Features

- Surface mount for economical assembly
- High surge current rating
- Low capacitance and insertion loss
- Stable breakdown throughout life
- 8 mm diameter, 6 mm long
- UL Recognized

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

2027-xx-SM Precision Gas Discharge Tube Surge Protector

Bourns offers an 8 x 6 mm Surface Mount (SM) 2-electrode GDT surge protection device. The industry-leading quality and features of Bourns® 2027 Series GDT continue in this new SM version. Compatible with "pick and place" assembly systems, the 2027-SM is ideal for compact applications such as PCBs for telecommunications, commercial and industrial applications.

Characteristics

Test Methods per ITU-T K.12, IEEE C62.31 and IEC 61643-311 GDT standards.

Characteristic	Model No.					
	2027-07-SM	2027-09-SM	2027-15-SM	2027-20-SM	2027-23-SM	2027-25-SM
DC Sparkover ±15 % (±20 % for Models 2027-07-SM & 2027-09-SM) @ 100 V/s	75 V	90 V	150 V	200 V	230 V	250 V
Impulse Sparkover (1)						
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-SM	2027-35-SM	2027-40-SM	2027-42-SM	2027-47-SM	2027-60-SM
DC Sparkover ±15 % @ 100 V/s	300 V	350 V	400 V	420 V	470 V	600 V
Impulse Sparkover (1)						
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

(1) Impulse Sparkover voltage is defined as typical values of distribution.

Insulation Resistance ..... 100 V (50 V for Models 2027–07-SM & 2027-09-SM) .....> 10^{10} 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 (2) ..... 135 V, (52 V for Models 2027-07-SM & 2027-09-SM; 80 V for Model 2027-15-SM) ...< 150 ms
Impulse Discharge Current..... 25000 A, 8/20 µs (3) ..... 1 operation minimum
10000 A, 8/20 µs.....> 10 operations
2000 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*** ..... 1 operation minimum
10 Arms, 1 s.....> 10 operations
Operating Temperature..... -55 to +125 °C
Climatic Category (IEC 60068-1)..... 40/90/21

Notes:

- **UL recognized component, UL File E153537.**
- Model number marking on tube: 27-xxxV.
- Surface Mount (SM) parts may show a temporary increase in DCBD after the solder reflow process. Most devices will recover within 24 hours time. It should be noted that there is no quality defect nor change in protection levels during the temporary change in DCBD.
- Sparkover limits ±20 % after life, IR >10^8 Ω (-25 %, +30 % for Models 2027-07-SM, 2027–09-SM and 2027–60-SM).
- At delivery AQL 0.65 Level II, DIN ISO 2859.
- Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev D.

(2) Network applied.
(3) DC Sparkover may exceed ±20 % after discharge, but will continue to protect without venting.

WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.
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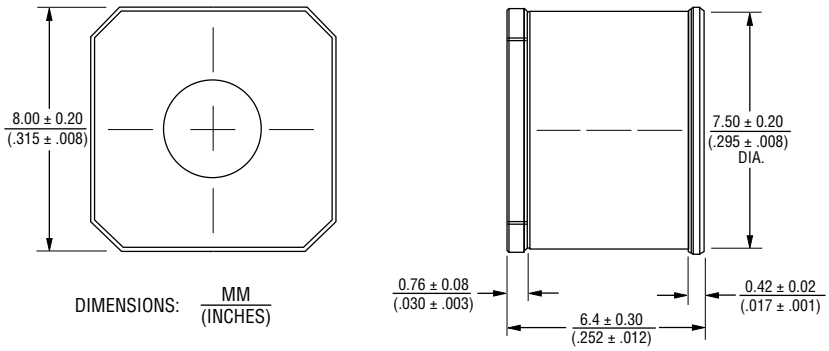
Applications

- Telecommunications
- Industrial electronics
- Commercial electronics

2027-xx-SM Precision Gas Discharge Tube Surge Protector

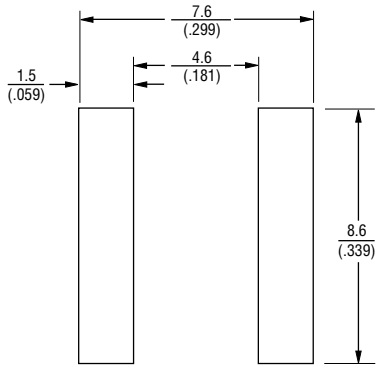
BOURNS®

Product Dimensions



DIMENSIONS: MM / (INCHES)

Recommended Pad Layout



How to Order

2027 - xx - SM - RP 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

Surface Mount

Packaging Option
- Blank = Bulk Packaging (Standard)
- RP = 24 mm Reelpack (Optional)
- RP2 = 16 mm Reelpack (Optional)
- RP3 = 16 mm Reelpack / Vertical part alignment in tape (Optional)

RoHS Compliant Option
- Blank = Standard Product
- LF = RoHS Compliant Product

Packaging Specifications

Model	Standard Packaging Quantity			
	Bulk (Bag)	Tray	Box	Reel
2027-xx-SM	250		1000	
2027-xx-SM-RP				500
2027-xx-SM-RP2				500

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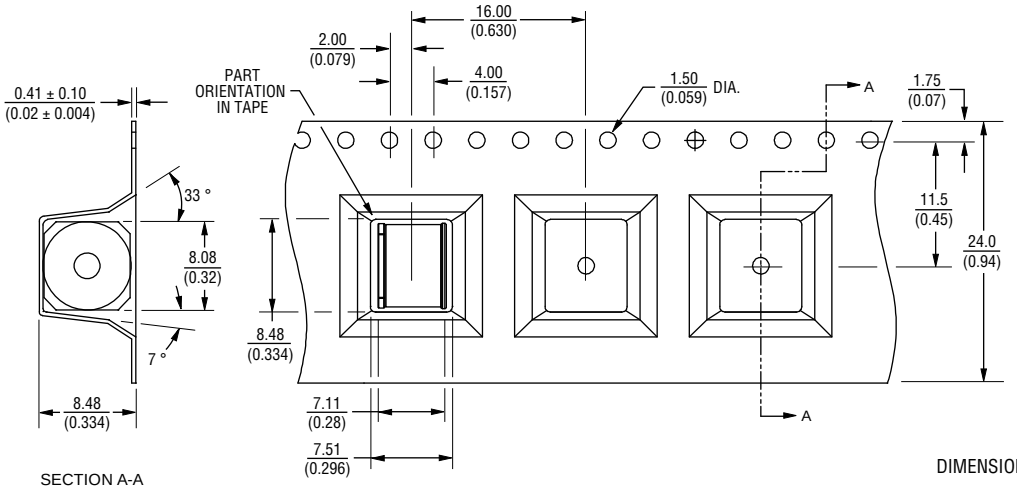
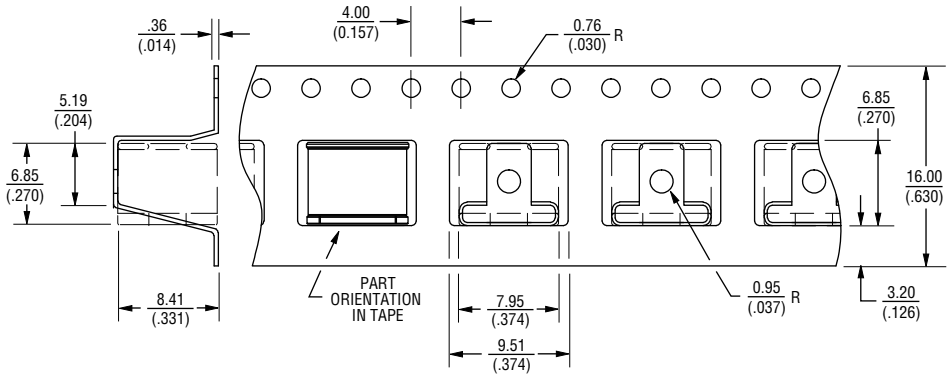
Packaging Specifications (Continued)

The optional reelpacks (-RP, -RP2, -RP3) are 33 cm in diameter and 3 cm wide.

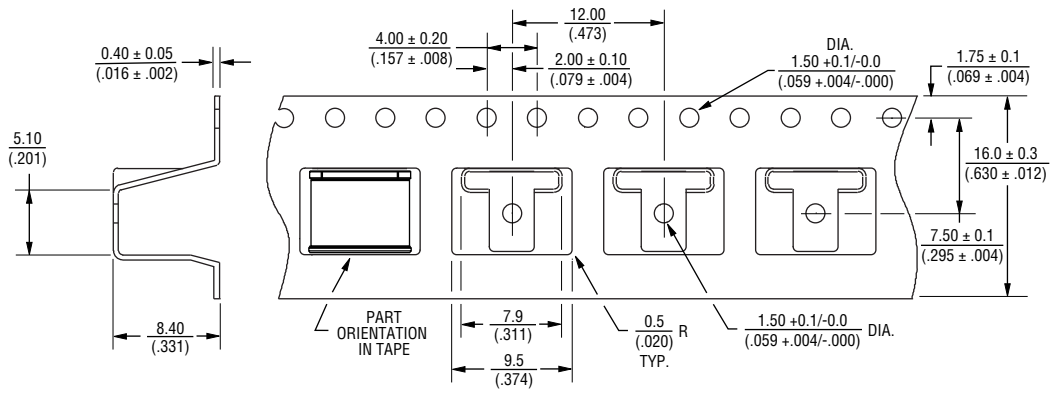
-RP



-RP2



-RP3



REV. A 12/20

Unless otherwise specified, tolerances in decimals are .X ± 0.3, .XX ± 0.15 for lengths in millimeters and ±1 ° for degrees.

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