



**THE DATASHEET OF  
2027-60-ALF**





## 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 K.12, IEEE C62.31 and IEC 61643-311 GDT standards.

Characteristic	Model No.					
	2027-07	2027-09	2027-15	2027-20	2027-23	2027-25
DC Sparkover ±15 % (±20 % for Models 2027-07 & 2027-09) @ 100 V/s	75 V	90 V	150 V	200 V	230 V	250 V
Impulse Sparkover <sup>(1)</sup>						
100 V/μs	300 V	300 V	350 V	400 V	450 V	475 V
1000 V/μs	500 V	500 V	575 V	600 V	675 V	700 V

Characteristic	Model No.					
	2027-30	2027-35	2027-40	2027-42	2027-47	2027-60
DC Sparkover ±15 % @ 100 V/s	300 V	350 V	400 V	420 V	470 V	600 V
Impulse Sparkover <sup>(1)</sup>						
100 V/μs	550 V	600 V	650 V	675 V	725 V	850 V
1000 V/μs	800 V	875 V	925 V	950 V	1000 V	1100 V

<sup>(1)</sup> Impulse Sparkover voltage is defined as typical values of distribution.

Insulation Resistance .....	100 V (50 V for Models 2027-07 and 2027-09) .....	> 10 <sup>10</sup> Ω
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>(2)</sup> .....	135 V, (52 V for Models 2027-07 and 2027-09, 80 V for Model 2027-15) .....	<150 ms
Impulse Discharge Current.....	25000 A, 8/20 μs <sup>(3)</sup> .....	1 operation minimum
	10000 A, 8/20 μs .....	> 10 operations
	2500 A, 10/350 μs .....	2 operations
	500 A, 10/1000 μs .....	>400 operations
	100 A, 10/1000 μs or 10/700 μs .....	>1000 operations
Alternating Discharge Current .....	65 Arms, 11 cycles <sup>(3)</sup> .....	1 operation minimum
	10 Arms, 1 s .....	>10 operations
Operating Temperature.....	.....	-55 to +125 °C
Climatic Category (IEC 60068-1).....	.....	40/90/21
Moisture Sensitivity Level.....	.....	1
ESD Classification (HBM).....	.....	6

### Notes:

- **UL recognized component, UL File E153537.**
- Model number marking on tube: 27-xxxV.
- Sparkover limits ±20 % after life, IR >10<sup>8</sup> Ω (-25 %, +30 % for Models 2027-07, 2027-09 and 2027-60).
- At delivery AQL 0.65 Level II, DIN ISO 2859.

<sup>(2)</sup> Network applied.

<sup>(3)</sup> DC Sparkover may exceed ±20 % after discharge, but will continue to protect without venting.

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

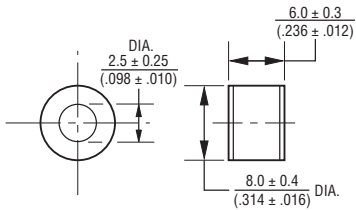
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

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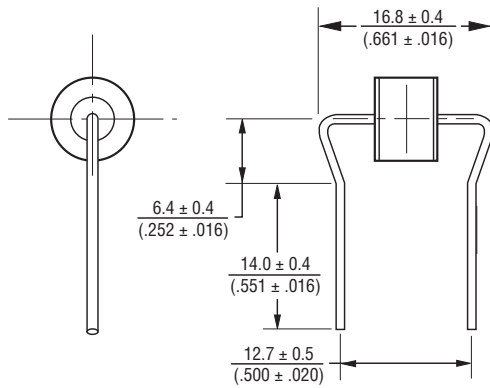
**BOURNS®**

## Product Dimensions

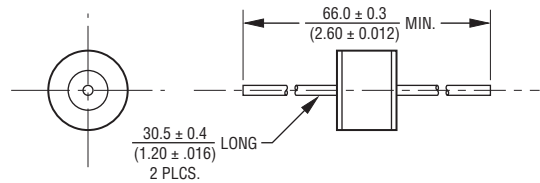
### 2027-XX-A



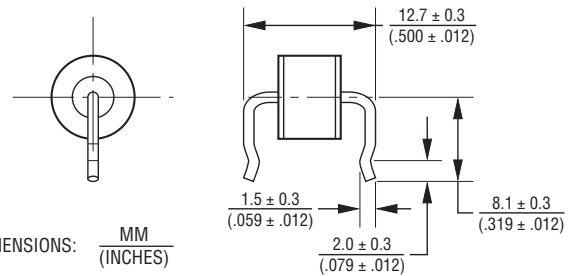
**2027-XX-B19 — 0.8 ± 0.04 mm (0.032 ± 0.002 in.) dia. lead wire**  
(Not available in reelpack)



**2027-XX-B — 0.8 ± .04 mm (0.032 ± 0.002 in.) dia. lead wire**  
**2027-XX-C — 1.0 ± .04 mm (0.039 ± 0.002 in.) dia. lead wire**



**2027-XX-B10 — 0.8 ± .04 mm (0.032 ± 0.002 in.) dia. lead wire**  
**2027-XX-C10 — 1.0 ± .04 mm (0.039 ± 0.002 in.) dia. lead wire**  
(Not available in reelpack)



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

## How to Order

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

Model Number Designator

Voltage (Divided by 10)  
 07 = 75 V      30 = 300 V  
 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

Leads

A = None  
 B = 0.8 mm  
 C = 1 mm

Lead Shape  
(See Product Dimension Drawings)

Packaging

Blank = Bulk Packaging (Standard)  
 T1 = Reelpack (Optional - not available for Models 2027-xx-B19 and 2027-xx-B10/C10)

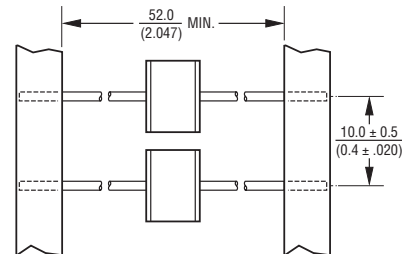
RoHS Compliant Option

Blank = Standard Product  
 LF = RoHS Compliant Product

## Packaging Specifications

Model	Standard Packaging Quantity			
	Bulk (Bag)	Tray	Box	Reel
2027-XX-A	250		1000	
2027-XX-B	100		500	
2027-XX-C	100		500	
2027-XX-B10		100	1000	
2027-XX-C10		100	1000	
2027-XX-B19	100		500	
2027-XX-C19	100		500	
2027-XX-BT1				1000
2027-XX-CT1				1000

**2027-XX-BT1 — 0.8 ± 0.04 mm (0.032 ± 0.002 in.) dia. lead wire**  
 Reel is 14-inches in diameter and 2.75-inches wide.





REV. 04/18

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