

NEW PRODUCT BRIEF

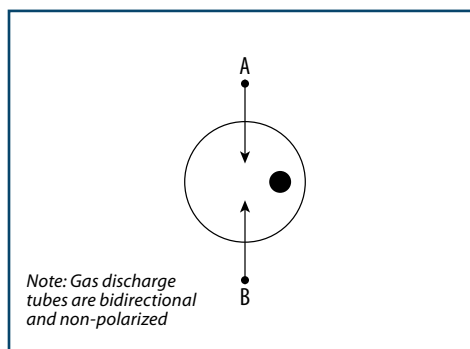
Bourns® Model GDT2xxE Family High Energy Gas Discharge Tube Arrestors

INTRODUCTION

Bourns' new High Energy Gas Discharge Tube (GDT) surge arrestor family is designed for AC power line and other high current applications. These high surge current-rated 2-electrode GDTs deliver high performance protection in an innovative low profile package. The new family includes four series that meet international IEC lightning protection zone, UL1449, and IEC 61643-11 standards, and are suitable for Class I, II and III surge protection.

- **The Model GDT212E** (12 mm diameter)
Series is rated at 40 kA maximum on an 8/20 μ s waveform. It features DC breakdown voltages from 230 V to 800 V.
- **The Model GDT216E** (16 mm diameter)
Series is rated at 40 kA maximum on an 8/20 μ s waveform with DC breakdown voltages from 500 V to 800 V.
- **The Model GDT220E** (20 mm diameter)
Series is rated at 60 kA maximum on an 8/20 μ s waveform. This series offers DC breakdown voltages from 150 V to 1000 V.
- **The Model GDT225E** (25 mm diameter)
Series is rated at 80 kA maximum on an 8/20 μ s waveform. It features DC breakdown voltages from 500 V to 800 V.

CIRCUIT DIAGRAM



HOW TO ORDER

GDT 2 12 E - xx - A - BX

Description _____
GDT = Gas Discharge Tube -
Next-Generation Series

Electrodes _____
2 = 2-Electrode

Size _____
12 = 12 mm Diameter
16 = 16 mm Diameter
20 = 20 mm Diameter
25 = 25 mm Diameter

Sub-series Designator _____
E = High Energy GDT

Voltage** _____
15 = 150 V 47 = 470 V
23 = 230 V 50 = 500 V
25 = 250 V 60 = 600 V
30 = 300 V 70 = 700 V
35 = 350 V 80 = 800 V
42 = 420 V 100 = 1000 V

Terminal Designator*** _____
A = Leadless (Standard)
T1 = M3 Stud Terminals
T2 = Parallel Terminals

Packaging Options _____
BX = Box (Standard)

FEATURES

- Fast response time
- Wide temperature range
- High surge current rating to 80 kA max.
- Low capacitance and insertion loss
- Stable performance throughout life
- Small surface mount package
- RoHS compliant*

BENEFITS

- Very high current handling capability for AC power line applications in a small footprint
- Broad range of DC breakdown voltage and lead shapes to fit different configuration requirements
- Innovative low profile package provides a volume and space-saving solution for high density and space-restricted PCB applications
- Offers lower clamping voltage than MOVs for the same surge current rating
- GDTs have a longer lifespan than other types of surge arrestors, and can withstand more surge events without degradation

APPLICATIONS

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

MORE INFORMATION

- [AC Power SPDs](#)
- [High Energy MOVs](#)
- [High Current GDTs](#)
- [Power TVS \(PTVS\) Diodes](#)

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

**Consult specific series data sheet for available voltage range

***Special terminals upon request

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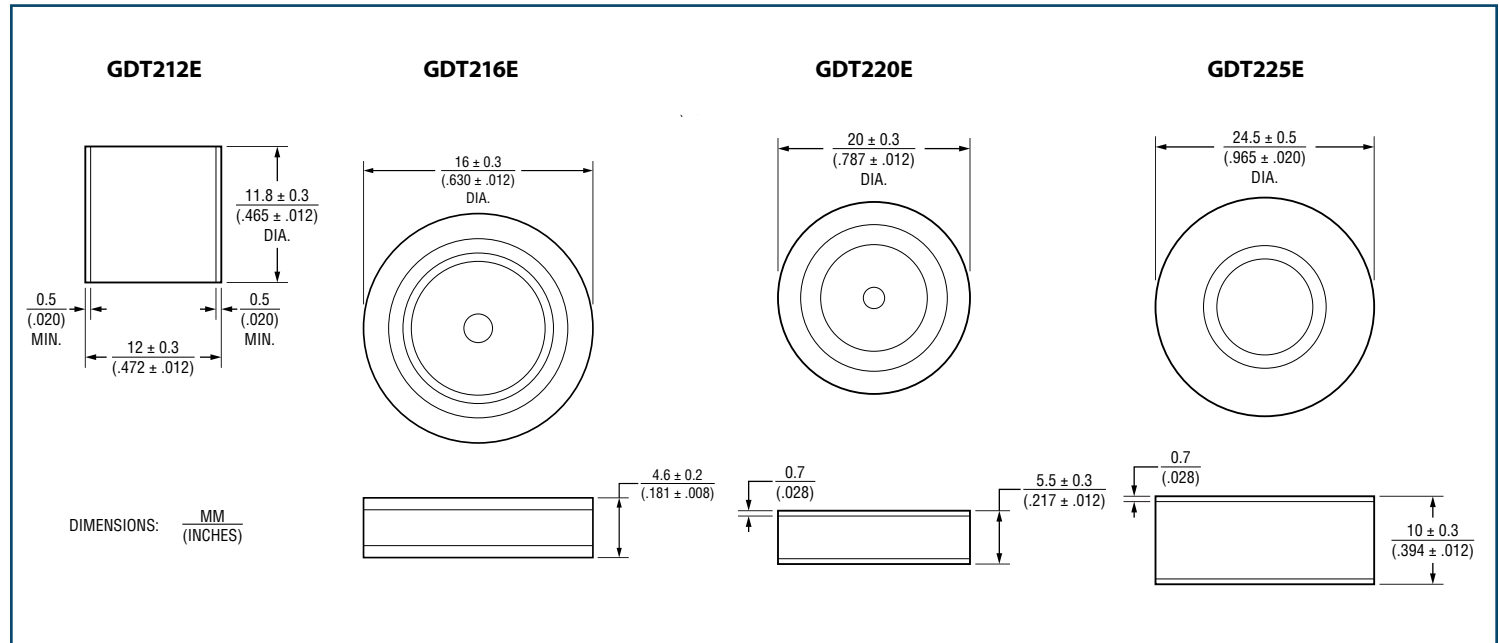
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ELECTRICAL CHARACTERISTICS

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

Part Number	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 Sec.	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					
GDT212E	230 - 800 V	1100 - 1500 V	40 kA	30 kA	8 kA	100 A	50 - 100 A	95 - 255 V	1 GΩ	<100 ns
GDT216E	500 - 800 V	1300 - 1500 V	40 kA	20 kA	8 kA	300 A	100 A	255 V	1 GΩ	<100 ns
GDT220E	150 - 1000 V	1100 - 1500 V	60 kA	40 kA	12.5 kA	300 A	50 - 100 A	52 - 255 V	1 GΩ	<100 ns
GDT225E	500 - 800 V	1300 - 1500 V	80 kA	60 kA	30 kA	300 A	100 A	255 V	1 GΩ	<100 ns

PRODUCT DIMENSIONS



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