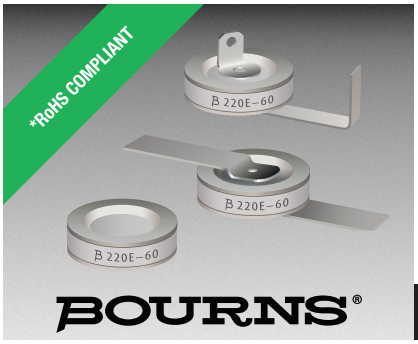


Features

- Fast response time
- Wide temperature range
- High surge current rating
- Low capacitance and insertion loss
- Stable performance throughout life
- Small surface mount package
- RoHS compliant*

Applications

- Surge Protective Devices (SPDs)
- Power systems
- Industrial equipment

GDT220E Series - High Energy Gas Discharge Tube Arrestor

General Information

The Model GDT220E Series are UL recognized GDT devices rated at 60 kA maximum on an 8/20 µs waveform, providing a volume and space-saving solution for high density and space-restricted applications. This device is available in various lead shapes to fit a variety of configuration requirements.

Product Characteristics

Storage Temperature Range	-55 °C to +105 °C
Operating Temperature Range	-55 °C to +105 °C
Climate Category *(IEC 60068-1)*	55 / 105 / 21
Moisture Sensitivity Level (MSL)	1
ESD Classification - HBM	N/A

How to Order

GDT 2 20 E - xx - A - BX

Description
GDT = Gas Discharge Tube - Next-Generation Series

Electrodes
2 = 2-Electrode

Size
20 = 20 mm Diameter

Sub-series Designator
E = High Energy GDT

Voltage

15 = 150 V	35 = 350 V	47 = 470 V	80 = 800 V
23 = 230 V	40 = 400 V	50 = 500 V	100 = 1000 V
30 = 300 V	42 = 420 V	60 = 600 V	

Terminal Designator**
A = Leadless (Standard)
T1 = Two Side Terminals Type 1
T2 = Two Side Terminals Type 2

Packaging Options
BX = Box (Standard)

**Special terminals upon request

Additional Information

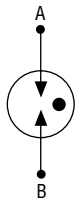
Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Agency Recognition

Agency	Category	Agency File No.
UL	1449-4	E313168

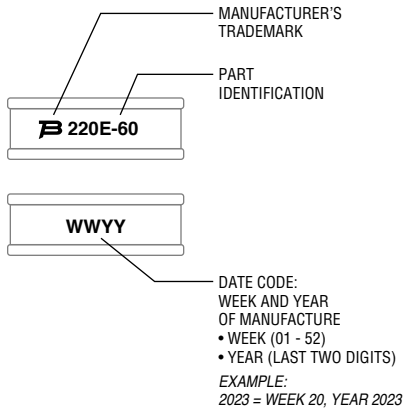
Circuit Diagram



Note: Gas discharge tubes are bidirectional and non-polarized.

Typical Part Marking

Represents total content. Layout may vary.



Packaging Specifications

Model	Quantity per Box
GDT220E-xx-A	800
GDT220E-xx-T1	800
GDT220E-xx-T2	1280

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com
EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com
The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com
www.bourns.com

WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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Electrical Characteristics

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

Bourns Part No.	Device Specifications									
	DC Breakdown Voltage ±20 %	Maximum Impulse Breakdown Voltage	Maximum Impulse Discharge Current (8/20 μs)		Maximum Impulse Discharge Current (10/350 μs)	TOV 1200 V 0.2 S	Maximum Follow-On Current @ 50/60 Hz	MCOV @ 50/60 Hz	Minimum Insulation Resistance[1]	Breakdown Time
	100~2000 V/s	1.2/50 μs 6 kV	1 time	10 times	1 time					
GDT220E-15	150 V	1100 V	60 kA	40 kA	12.5 kA	300 A	N/A	N/A	1 GΩ	<100 ns
GDT220E-23	230 V	1100 V						52 V		
GDT220E-30	300 V	1100 V						95 V		
GDT220E-35	350 V	1100 V								
GDT220E-40	400 V	1200 V					50 A	130 V		
GDT220E-42	420 V	1200 V						150 V		
GDT220E-47	470 V	1300 V						175 V		
GDT220E-50	500 V	1300 V					100 A	220 V		
GDT220E-60	600 V	1300 V						255 V		
GDT220E-80	800 V	1400 V								
GDT220E-100	1000 V	1500 V								

Notes:

(1) IR Test Voltage: 50 V for GDT220E-15,
100 V for GDT220E-23 through GDT, 220E-40,
250 V for GDT220E-42 through GDT220E-100.

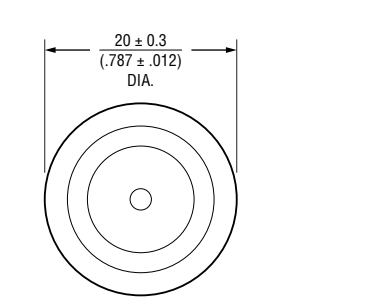
- At delivery AQL 0.65 Level II, DIN ISO 2859.
- DC and Impulse Sparkover values are in ionized mode @ 25 °C.
- Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev. D.
- Impulse Sparkover voltage is expressed as a maximum value, with a 99 % probability of measured values within limit.
- IR limits after Life Ratings > 100 MΩ.
- Network applied (per *ITU-T K.12 Edition 9.0, Section 7*).
- DC Sparkover Voltage limits after Life Ratings may exceed +20 % but will continue to protect without venting (per *ITU-T K.12 Edition 9.0, Section 6*, where applicable).

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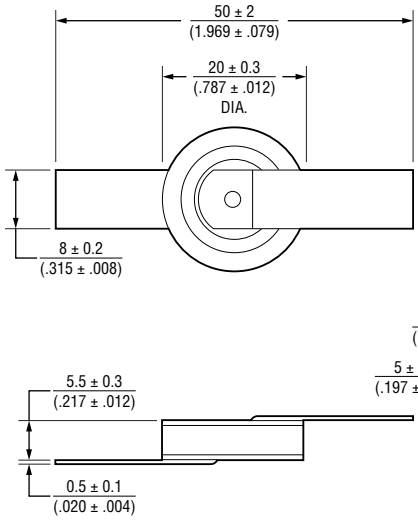
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Product Dimensions

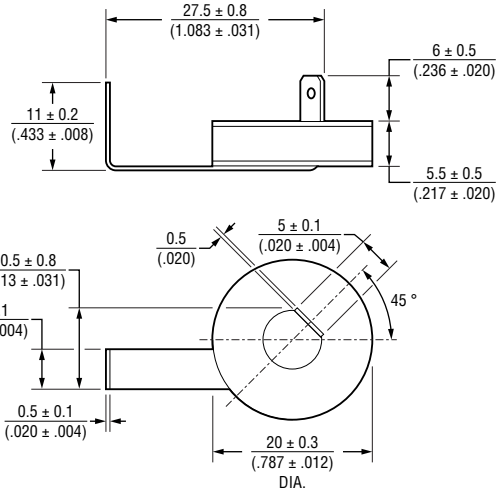
GDT220E-xx-A



GDT220E-xx-T1



GDT220E-xx-T2



DIMENSIONS: MM / (INCHES)

REV. A 08/23

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