



## Features

- Size: 5 mm diameter, 7.2 mm length
- Surface mount design
- Symmetrical breakdown voltage (L-L, L-G)
- Low capacitance and insertion loss
-  UL Recognized
- RoHS compliant\*

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## 2052 Series Light Duty 3-Electrode Symmetrical Gas Discharge Tube

### Characteristics

Test Methods per ITU-T K.12 and IEC 61643-311.

| Characteristic                               | Model No. |         |         |         |         |         |          |          |
|----------------------------------------------|-----------|---------|---------|---------|---------|---------|----------|----------|
|                                              | 2052-23   | 2052-25 | 2052-35 | 2052-40 | 2052-42 | 2052-47 | 2052-60  | 2052-80  |
| DC Sparkover $\pm 20\%$ @ 100 V/s (L-L, L-G) | 230 V     | 250 V   | 350 V   | 400 V   | 420 V   | 470 V   | 600 V    | 800 V    |
| Impulse Sparkover (L-L, L-G) <sup>(1)</sup>  |           |         |         |         |         |         |          |          |
| 100 V/ $\mu$ s                               | < 600 V   | < 600 V | < 650 V | < 700 V | < 700 V | < 800 V | < 900 V  | < 1150 V |
| 1000 V/ $\mu$ s                              | < 700 V   | < 700 V | < 750 V | < 800 V | < 800 V | < 900 V | < 1000 V | < 1400 V |

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

|                                           |                        |                |
|-------------------------------------------|------------------------|----------------|
| Insulation Resistance (IR) <sup>(2)</sup> | 100/250 Vdc            | > 1 G $\Omega$ |
| Glow Voltage                              | 10 mA                  | ~ 70 V         |
| Arc Voltage                               | 1 A                    | ~ 10 V         |
| Glow-Arc Transition Current               |                        | < 1 A          |
| Maximum Capacitance                       | 1 MHz                  | < 2 pF         |
| Maximum Impulse Discharge Current         | 10,000 A, 8/20 $\mu$ s | 1 operation    |
|                                           | 5,000 A, 8/20 $\mu$ s  | 10 operations  |
| Nominal Alternating Discharge Current     | 5 A, 50 Hz, 1 sec.     | 1 operation    |
|                                           | 20 A, 9 cycles         | 1 operation    |
| Impulse Life                              | 200 A, 10/1000 $\mu$ s | 150 operations |
| DC Holdover Voltage <sup>(3)</sup>        | > 135 V                | < 150 ms       |
| Operating Temperature                     |                        | -30 to +85 °C  |
| Storage Temperature                       |                        | -40 to +115 °C |
| Climatic Category (IEC 60068-1)           |                        | 40/90/21       |

### Notes:

- **UL Recognized component, UL File E153537.**
- At delivery AQL 0.65 AQL Level II, DIN ISO 2859.
- The rated discharge current is the total current equally divided between each line to ground (ELTG).
- Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev D.

|                                     |                      |
|-------------------------------------|----------------------|
| <sup>(2)</sup> DC Sparkover Voltage | IR Measuring Voltage |
| 145-400 V                           | 100 V                |
| 420-800 V                           | 250 V                |

<sup>(3)</sup> Network Applied.

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**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://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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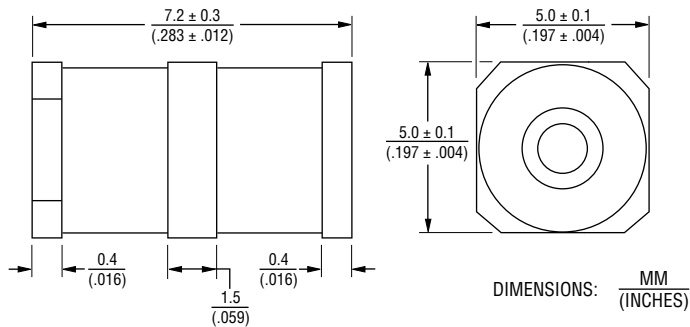
## Applications

- Telecommunications equipment
- Industrial equipment/electronics
- Consumer electronics

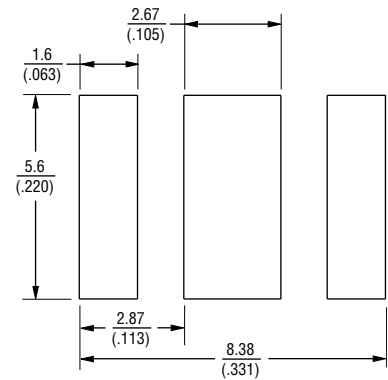
## 2052 Series Light Duty 3-Electrode Symmetrical Gas Discharge Tube

**BOURNS®**

### Product Dimensions



### Recommended Pad Layout



### How to Order

**2052 - xx - SM - RP LF**

Model Number Designator

Voltage (Divided by 10)

23 = 230 V

25 = 250 V

35 = 350 V

40 = 400 V

42 = 420 V

47 = 470 V

60 = 600 V

80 = 800 V

Surface Mount

Packaging

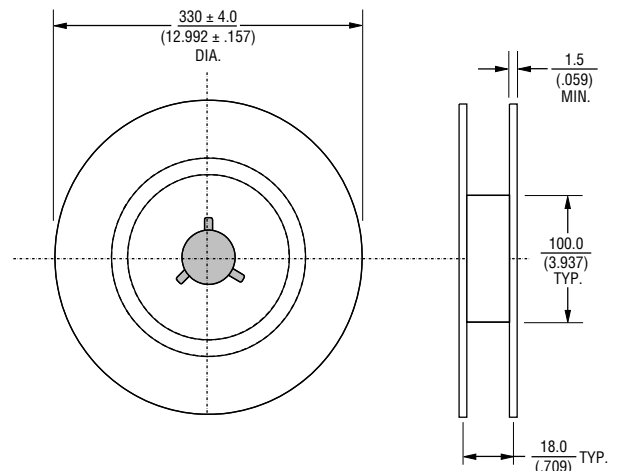
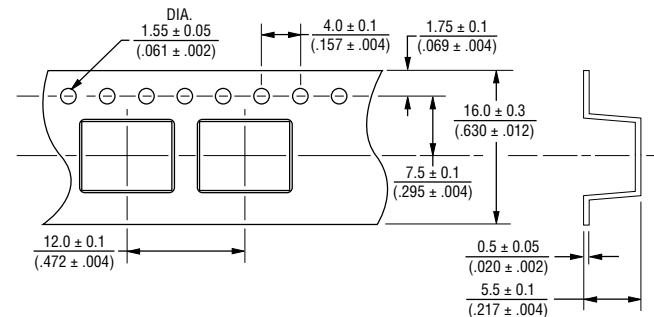
RP = Reel Pack

RoHS Compliancy

LF = RoHS Compliant Product

### Packaging Specifications

Model 2052-xx-SM-RPLF (Reel Pack) contains 900 pieces per reel, 2,700 pieces per box. The reel is 330 mm in diameter and 18 mm wide.



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

REV. B 09/19

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