

## High Voltage Series

Littelfuse Circuit Protection 8mm 2Pole high voltage GDTs (ceramic gas discharge tubes), are commonly used to help protect high voltage circuits.

Littelfuse Circuit Protection high voltage GDTs offer a high level of surge protection, low capacitance and a broad array of break over voltage levels, making them suitable for applications such as branch circuits, medical electronics and surge protection on power lines. Littelfuse Circuit Protection GDTs can help equipment meet the most stringent regulatory standards.



### Benefits:

- Helps provide overvoltage fault protection against high energysurges

### Features:

- 2Pole, 8mm Axial and non Leded devices
- Broad voltage range from 800-4000V
- Low capacitance
- Crowbar overvoltage protection
- UL 1449 recognized
- RoHS compliant
- Non-radioactive materials
- Capable up to 10kA 8/20  $\mu$ s surge

### Applications:

- Power Supplies
- Commercial Installations
- Medical Electronics
- Industrial Equipment and Machinery
- Appliance (Hi-Pot)

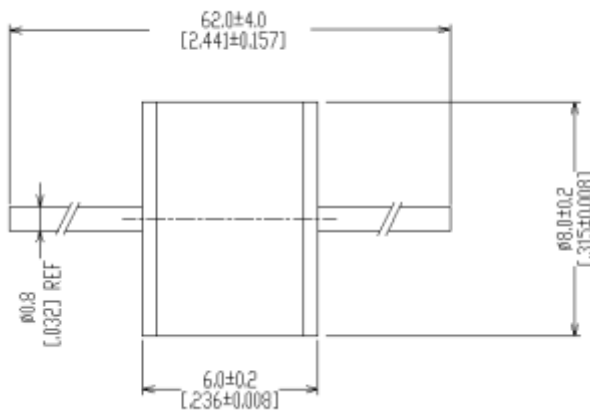
**High Voltage Series**

Device Voltage Ratings, Surge Rating, Capacitance, Insulation Resistance, UL

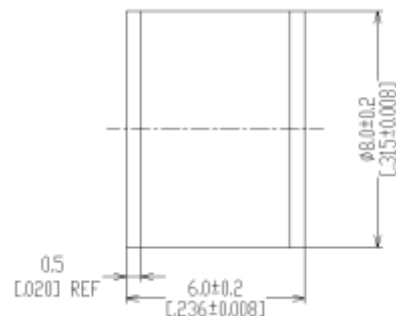
| Part Description | DC Sparkover<br>± 20%<br>@100V/s (V) | Impulse Sparkover<br>100 V/μs<br>(V) | Insulation Resistance<br>500Vdc<br>(MΩ) | Capacitance<br>1MHz (pF) | Impulse Discharge Current, 8/20us |       | AC Discharge Current, 50 Hz |                 | UL Rating<br>UL1449<br>#E332226 |
|------------------|--------------------------------------|--------------------------------------|---|--------------------------|-----------------------------------|-------|-----------------------------|-----------------|---------------------------------|
|                  |                                      |                                      |   |                          | 10 hits                           | 1 hit | 10 hits, 1S                 | 1 hit, 9 cycles |                                 |
| GTCX28-801M-R05  | 800                                  | 1400                                 | ≥ 10,000                                | ≤1                       | 5kA                               | 10kA  | 5A                          | N/A             | All Devices                     |
| GTCX28-102M-R03  | 1000                                 | 1700                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-122M-R03  | 1200                                 | 1900                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-152L-R03  | 1500(± 15%)                          | 2200                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-212M-R03  | 2100                                 | 2700                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-242M-R03  | 2400                                 | 3300                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-252M-R03  | 2500                                 | 3500                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-272L-R03  | 2700 (± 15%)                         | 3700                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-302M-R03  | 3000                                 | 4000                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-312L-R03  | 3100 (± 15%)                         | 4300                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-362M-R03  | 3600                                 | 4600                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |
| GTCX28-402M-R03  | 4000                                 | 5000                                 | ≥ 10,000                                | ≤1                       | 3KA                               | 10kA  | 1A                          | 5A              | All Devices                     |

**Product Dimensions:**

**Axial Leads (GTCA28-XXXX-R0X)**



**No Leads (GTCN28-XXXX-R0X)**



## High Voltage Series

### DIMENSIONS = MILLIMETERS [INCHES]

#### General Characteristics:

No Radioactive Materials  
 Storage temperature: -40°C ... +90°C  
 Operating temperature: -40°C ... +90°C  
 Electrode: Fe-Ni alloy, Ni plated  
 Lead wire: Tin Plated Copper

#### Materials Information

ROHS Compliant

Directive 2002/95/EC  
Compliant

ELV Compliant

Directive 2000/53/EC  
Compliant

Pb-Free



#### Packaging Information

#### Part Description

Axial Leads: GTCA28-XXXX-R0X  
 No Leads: GTCN28-XXXM-R0X

#### Tray / Reel

100  
100

#### Standard Package

1000  
2000

#### Part Numbering System

#### Example Part Number: GTCA28-212M-R03

GT = Gas Tube  
 C = Ceramic  
 A = A= Axial Leads  
 2 = 2 Electrode device  
 8 = 8mm Diameter  
 212= DC Spark Over Voltage of 2100V (at 100V/s)  
 M = Tolerance of 20% on DC Spark Over Voltage  
 R = Product Family Designator  
 03 = Surge rating: 8x20Es 3kA 10 times

### High Voltage Series

#### Part Marking Reference

#### Example Part Marking: $\times$ 212 R03 HB

- $\times$  = Manufacturer' Mark
- 212 = Voltage Designator (212 = 2100V)
- R03 = Product Family Designator - Surge Current 3kA (8x20 $\mu$ s 10 hits)
- HB = Year and Week of Manufacture

Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse.