_\_\_
- Packaging Options \_\_\_\_\_  
 Blank = Bulk Packaging - 250 pcs./bag, 1,000 pcs./box (Standard)  
 RP = Reelpack - (Optional)  
 RP2 = Reelpack - (Optional)
- RoHS Compliant Option \_\_\_\_\_  
 Blank = Standard Product  
 LF = RoHS Compliant Product

# 2030-xxT-SM Series - Fast Acting 3-Electrode Miniature Gas Discharge Tube

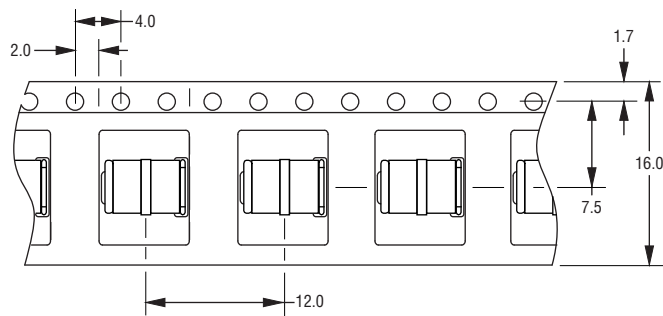


## Packaging Specifications

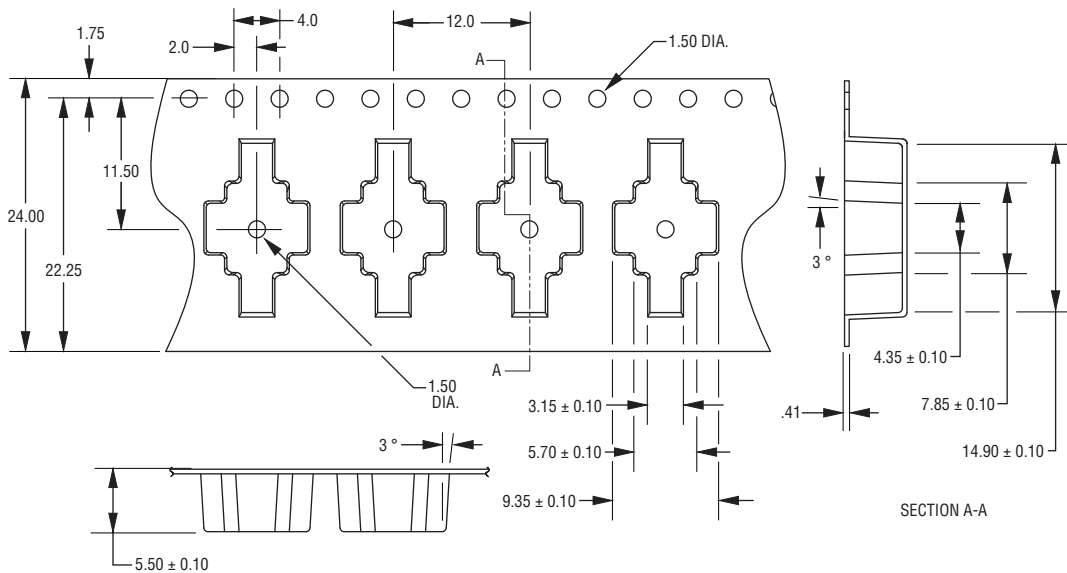
Model	Standard Packaging Quantity			
	Bulk (Bag)	Tray	Box	Reel
2030-xxT-SM	250		1000	
2030-xxT-SM-RP				500
2030-xxT-SM-RP2				500

The optional -RP & -RP2 reels are 330 mm in diameter. The -RP reelpack is 18 mm wide. The -RP2 reelpack is 26 mm wide.

### -RP



### -RP2



DIMENSIONS: MILLIMETERS

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

REV. I 09/19

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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