



## Features

- Formerly a JENSEN+DEVICES product
- Fast switching rate
- High energy, low loss capability
- Wide operating temperature range
- Long service life
- High insulation resistance
- RoHS compliant\*

## Applications

- Igniters for architectural and automotive Xenon discharge lamps
- Electronic igniters for gas heating and gas domestic appliances, e.g., cookers
- Ignition of ultra-high pressure gas discharge lamps for data and video projectors

## ST-0800 Series Sparctube™ Switching Spark Gap

### Description

Bourns® Sparctube™ Series is a range of switching spark gaps designed specifically for voltage controlled switching of capacitive discharge circuits where a high energy, low loss, fast rate of switching is required. This series is ideally suited for applications where a capacitive discharge is utilized with a transformer to obtain pulses of very high voltage levels in the order of several thousand volts.

### Characteristics

#### Initial Values:

Static Breakdown Voltage @ 800 V/s <sup>1</sup>

|                                 |             |
|---------------------------------|-------------|
| First Ignition Values .....     | < 950 V     |
| Following Ignition Values ..... | 800 V ±12 % |

#### Electrical Life:

|                                          |                   |
|------------------------------------------|-------------------|
| Minimum Number of Switching Cycles ..... | 2x10 <sup>5</sup> |
| Peak Current (Approx.) .....             | 450 A             |
| Maximum Switching Frequency .....        | 500 Hz            |
| Breakdown Characteristics @ 1000 V Limit |                   |
| First Ignition Values .....              | ≤ 1000 V          |
| Delay Time .....                         | < 60 ms           |
| Following Ignition Values .....          | 800 V ±15 %       |

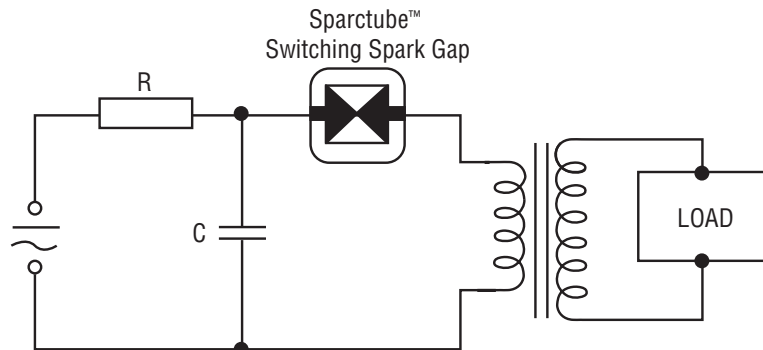
#### General Data:

|                                                   |                             |
|---------------------------------------------------|-----------------------------|
| Breakdown Time .....                              | < 50 ns                     |
| Insulation Resistance @100 Vdc .....              | > 100 megohms               |
| Maximum Static Breakdown Voltage @ 100 V/ms ..... | 1300 V                      |
| Share of Early Ignition Values (< 680 V) .....    | < 1 %                       |
| Residual Voltage @ 50 ns .....                    | < 300 V                     |
| Capacitance .....                                 | < 1 pF                      |
| Operating Temperature Range <sup>2</sup> .....    | -40 °C to +160 °C           |
| Storage Temperature Range .....                   | -65 °C to +125 °C           |
| Weight (Approx.) .....                            | 2.3 g                       |
| Testing .....                                     | 100 %                       |
| Robustness of Terminations .....                  | IEC 60068-2-21 <sup>3</sup> |

#### Notes:

- <sup>1</sup> At delivery AQL 0.65 Level II, DIN ISO 2859.
- <sup>2</sup> Distribution of switchings: maximum 20 % above +125 °C and 20 % below +20°C.
- <sup>3</sup> Test Ua1 (tensile), Ua2 (thrust), Ub (bending) and Uc (torsion).

### Basic Application Circuit



**BOURNS®**

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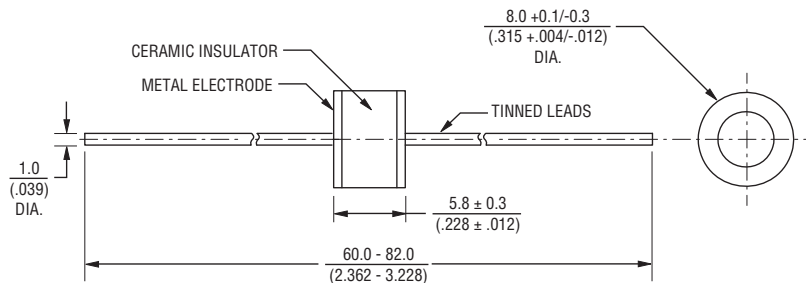
[www.bourns.com](http://www.bourns.com)

# ST-0800 Series Sparctube™ Switching Spark Gap

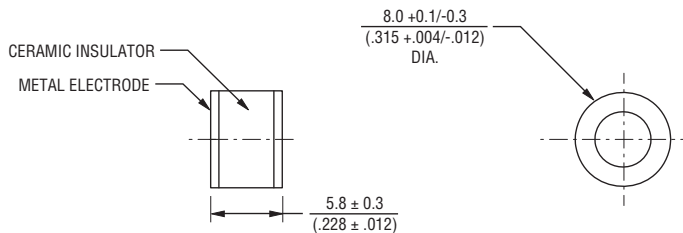
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## Product Dimensions

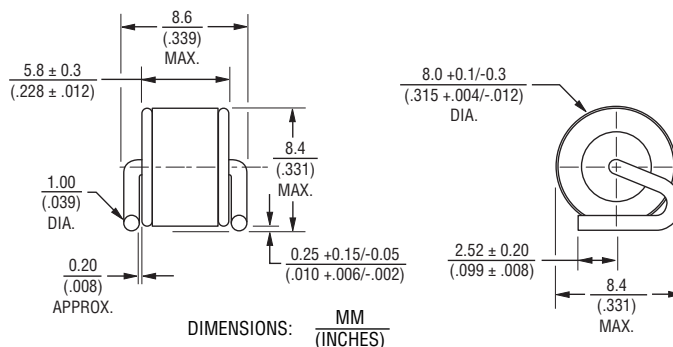
### ST-0800-BLx



### ST-0800-BCx



### ST-0800-BBx



DIMENSIONS: MM (INCHES)

## How to Order

### ST - 0800 - B x x - STD

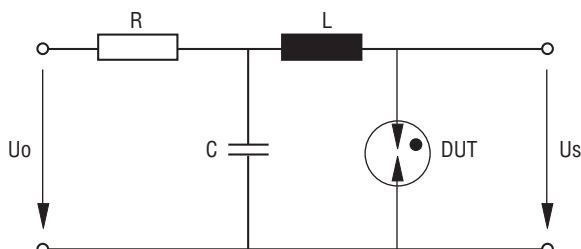
Series Designator  
 Switching Voltage 0800 = 800 V  
 Tolerance B = 12 %  
 Lead Shape B = Bent Leads, C = No Leads\*, L = Straight Leads  
 Packaging B = Bulk, T = Tape & Reel\*  
 Standard or Modified Product Indicator STD = Standard

\*Leadless version available in bulk packaging only.

## Typical Part Marking

**B** ST 0800 wwyy ..... "wwyy" = Week and year of production

## Test Circuit



Uo ..... 1000-1500 V  
 R ..... See Note  
 C ..... 100 nF  
 L ..... 0.5 μH  
 DUT ..... Device Under Test  
 Us ..... Breakdown Voltages

NOTE: Uo and R are set to provide suitable conditions for different measurements.

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

# ST-0800 Series Sparctube™ Switching Spark Gap

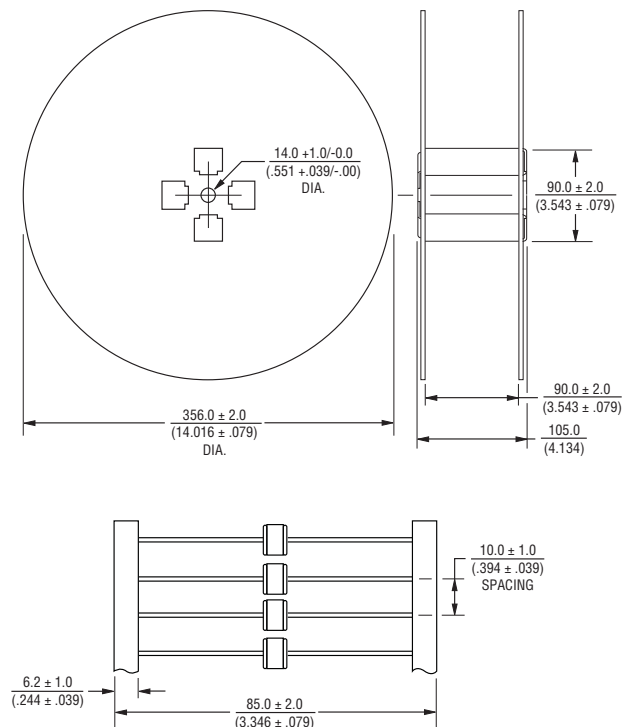
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## Packaging Specifications

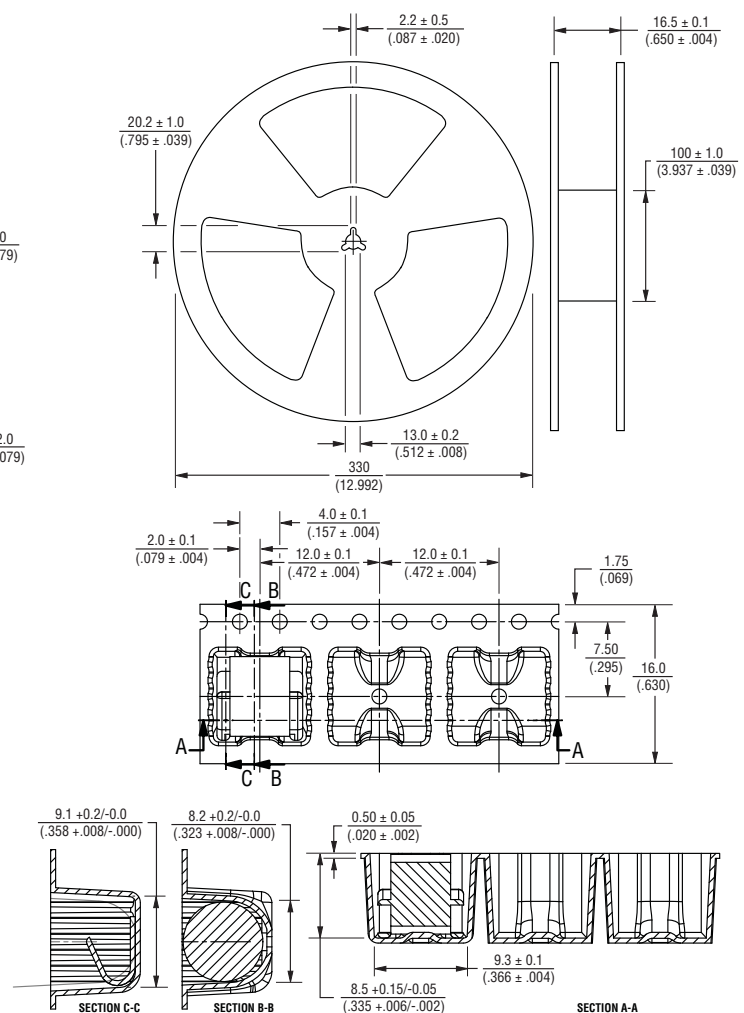
Models ST-0800-BBB, ST-0800-BLB and ST-0800-BCB\* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0800-BLT; 500 pcs./reel for Model ST-0800-BBT.

\* Available in bulk packaging only.

**ST-0800-BLT**



**ST-0800-BBT**



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

REV. 10/12

"Sparctube" is a registered trademark of Bourns, Inc. in the European Community, with pending trademark registration applications in the U.S. and China. Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.