




## 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                          |

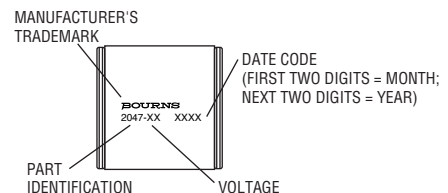
### Notes:

- 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.

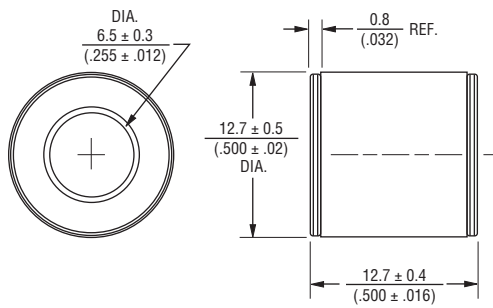
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# 2047 Series High Current 2-Electrode Gas Discharge Tube

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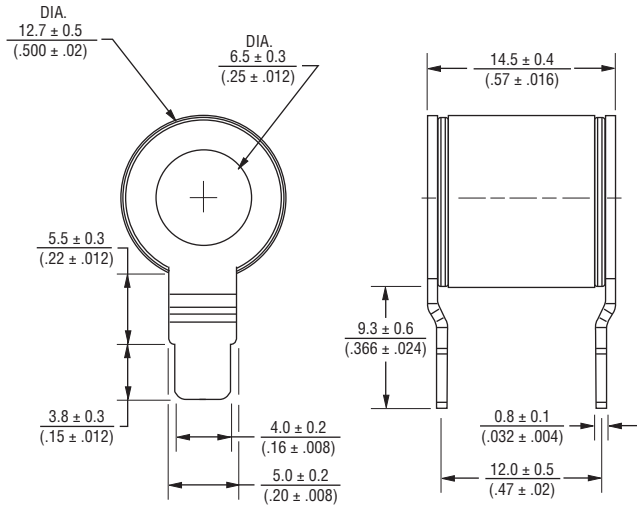
## Product Dimensions

2047-xx-A



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

2047-xx-B



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