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 energy surges

Features:
- 2Pole, 8mm Axial and non Leaded 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 μs 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

<table>
<thead>
<tr>
<th>Part Description</th>
<th>DC Sparkover</th>
<th>Impulse Sparkover</th>
<th>Insulation Resistance</th>
<th>Capacitance</th>
<th>Impulse Discharge Current, 8/20(\mu)s</th>
<th>AC Discharge Current, 50 Hz</th>
<th>UL Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTCX28-801M-R05</td>
<td>800 ± 20% @100V/s (V)</td>
<td>1400 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GTCX28-102M-R03</td>
<td>1000 ± 20% @100V/s (V)</td>
<td>1700 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<tr>
<td>GTCX28-122M-R03</td>
<td>1200 ± 20% @100V/s (V)</td>
<td>1900 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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</tr>
<tr>
<td>GTCX28-152L-R03</td>
<td>1500 ± 20% @100V/s (V)</td>
<td>2200 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<td></td>
</tr>
<tr>
<td>GTCX28-212M-R03</td>
<td>2100 ± 20% @100V/s (V)</td>
<td>2700 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<tr>
<td>GTCX28-242M-R03</td>
<td>2400 ± 20% @100V/s (V)</td>
<td>3300 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<tr>
<td>GTCX28-252M-R03</td>
<td>2500 ± 20% @100V/s (V)</td>
<td>3500 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<td></td>
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<tr>
<td>GTCX28-272L-R03</td>
<td>2700 ± 20% @100V/s (V)</td>
<td>3700 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<tr>
<td>GTCX28-302M-R03</td>
<td>3000 ± 20% @100V/s (V)</td>
<td>4000 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<tr>
<td>GTCX28-312L-R03</td>
<td>3100 ± 20% @100V/s (V)</td>
<td>4300 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<tr>
<td>GTCX28-362M-R03</td>
<td>3600 ± 20% @100V/s (V)</td>
<td>4600 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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<tr>
<td>GTCX28-402M-R03</td>
<td>4000 ± 20% @100V/s (V)</td>
<td>5000 100V/(\mu)s (V)</td>
<td>≥ 10,000 1MHz (MΩ)</td>
<td>≤ 1 10 hits</td>
<td>10 hits, 1S 1 hit, 10 cycles, UL1449 #E332226</td>
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</tbody>
</table>

### Product Dimensions:

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

![Axial Leads Diagram](image)

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

![No Leads Diagram](image)
Gas Discharge Tubes
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
- ELV Compliant
- Pb-Free

Packaging Information

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Tray / Reel</th>
<th>Standard Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axial Leads: GTCA28-XXXX-R0X</td>
<td>100</td>
<td>1000</td>
</tr>
<tr>
<td>No Leads: GTCN28-XXXXM-R0X</td>
<td>100</td>
<td>2000</td>
</tr>
</tbody>
</table>

Part Numbering System

Example Part Number: GTCA28-212M-R03

- GT = Gas Tube
- C = Ceramic
- 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
Gas Discharge Tubes
High Voltage Series

Part Marking Reference

Example Part Marking: 212 R03 HB

XX = Manufacturer Mark
212 = Voltage Designator (212 = 2100V)
R03 = Product Family Designator - Surge Current 3kA (8x20µs 10 hits)
HB = Year and Week of Manufacture

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