



## 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 - Fast Acting 3-Electrode Miniature GDT

## 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 $\mu$ s) Throughout Service Life	500 V	650 V	850 V

Impulse Transverse Delay .....	1000 V/ $\mu$ s .....	< 75 ns
Insulation Resistance (IR) .....	50 V / 100 V .....	> 10 <sup>9</sup> $\Omega$
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 $\mu$ s, 10 kA.....	1 operation
	10/1000 $\mu$ s, 1 kV, 200 A.....	100 operations <sup>2</sup>
	2/10 $\mu$ s, 6 kV, 2000 A.....	10 operations <sup>2</sup>
	10/700 $\mu$ s, 6 kV, 300 A.....	50 operations <sup>2</sup>
	8/20 $\mu$ s, 500 A, 1.2/50 $\mu$ s, 500 V .....	150 operations <sup>2</sup>
	600 V, 10 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 The rated discharge current is the total current equally divided between each line to ground.
  - 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>

"TBU" is a registered trademark of Bourns, Inc. in the United States and other countries.

\*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.

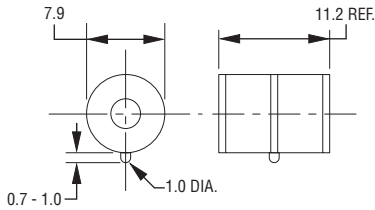
Customers should verify actual device performance in their specific applications.

# 2020 T-Series - Fast Acting 3-Electrode Miniature GDT

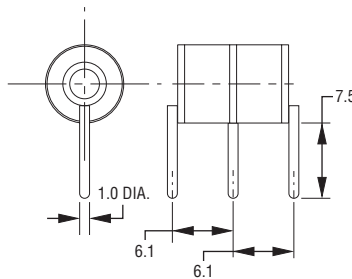
**BOURNS®**

Product Dimensions (additional lead form configurations available upon request)

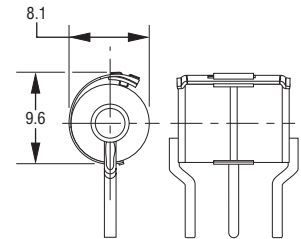
**2020-xxT-A1**



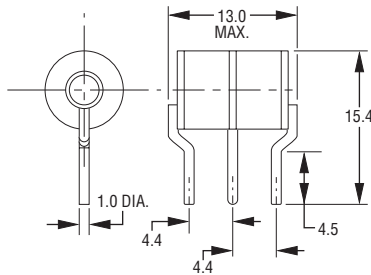
**2020-xxT-C4**



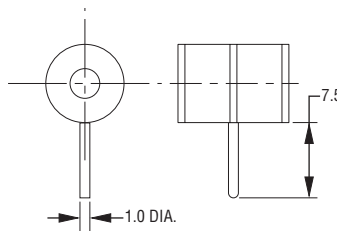
**FAIL-SHORT  
CONFIGURATION  
2020-xxT-C2F SHOWN**



**2020-xxT-C2**



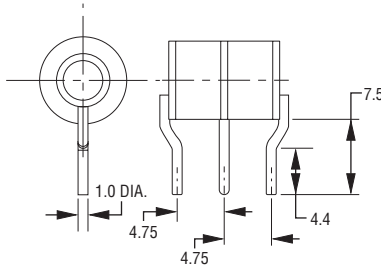
**2020-xxT-C8**



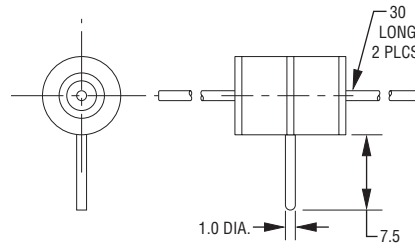
DIMENSIONS: MILLIMETERS

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

**2020-xxT-C3**



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



## 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

C = 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

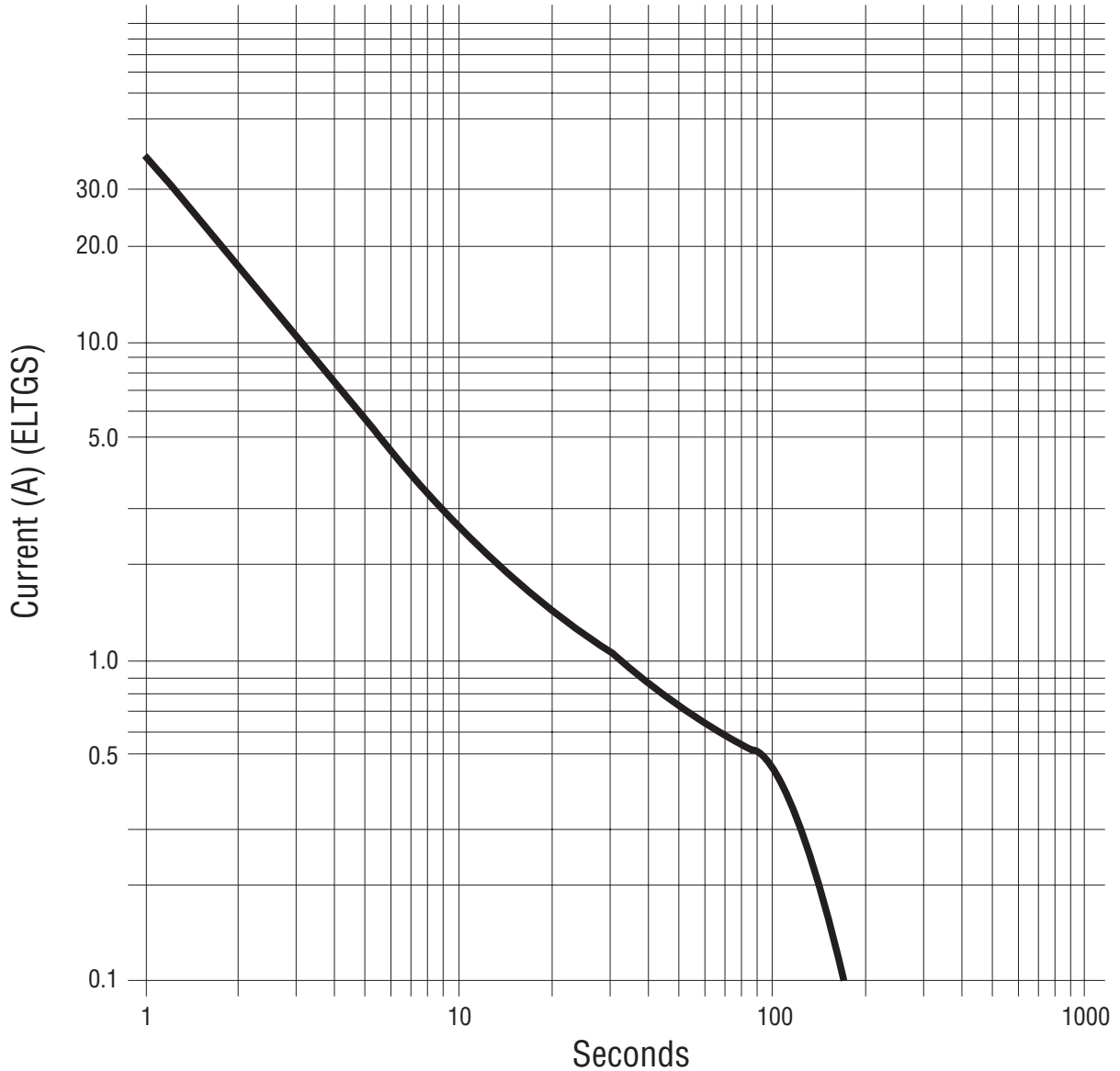
LF = RoHS Compliant Product

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

# 2020 T-Series - Fast Acting 3-Electrode Miniature GDT

**BOURNS®**

## 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.

REV. D 03/12

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