



## Features

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

## Applications

- Telecommunications
- Industrial electronics
- Avionics

# 2020 T Series - 3-Pole Fast Gas Discharge Tube

## Characteristics

Characteristic	Model No.		
	2020-15T	2020-23T	2020-42T
Minimum DC Sparkover (100 V/s) Throughout Service Life	60 V	180 V	360 V
Maximum Impulse Sparkover (5k V 1.2/50 µs) Throughout Service Life	500 V	650 V	850 V

Impulse Transverse Delay.....	1000 V/µs .....	< 75 ns
Insulation Resistance (IR) .....	50 V / 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)		
2020-15T .....	52 V .....	< 150 ms
2020-23T .....	80 V .....	< 150 ms
2020-42T .....	135 V .....	< 150 ms
Service Life <sup>1</sup> .....	8/20 µs, 5 kA .....	1 operation
	10/1000 µs, 1 kV, 100 A.....	100 operations <sup>2</sup>
	2/10 µs, 5 kV, 1000 A.....	10 operations <sup>2</sup>
	10/700 µs, 6 kV, 150 A.....	50 operations <sup>2</sup>
	8/20 µs, 500 A, 1.2/50 µs, 500 V.....	150 operations <sup>2</sup>
	600 V, 5 Arms, 0.2 sec.....	10 operations
	600 Vrms, 0.5 A - 60 A .....	Fail-Short activates <sup>3</sup>
	230 Vrms, 0.5 A-25 A .....	Fail-Short activates <sup>3</sup>
Operating and Storage Temperature.....		-40 to +90 °C
Climatic Category (IEC 60068-1) .....		40 / 90 / 21

### Notes:

- 1 Applied per conductor to center pin.
  - 2 Surge polarity should be reversed between consecutive surges (+,-,+,-)
  - 3 Applies only to GDT with optional Fail-Short. GDT operates and will survive with Fail-Short activation.
- At delivery AQL 0.65 Level II, DIN ISO 2859.

## Applications

Port Protection	GDT Device P/N	TBU® Device P/N
CanBus	2020-23T	<a href="#">TBU-CA065-100-WH</a>
RS232	2020-23T	<a href="#">TBU-CA065-200-WH</a>
RS422	2020-23T	<a href="#">TBU-CA065-200-WH</a>
RS485	2020-23T	<a href="#">TBU-CA065-200-WH</a>
RS485	2020-42T	<a href="#">TBU-CA085-200-WH</a>
SDI	2020-23T	<a href="#">TBU-CA065-100-WH</a>
VDSL	2020-15T	<a href="#">TBU-CA050-500-WH</a>

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\*RoHS Directive 2002/95/EC Jan 27, 2003 including Annex.

Specifications are subject to change without notice.

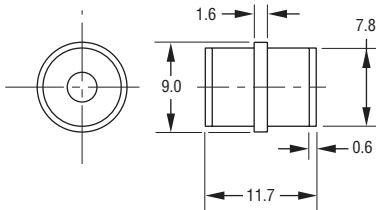
Customers should verify actual device performance in their specific applications.

# 2020 T Series - 3-Pole Fast Gas Discharge Tube

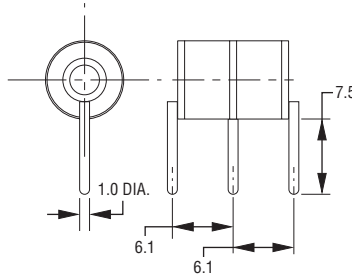
**BOURNS®**

Product Dimensions (additional lead form configurations available upon request)

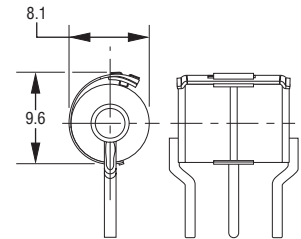
**2020-xxT-A**



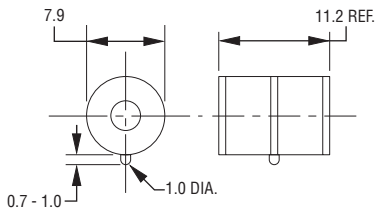
**2020-xxT-C4**



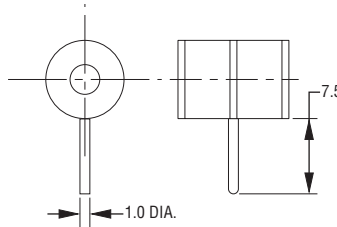
**FAIL-SHORT  
CONFIGURATION  
2020-xxT-C2F SHOWN**



**2020-xxT-A1**



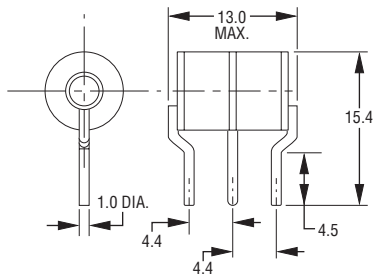
**2020-xxT-C8**



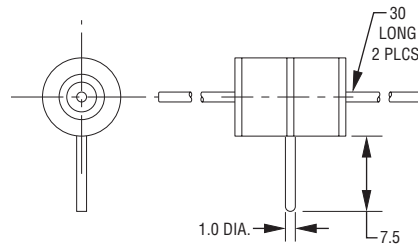
DIMENSIONS: MILLIMETERS

UNITS WITH LEADS ARE BASED ON THE 2020-xxT-A1 BODY.

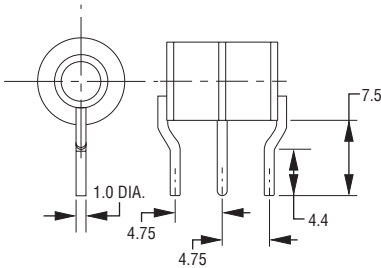
**2020-xxT-C2**



**2020-xxT-C  
1.0 mm dia. lead wire**



**2020-xxT-C3**



## How to Order

**2020 - xxT - x x F LF**

**Model Number**

**Designator**

**Voltage**

15 = 60 V

23 = 180 V

42 = 360 V

**Leads**

A = None/Cassette Applications

Cn = 1 mm Dia. Leads/Through-hole

**Lead Shape**

(See Product Dimension Drawings)

**Fail-Short Option**

Blank = Standard Product

F = With Fail-Short Mechanism

**RoHS Compliant Option**

Blank = Standard Product

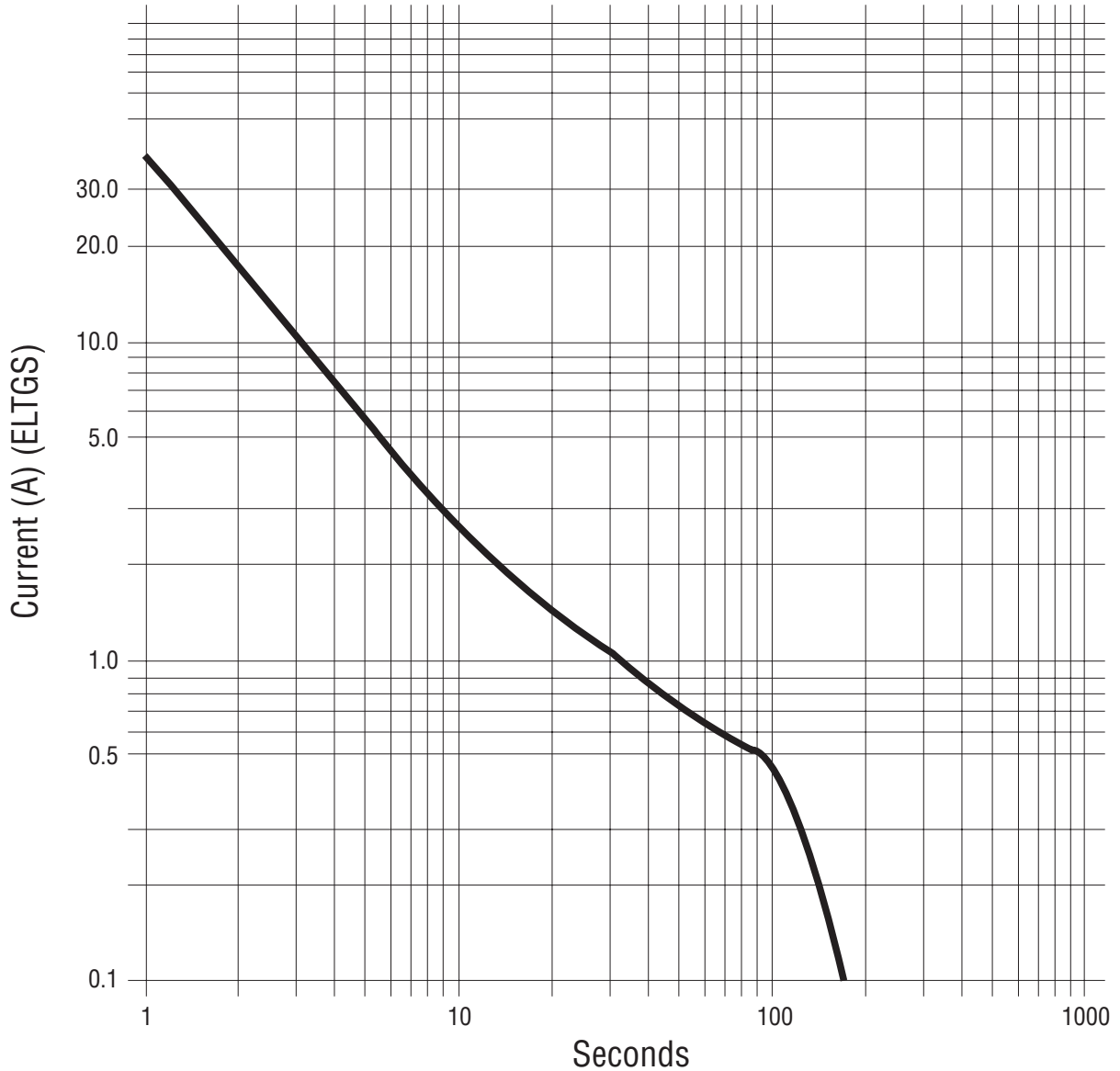
LF = RoHS Compliant Product

Model 2020-xxT ships in standard bulk pack, 100 pcs./tray.

# 2020 T Series - 3-Pole Fast Gas Discharge Tube

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## Switch-Grade Fail-Short Device Shorting Curve 2020-xxT-XF



ELTGS = Each Line to Ground Simultaneously

NOTE: When using a GDT fail-short device, it is imperative that all components associated and connected to the GDT with failsafe be tested in their respective completely integrated environment (finished product) to assure desired operation.