



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 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)		
2020-15T	52 V	< 150 ms
2020-23T	80 V	< 150 ms
2020-42T	135 V	< 150 ms
Service Life ¹	8/20 µs, 5 kA	1 operation
	10/1000 µs, 1 kV, 100 A.....	100 operations ²
	2/10 µs, 5 kV, 1000 A.....	10 operations ²
	10/700 µs, 6 kV, 150 A.....	50 operations ²
	8/20 µs, 500 A, 1.2/50 µs, 500 V.....	150 operations ²
	600 V, 5 Arms, 0.2 sec.....	10 operations
	600 Vrms, 0.5 A - 60 A	Fail-Short activates ³
	230 Vrms, 0.5 A-25 A	Fail-Short activates ³
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	TBU-CA065-100-WH
RS232	2020-23T	TBU-CA065-200-WH
RS422	2020-23T	TBU-CA065-200-WH
RS485	2020-23T	TBU-CA065-200-WH
RS485	2020-42T	TBU-CA085-200-WH
SDI	2020-23T	TBU-CA065-100-WH
VDSL	2020-15T	TBU-CA050-500-WH

"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.

Specifications are subject to change without notice.

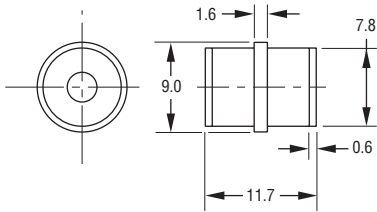
Customers should verify actual device performance in their specific applications.

2020 T Series - 3-Pole Fast Gas Discharge Tube

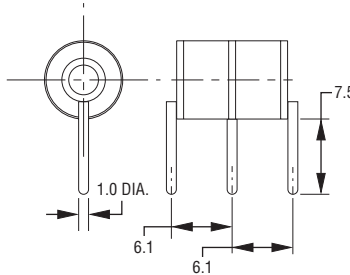
BOURNS®

Product Dimensions (additional lead form configurations available upon request)

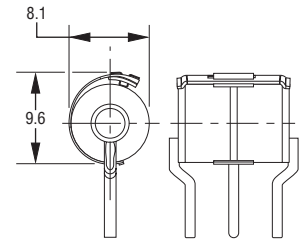
2020-xxT-A



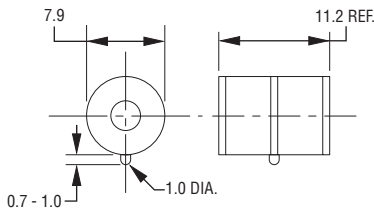
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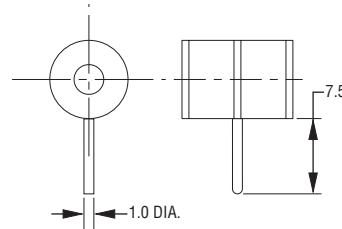
**FAIL-SHORT
CONFIGURATION
2020-xxT-C2F SHOWN**



2020-xxT-A1



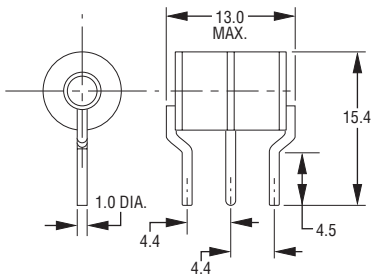
2020-xxT-C8



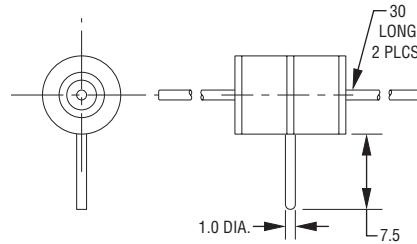
DIMENSIONS: MILLIMETERS

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

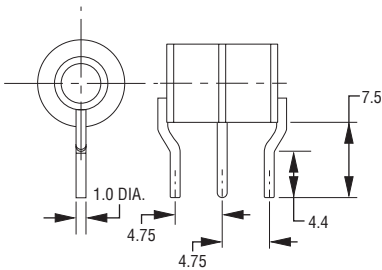
2020-xxT-C2



**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 (Divided by 10)

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

Lead Free Option

Blank = Standard Product

LF = Lead Free/RoHS Compliant Product

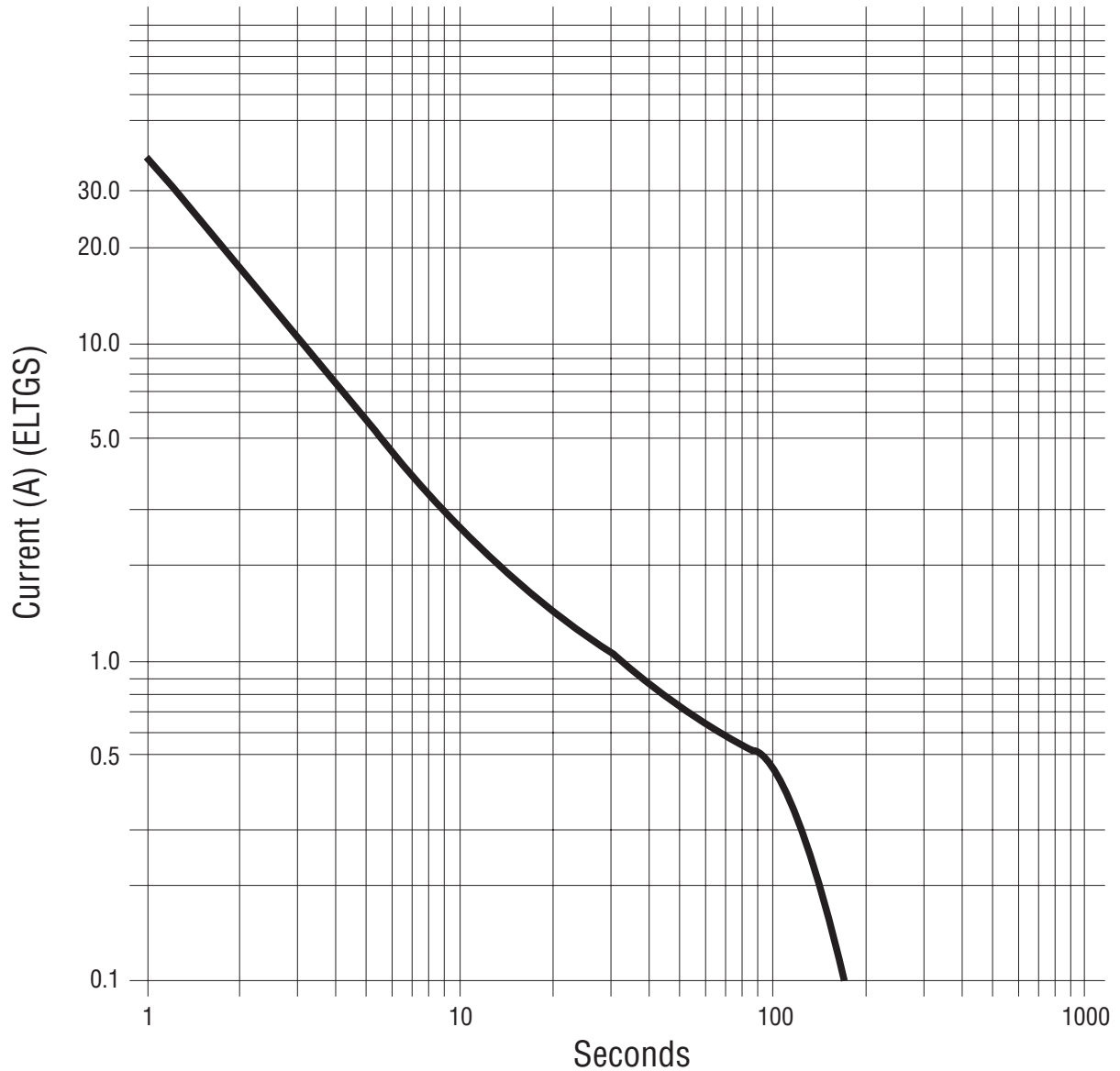
Model 2020-xxT ships in standard bulk pack, 100 pcs./tray.

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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. A 02/11

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