

## 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

# GDT212E Series - High Energy Gas Discharge Tube Arrestor

### General Information

The Model GDT212E Series are UL recognized GDT devices rated at 40 kA maximum on an 8/20  $\mu$ s waveform, providing a broad DC breakdown voltage solution for high-density surge capability requirements. 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

	<b>GDT 2 12 E - xx - A - BX</b>
Description _____	
GDT = Gas Discharge Tube - Next-Generation Series	
Electrodes _____	
2 = 2-Electrode	
Size _____	
12 = 12 mm Diameter	
Sub-series Designator _____	
E = High Energy GDT	
Voltage _____	
23 = 230 V      47 = 470 V	
25 = 250 V      50 = 500 V	
30 = 300 V      60 = 600 V	
35 = 350 V      70 = 700 V	
42 = 420 V      80 = 800 V	
Terminal Designator** _____	
A = Leadless (Standard)	
T1 = M3 Stud Terminals	
T2 = Parallel Terminals	
Packaging Options _____	
BX = Box (Standard)	

\*\*Special terminals upon request



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**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://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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### Additional Information

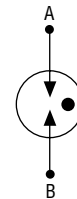
Click these links for more information:



### Agency Recognition

Agency	Category	Agency File No.
UL	1449-4	<a href="#">E313168</a>

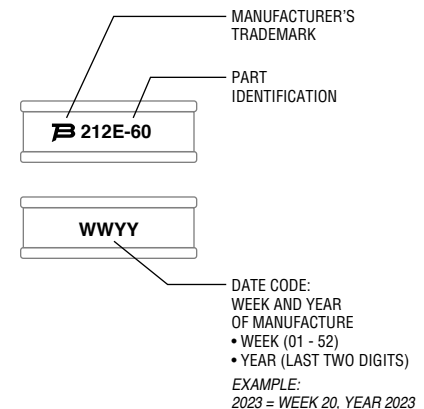
### Circuit Diagram



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

### Typical Part Marking

Represents total content. Layout may vary.



### Packaging Specifications

Model	Quantity per Box
GDT212E-xx-A	1200
GDT212E-xx-T1	1050
GDT212E-xx-T2	1200

# GDT212E Series - High Energy Gas Discharge Tube Arrestor



## Electrical Characteristics

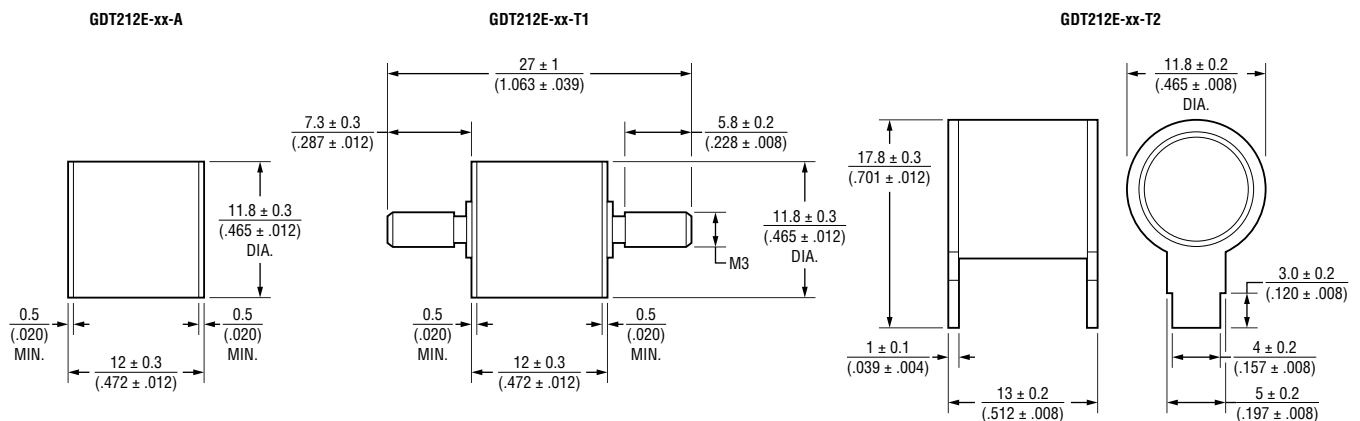
Test Methods per ITU-T K.12, IEEE C62.31 and IEC 61643-311 GDT standards.

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						
GDT212E-23	230 V	1100 V	40 kA	30 kA	8 kA	100 A	N/A	95 V	1 G $\Omega$	<100 ns
GDT212E-25	250 V	1100 V								
GDT212E-30	300 V	1100 V								
GDT212E-35	350 V	1100 V					50 A	130 V		
GDT212E-42	420 V	1200 V								
GDT212E-47	470 V	1300 V								
GDT212E-50	500 V	1300 V								
GDT212E-60	600 V	1400 V					100 A	255 V		
GDT212E-70	700 V	1500 V								
GDT212E-80	800 V	1500 V								

### Notes:

- (1) IR Test Voltage: 100 V for GDT212E-23 through GDT212E-35; 250 V for GDT212E-42 through GDT212E-80.
- 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 MQ.
- 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



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

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