




## Features

- Size: 12.7 mm diameter, 12.7 mm length
- Long service life
- High surge current rated
- Low capacitance and insertion loss
- Tube with contact terminals available
- RoHS compliant\* versions available
-  UL Recognized

## Applications

- Telecommunications equipment
- Industrial equipment/electronics

## 2047 Series High Current 2-Electrode Gas Discharge Tube

### Characteristics

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

| Characteristic                                   | Model No.   |             |             |             |
|--|-------------|-------------|-------------|-------------|
|  | 2047-09     | 2047-15     | 2047-23     | 2047-35     |
| DC Sparkover $\pm 20\%$ @ 100 V/s <sup>(1)</sup> | 90 V        | 150 V       | 230 V       | 350 V       |
| Impulse Sparkover <sup>(2)</sup>                 |             |             |             |             |
| 100 V/ $\mu$ s Typical / For 99 % of Values      | 350 / 450 V | 350 / 450 V | 450 / 500 V | 475 / 550 V |
| 1000 V/ $\mu$ s Typical / For 99 % of Values     | 600 / 650 V | 550 / 600 V | 600 / 650 V | 725 / 800 V |

|  |  |                            |
|--|--|----------------------------|
| Insulation Resistance (IR) .....                 | 50 V / 100 V .....                             | > 10 <sup>9</sup> $\Omega$ |
| Glow Voltage .....                               | 10 mA .....                                    | ~ 80 V                     |
| Arc Voltage .....                                | @ 2 A .....                                    | ~ 12 V                     |
| Glow-Arc Transition Current .....                |  | < 1 A                      |
| Capacitance .....                                | 1 MHz .....                                    | < 5 pF                     |
| Impulse Discharge Current .....                  | 40,000 A, 8/20 $\mu$ s <sup>(1)</sup> .....    | 10 operations              |
|  | > 4,000 A, 10/350 $\mu$ s <sup>(1)</sup> ..... | > 10 operations            |
|  | > 8,000 A, 10/350 $\mu$ s .....                | > 1 operation              |
|  | > 1,000 A 10/1000 $\mu$ s .....                | > 1000 operations          |
| Alternating Discharge Current .....              | > 20 A, 1 sec. ....                            | > 20 operations            |
|  | > 40 A, 1 sec. ....                            | 1 operation min.           |
|  | > 200 A, 11 cycles .....                       | 1 operation min.           |
| Operating and Storage Temperature, .....         |  | -40 to +90 °C              |
| Climatic Category (IEC 60068-1) .....            |  | 40/90/21                   |
| Moisture Sensitivity Level .....                 |  | 1                          |
| ESD Classification (Passive Component HBM) ..... |  | 6                          |

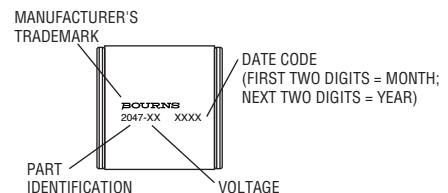
#### Notes:

- At delivery AQL 0.65, level II DIN ISO 2859.
- UL Recognized component, UL File E153537.
- <sup>(1)</sup> DC Sparkover may exceed  $\pm 25\%$  after discharge, but will continue to protect without venting.
- <sup>(2)</sup> Impulse Sparkover voltage is defined as typical values of distribution.

### How to Order

|                         |   |    |
|-------------------------|---|----|
| Model Number Designator | 2047 - xx - X                                       | LF |
| Voltage (Divided by 10) | 09 = 90 V      23 = 230 V                           |    |
|                         | 15 = 150 V      35 = 350 V                          |    |
| Contact Terminals       | A = None  |    |
|                         | B = Optional  |    |
| Packaging               | Blank = Bulk Packaging (Standard) - 50 pcs. per box |    |
| Plating Option          | Blank = Standard Product - Tin/Lead Plating         |    |
|                         | LF = RoHS Compliant Product - Sn Plating            |    |
|                         | Ni = RoHS Compliant Product - Nickel Plating        |    |

### Typical Part Marking



\*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.

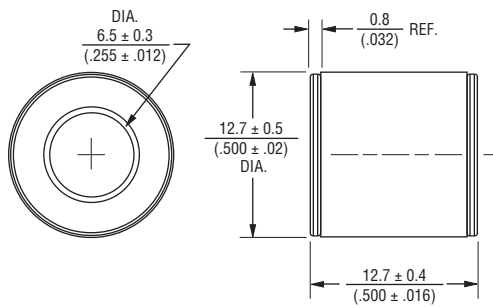
The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf)

# 2047 Series High Current 2-Electrode Gas Discharge Tube

**BOURNS®**

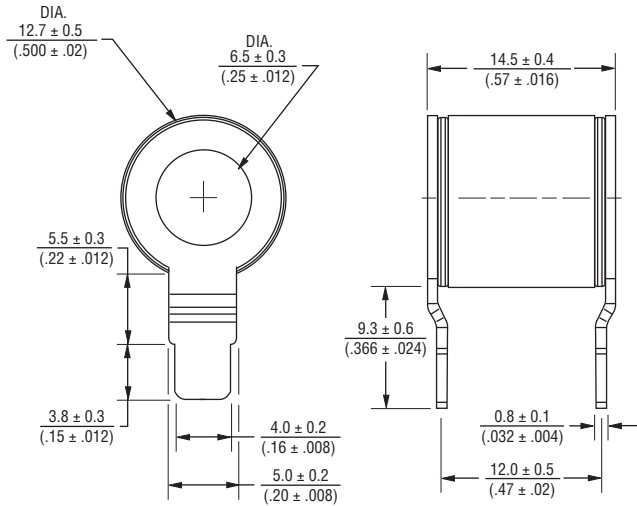
## Product Dimensions

2047-xx-A



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

2047-xx-B



**BOURNS®**

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com

EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com

www.bourns.com

REV. O 19/19

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).