

# NEW PRODUCT BRIEF

## Bourns® Next-Generation High Voltage 2-Electrode Gas Discharge Tube

### INTRODUCTION

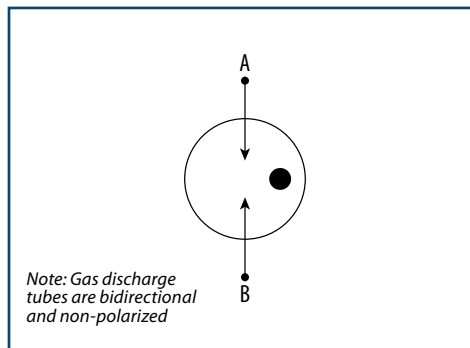
Bourns is pleased to announce the addition of a new series to its innovative next-generation 2-Electrode GDT line, the Model GDT28H. This next-generation series continues the Bourns legacy of quality, innovation and design in GDT overvoltage surge arrestors.

Complementary to Bourns' previous next-generation GDT25 and GDT35 Series releases, this new high voltage range GDT provides significant improvements in protection from voltage transients caused by lightning and other AC power lines disturbances.


The compact Model GDT28H next-generation series accomplishes this by providing an enhanced level of voltage limiting during fast rising events with high surge current handling capabilities.

These features enable the GDT28H Series to be a great fit for the protection of AC lines and isolation applications according to IEC 62368-1. The new series is RoHS compliant\* and UL recognized.

### CIRCUIT DIAGRAM



### FEATURES & BENEFITS

- Fast response time
- High surge current rating
- Long service life
- Stable performance throughout life
- UL recognized 
- RoHS compliant\*

### HOW TO ORDER

**GDT - 2 - 8 - H - xxx - B - RP**

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

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

Size \_\_\_\_\_  
8 = 8 mm Diameter

Voltage Designator \_\_\_\_\_  
H = High Voltage

Voltage \_\_\_\_\_  
100 = 1000 V    200 = 2000 V  
110 = 1100 V    250 = 2500 V  
120 = 1200 V    270 = 2700 V  
130 = 1300 V    300 = 3000 V  
150 = 1500 V    330 = 3300 V

Lead Designator \_\_\_\_\_  
A = No Leads  
B = Straight Leads

Packaging Options \_\_\_\_\_  
RP = Reel Pack (Standard)  
Blank = Bulk

### APPLICATIONS

- Power supplies
- Industrial communication equipment
- HVAC
- Lighting
- IEC 62368-1 compliant equipment

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

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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 Sparkover Voltage @ 100 V/s (V)			Impulse Sparkover Voltage (V)		AC Withstand Voltage 3 Min.	Insulation Resistance @ 100 V Min.	Capacitance @ 1 MHz Max.	Glow to Arc Transition Current < 0.5 A	Glow Voltage ~140 V	Arc Voltage @ 1 A Min. Typ. ~25 V
	Min.	Typ.	Max.	100 V/μs Max.	1 kV/μs Max.						
GDT28H-100	800	1000	1200	1400	1500	510	10 GΩ	< 1.5 pF	< 0.5 A	~140 V	~25 V
GDT28H-110	880	1100	1320	1600	1700	560					
GDT28H-120	960	1200	1440	1700	1800	610					
GDT28H-130	1040	1300	1560	1800	1900	660					
GDT28H-150	1200	1500	1800	1800	2000	760					
GDT28H-200	1600	2000	2400	2500	2750	1015					
GDT28H-250	2000	2500	3000	3200	3500	1270					
GDT28H-270	2160	2700	3240	3600	4000	1370					
GDT28H-300	2400	3000	3600	4000	4200	1525					
GDT28H-330	2640	3300	3960	4600	4700	1680					

Part Number	Life Ratings				
	Maximum Follow-On Current <sup>1</sup>	Nominal AC Discharge Current	AC Discharge Current	Nominal Impulse Discharge Current <sup>2</sup>	Max. Surge Current <sup>3</sup>
	A	10 x 1 s @ 50-60 Hz	1 x 50-60 Hz, 9 cycles	8/20 μs	8/20 μs
GDT28H-100	200	N/A	N/A	5 kA 10 operations	10 kA 2 operations
GDT28H-110					
GDT28H-120					
GDT28H-130					
GDT28H-150					
GDT28H-200					
GDT28H-250					
GDT28H-270					
GDT28H-300					
GDT28H-330					

Notes:

- (1) Test conducted in series with suitable MOV per UL1449 Edition 4.
- (2) 2 x 1(+) and 1(-) operation 10 kA @ 80/20 μs.
- (3) DC and Impulse Sparkover after Life Ratings may exceed the upper limits shown but will continue to protect without venting (in compliance with ITU-T K.12 Edition 9.0, Section 6, as applicable).

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