




## Features

- Size: 6.2 mm diameter, 4.2 mm length
- Surface mount device
- High voltage range
- Compact size
- High insulation resistance
- RoHS compliant\*
-  UL Recognized

## Applications

- Telecommunications equipment
- Industrial equipment/electronics
- Consumer electronics

# 2093 Series High Voltage 2-Electrode Gas Discharge Tube

## Characteristics

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

| Characteristic                    | Model No. |          |          |          |          |
|-----------------------------------|-----------|----------|----------|----------|----------|
|                                   | 2093-100  | 2093-120 | 2093-180 | 2093-200 | 2093-250 |
| DC Sparkover $\pm 20\%$ @ 100 V/s | 1000 V    | 1200 V   | 1800 V   | 2000 V   | 2500 V   |
| Impulse Sparkover                 |           |          |          |          |          |
| 100V/ $\mu$ s                     | < 1500 V  | < 1700 V | < 2500 V | < 2700 V | < 3100 V |
| 1000V/ $\mu$ s                    | < 1600 V  | < 1800 V | < 2600 V | < 2800 V | < 3200 V |

| Characteristic                    | Model No. |          |
|-----------------------------------|-----------|----------|
|                                   | 2093-270  | 2093-300 |
| DC Sparkover $\pm 20\%$ @ 100 V/s | 2700 V    | 3000 V   |
| Impulse Sparkover                 |           |          |
| 100V/ $\mu$ s                     | < 3300 V  | < 3600 V |
| 1000V/ $\mu$ s                    | < 3400 V  | < 3700 V |

|   |                                |                  |
|---|--------------------------------|------------------|
| Insulation Resistance (IR) <sup>1</sup> ..... | 500/1000 Vdc.....              | > 1 G $\Omega$   |
| Glow Voltage .....                            | 10 mA.....                     | ~ 60 V           |
| Arc Voltage .....                             | 1 A.....                       | ~ 15 V           |
| Glow-Arc Transition Current .....             |                                | < 1 A            |
| Capacitance.....                              | 1 MHz .....                    | < 0.8 pF         |
| Impulse Discharge Current.....                | 5000 A, 8/20 $\mu$ s.....      | 1 operation      |
|   | 3000 A, 8/20 $\mu$ s.....      | 10 operations    |
| Alternating Discharge Current .....           | 3 Arms, 50 Hz, 1 sec.....      | 1 operation      |
|   | 10 Arms, 50 Hz, 9 cycles ..... | 1 operation      |
| Impulse Life .....                            | 100 A, 10/1000 $\mu$ s.....    | > 300 operations |
| Operating Temperature.....                    |                                | -30 to +85 °C    |
| Storage Temperature.....                      |                                | -40 to +115 °C   |
| Climatic Category (IEC 60068-1).....          |                                | 40 / 90 / 21     |

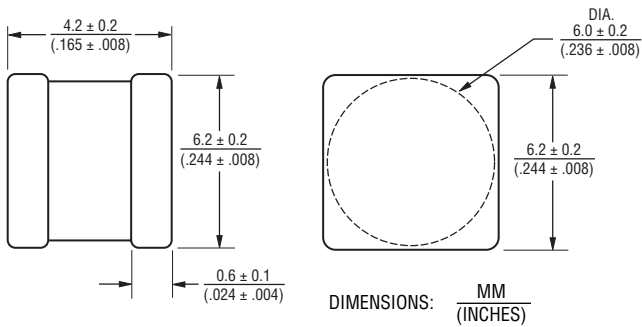
### Notes:

- <sup>1</sup> Insulation Resistance measured at 1000 V for GDTs with > 2000 V DCBD.
- UL Recognized component, UL File E153537.
- At delivery AQL 0.65 Level II, DIN ISO 2859.

# 2093 Series High Voltage 2-Electrode Gas Discharge Tube

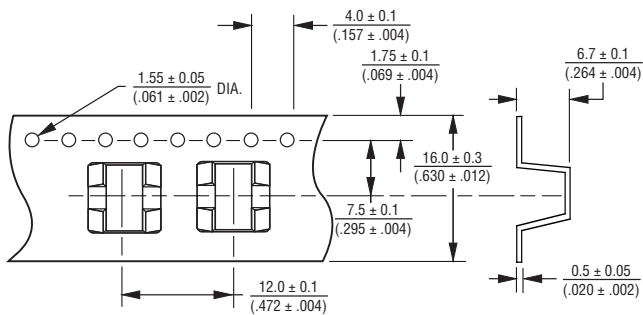
**BOURNS®**

## Product Dimensions

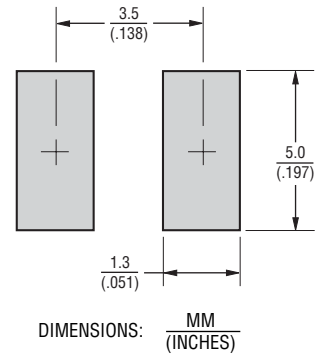


## Packaging Specifications

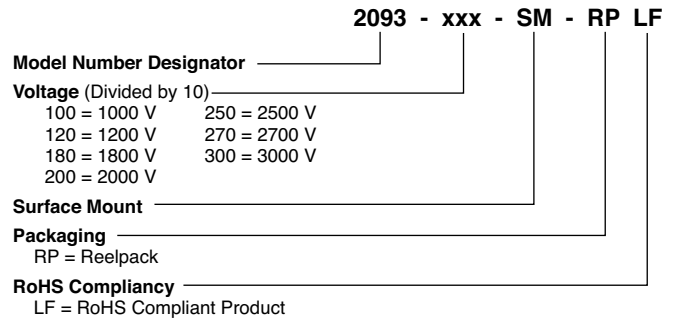
The Model 2093-xx-SM ships standard reelpack (-RP), 800 pieces per reel, 2,400 pieces per box. Reel is 330 mm in diameter and 16 mm wide.



## Recommended Pad Layout



## How to Order



**BOURNS®**

### Asia-Pacific:

Tel: +886-2 2562-4117  
 Fax: +886-2 2562-4116

### Europe:

Tel: +41-41 768 5555  
 Fax: +41-41 768 5510

### The Americas:

Tel: +1-951 781-5500  
 Fax: +1-951 781-5700

[www.bourns.com](http://www.bourns.com)

REV. C 09/12

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