



## Features

- 8 mm diameter, 6 mm long
- UL Recognized
- Custom configurations available
- High surge current rating
- Stable breakdown throughout life
- RoHS compliant\* versions available

## Applications

- Telecommunications
- Industrial electronics
- Commercial electronics
- Consumer electronics
- Automotive, aircraft, military electronics

# 2027 Series - 2-Pole Gas Discharge Tube

### Characteristics

Test Methods per ITU-T (CCITT) K.12, IEEE C62.31, RUS PE-80, Telcordia GR 1361

| Characteristic   | Model No.      |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|----------------|
|  | 2027-09        | 2027-15        | 2027-20        | 2027-23        | 2027-25        | 2027-30        |
| DC Sparkover $\pm 15\%$<br>( $\pm 20\%$ for Model 2027-09) @ 100 V/s | 90 V           | 150 V          | 200 V          | 230 V          | 250 V          | 300 V          |
| Impulse Sparkover<br>100 V/ $\mu$ s<br>1000 V/ $\mu$ s               | 300 V<br>500 V | 350 V<br>575 V | 400 V<br>600 V | 450 V<br>675 V | 475 V<br>700 V | 550 V<br>800 V |

| Characteristic   | Model No.      |                |                |                 |                 |
|--|----------------|----------------|----------------|-----------------|-----------------|
|  | 2027-35        | 2027-40        | 2027-42        | 2027-47         | 2027-60         |
| DC Sparkover $\pm 15\%$ @ 100 V/s                      | 350 V          | 400 V          | 420 V          | 470 V           | 600 V           |
| Impulse Sparkover<br>100 V/ $\mu$ s<br>1000 V/ $\mu$ s | 600 V<br>875 V | 650 V<br>925 V | 675 V<br>950 V | 725 V<br>1000 V | 850 V<br>1100 V |

|  |  |   |                     |
|--|--|---|---------------------|
| Insulation Resistance.....             | 100 V (50 V for Model 2027-09).....                        | > | $10^{10} \Omega$    |
| Glow Voltage.....                      | 10 mA.....   | ~ | 70 V                |
| Arc Voltage.....                       | > 1A.....  | ~ | 10 V                |
| Glow-Arc Transition Current.....       | .....  | < | 0.5 A               |
| Capacitance.....                       | 1 MHz.....   | < | 1 pF                |
| DC Holdover Voltage <sup>1</sup> ..... | 135 V, (52 V for Model 2027-09 80 V for Model 2027-15) ... | < | 150 ms              |
| Impulse Discharge Current              | 20000 A, 8/20 $\mu$ s <sup>2</sup> .....                   |   | 1 operation minimum |
|  | 10000 A, 8/20 $\mu$ s.....                                 | > | 10 operations       |
|  | 500 A, 10/1000 $\mu$ s.....                                | > | 400 operations      |
|  | 100 A, 10/1000 $\mu$ s or 10/700 $\mu$ s.....              | > | 1000 operations     |
| Alternating Discharge Current.....     | 65 Arms, 11 cycles <sup>2</sup> .....                      |   | 1 operation minimum |
|  | 10 Arms, 1 s.....  | > | 10 operations       |
| Operating Temperature.....             | .....  |   | -55 to +85 °C       |

### Notes:

- **UL recognized component, UL File E153537.**
- Model number marking on tube: 27-xxxV.
- Sparkover limits  $\pm 20\%$  after life, IR  $> 10^8 \Omega$  (-25 %, +30 % for Model 2027-09 and 2027-60).
- At delivery AQL 0.65 Level II, DIN ISO 2859.

<sup>1</sup> Network applied.

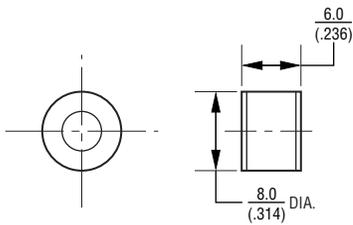
<sup>2</sup> DC Sparkover may exceed  $\pm 20\%$  after discharge, but will continue to protect without venting.

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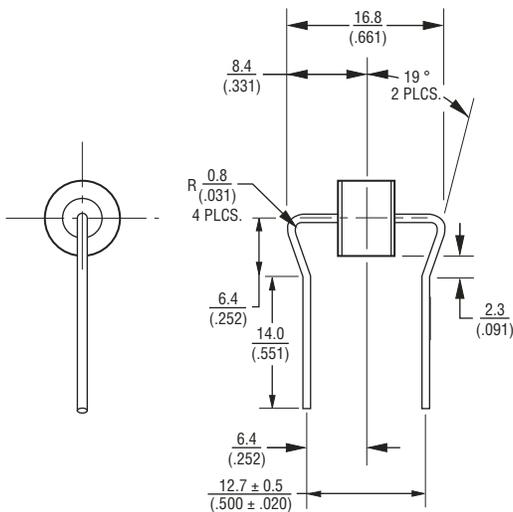
**BOURNS®**

## Product Dimensions

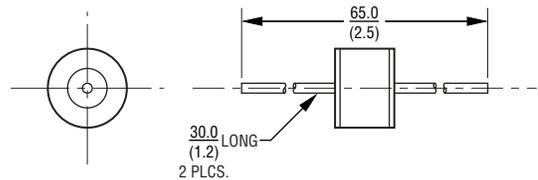
**2027-XX-A**



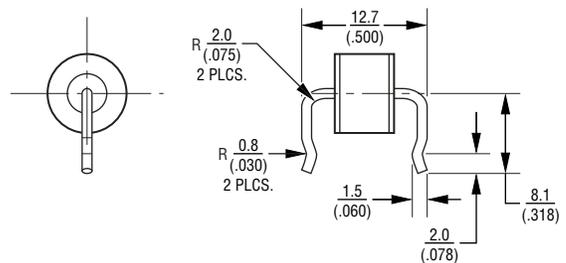
**2027-XX-B19 0.8 mm (0.032 in.) dia. lead wire**



**2027-XX-B 0.8 mm (0.032 in.) dia. lead wire**  
**2027-XX-C 1.0 mm (0.040 in.) dia. lead wire**



**2027-XX-B10 0.8 mm (0.032 in.) dia. lead wire**  
**2027-XX-C10 1.0 mm (0.040 in.) dia. lead wire**



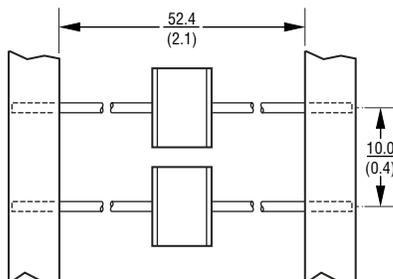
DIMENSIONS =  $\frac{\text{MILLIMETERS}}{\text{(INCHES)}}$

## Packaging Specifications

Model 2027-xx-nn ships standard bulk pack, 100 pcs./bag.

The optional reelpack (-BT1) contains 1,000 pcs./reel.  
 Reel is 14 " in diameter and 2.75 " wide.

**2027-XX-BT1 0.8 mm (0.032 in.) dia. lead wire**



## How To Order

**2027 - xx - x nn T1 LF**

Model Number \_\_\_\_\_

Designator \_\_\_\_\_

Voltage (Divided by 10) \_\_\_\_\_

|            |            |
|------------|------------|
| 09 = 90 V  | 35 = 350 V |
| 15 = 150 V | 40 = 400 V |
| 20 = 200 V | 42 = 420 V |
| 23 = 230 V | 47 = 470 V |
| 25 = 250 V | 60 = 600 V |
| 30 = 300 V |            |

Leads \_\_\_\_\_

A = None  
 B = 0.8 mm  
 C = 1 mm

Lead Shape \_\_\_\_\_  
 (See Product Dimension Drawings)

Packaging \_\_\_\_\_

Blank = Bulk Packaging (Standard)  
 T1 = Reelpack (Optional)

Lead Free Option \_\_\_\_\_

Blank = Standard Product  
 LF = Lead Free/RoHS Compliant Product

REV. 02/09

Specifications are subject to change without notice.  
 Customers should verify actual device performance in their specific applications.