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

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

Characteristic	Model No.		
	2020-15T	2020-23T	2020-42T
Initial DC Sparkover (100 V/s) Typical	150 V	230 V	420 V
Minimum DC Sparkover (100 V/s) Throughout Service Life	60 V	180 V	360 V
Maximum Impulse Sparkover [1] (5 kV/µs) Throughout Service Life	500 V	650 V	850 V

[1] Impulse Sparkover voltage is defined as typical values of distribution.

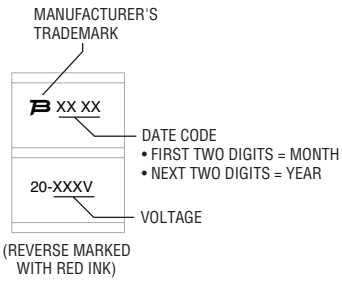
Impulse Transverse Delay	1000 V/µs	< 75 ns
Insulation Resistance (IR)	50 V / 100 V	> 10^9 Ω
Glow Voltage	10 mA	~ 70 V
Arc Voltage	>1 A	~ 10 V
Glow-Arc Transition Current		< 0.5 A
Capacitance	1 MHz	< 2 pF
DC Holdover Voltage (Network Applied per ITU-T K.12)		
2020-15T	52 V	< 150 ms
2020-23T	80 V	< 150 ms
2020-42T	135 V	< 150 ms
Service Life [2]	8/20 µs, 10 kA	1 operation
	10/1000 µs, 1 kV, 200 A	100 operations [3]
	2/10 µs, 6 kV, 2000 A	10 operations [3]
	10/700 µs, 6 kV, 300 A	50 operations [3]
	8/20 µs, 500 A, 1.2/50 µs, 500 V	150 operations [3]
	600 V, 10 Arms, 0.2 sec	10 operations
	600 Vrms, 0.5 A - 60 A	Fail-Short activates [4]
	230 Vrms, 0.5 A-25 A	Fail-Short activates [4]
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:
[2] The rated discharge current is the total current equally divided between each line to ground.
[3] Surge polarity should be reversed between consecutive surges (+,-,+,-)
[4] 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.
- Models with the optional Fail-Short assembly activate at low temperature (215 °C – 217 °C) when required. These models are designed to be soldered either manually or using a selective soldering process that does not exceed 210 °C, below the temperature that the Fail-Short assembly would activate.

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

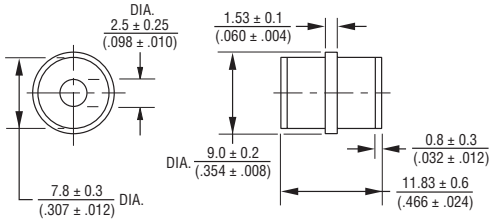
Typical Part Marking



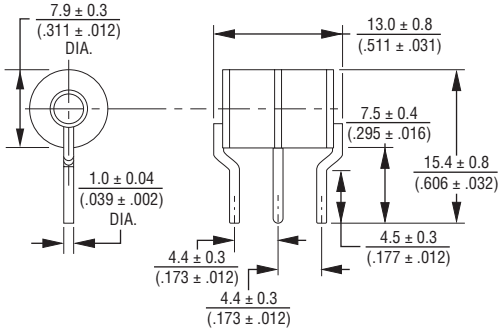
"TBU" is a registered trademark of Bourns, Inc. in the United States and other countries.
*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet 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.

Product Dimensions (additional lead form configurations available upon request)

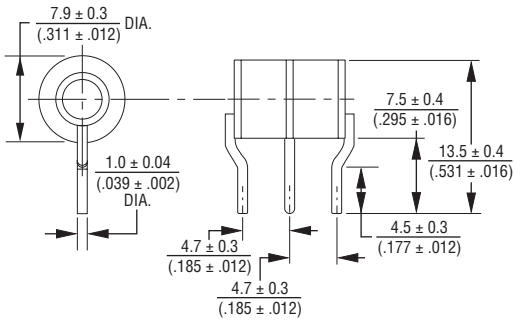
2020-xxT-A1



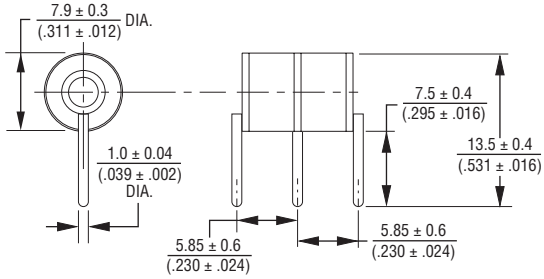
2020-xxT-C2



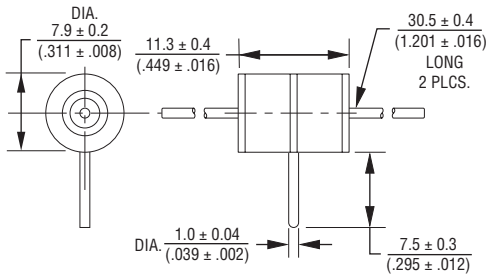
2020-xxT-C3



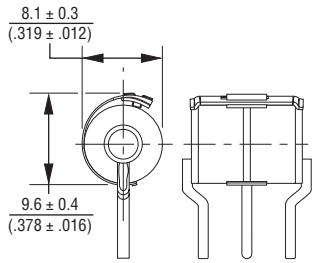
2020-xxT-C4



2020-xxT-C
1.0 ± 0.08 mm (.039 ± .003 in.) dia. lead wire



FAIL-SHORT CONFIGURATION
2020-xxT-C2F SHOWN



DIMENSIONS: MM / (INCHES)

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

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

BOURNS®

How to Order

2020 - xxT - x x F LF

Model Number Designator

Voltage (Divided by 10)
- 15 = 150 V
- 23 = 230 V
- 42 = 420 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

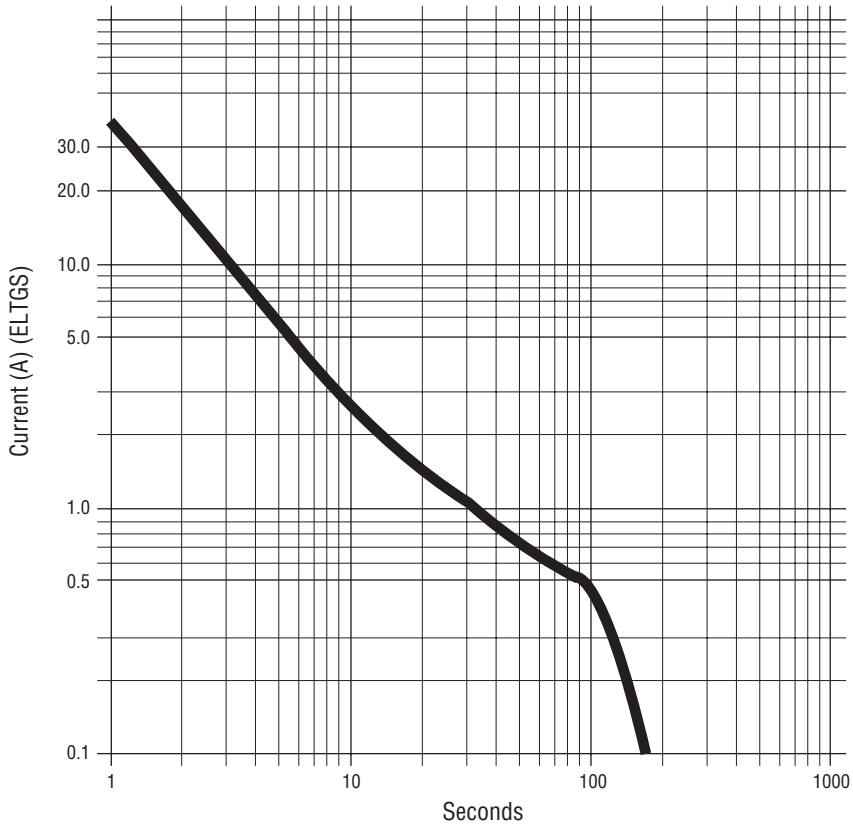
RoHS Compliant Option
- Blank =Standard Product
- LF = RoHS Compliant Product

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

Packaging Specifications

Model	Standard Packaging Quantity		
	Bulk (Bag)	Tray	Box
2020-xxT-A1	250		1000
2020-xxT-C		100	1000
2020-xxT-C2		100	1000
2020-xxT-C3		100	1000
2020-xxT-C4		100	1000

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.

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