

## 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

# GDT230E Series – Very High Energy Gas Discharge Tube Arrestor

### General Information

Bourns® Model GDT230E Series UL recognized GDT devices are rated at 160 kA maximum on an 8/20  $\mu$ s waveform, providing a volume and space-saving solution for high-density and space-restricted applications that require a very high surge current. This series is available in various lead shapes to fit a variety of configuration requirements.

### Product Characteristics

Storage Temperature Range ..... -40 °C to +105 °C  
 Operating Temperature Range ..... -40 °C to +105 °C  
 Climatic Category (*IEC 60068-1*)..... 40 / 105 / 21  
 Moisture Sensitivity Level (MSL) ..... 1  
 ESD Classification - HBM..... N/A

### How to Order

**GDT 2 30 E - xx - A - BX**

Description \_\_\_\_\_  
 GDT = Gas Discharge Tube - Next-Generation Series

Electrodes \_\_\_\_\_  
 2 = 2-Electrode

Size \_\_\_\_\_  
 30 = 30 mm Diameter

Sub-series Designator \_\_\_\_\_  
 E = High Energy GDT

Voltage \_\_\_\_\_  
 50 = 500 V  
 60 = 600 V  
 80 = 800 V

Terminal Designator\*\* \_\_\_\_\_  
 A = Leadless (Standard)  
 T1 = Two Side Terminals  
 T2 = Parallel Terminals

Packaging Options \_\_\_\_\_  
 BX = Box (Standard)

\*\*Special terminals upon request

### Additional Information

Click these links for more information:






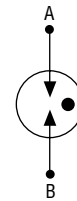


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### Agency Recognition

Agency	Category	Agency File No.
 UL	1449-4	E313168

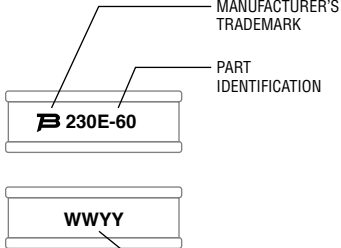
### Circuit Diagram



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

### Typical Part Marking

Represents total content. Layout may vary.



DATE CODE:  
 WEEK AND YEAR  
 OF MANUFACTURE

- WEEK (01 - 52)
- YEAR (LAST TWO DIGITS)

EXAMPLE:  
 2023 = WEEK 20, YEAR 2023



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\*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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### Packaging Specifications

Model	Quantity per Box
GDT230E-xx-A	180
GDT230E-xx-T1	180
GDT230E-xx-T2	180

# GDT230E Series – Very High Energy Gas Discharge Tube Arrestor



## Electrical Characteristics

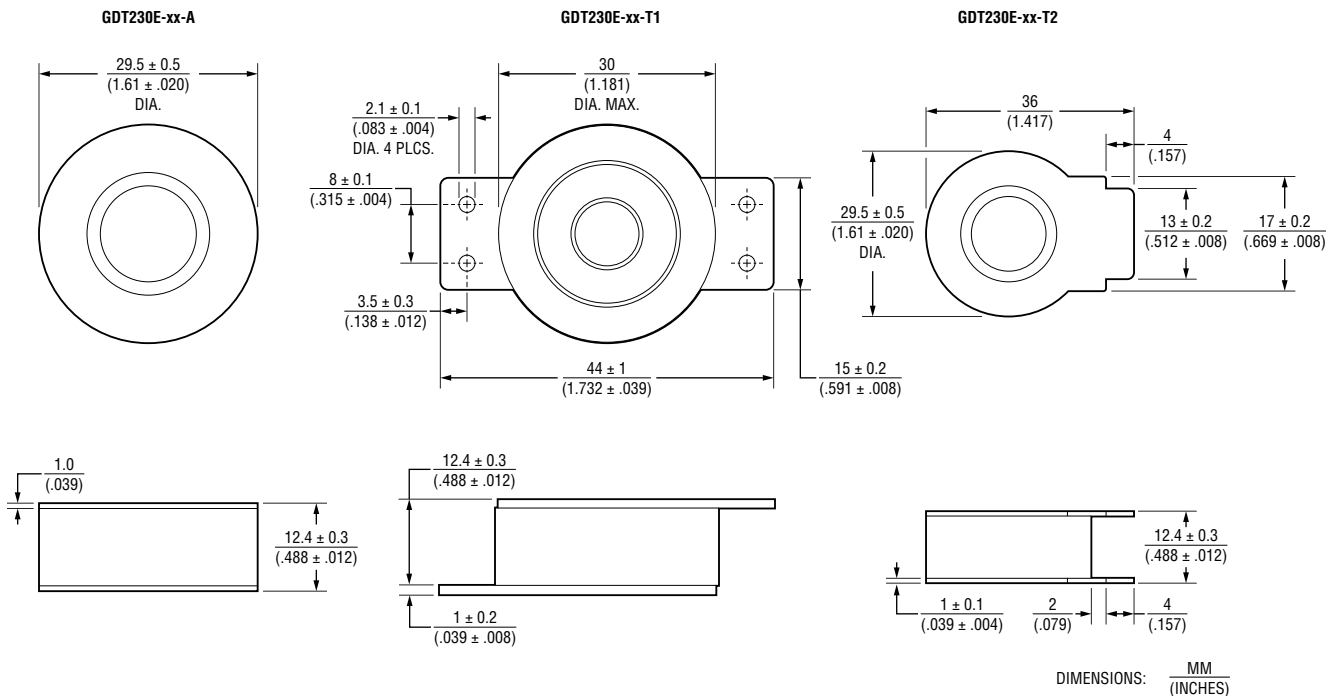
Test Methods per ITU-T K.12, IEEE C62.31 and IEC 61643-311 GDT standards.

Bourns Part No.	Device Specifications									
	DC Breakdown Voltage $\pm 20\%$	Maximum Impulse Breakdown Voltage	Maximum Impulse Discharge Current (8/20 $\mu$ s)		Maximum Impulse Discharge Current (10/350 $\mu$ s)	TOV 1200 V 0.2 S	Maximum Follow-On Current @ 50/60 Hz	MCOV @ 50/60 Hz	Minimum Insulation Resistance <sup>1</sup>	Breakdown Time
			100~2000 V/s	1.2/50 $\mu$ s 6 kV						
GDT230E-50	500 V	1300 V	160 kA	100 kA	50 kA	300 A	100 A	255 V	10 G $\Omega$	<100 ns
GDT230E-60	600 V	1400 V								
GDT230E-80	800 V	1500 V								

Notes:

- (1) IR Test Voltage: 250 V.
- 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 M $\Omega$ .
- 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).

## Product Dimensions



REV. 1 09/24

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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