

## 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 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

## Sparctube® Switching Spark Gap ST-0750 Series

### Description

Bourns® Sparctube® Switching Spark Gap 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 .....     | < 900 V     |
| Following Ignition Values ..... | 750 V ±12 % |

#### Electrical Life:

|  |                   |
|--|-------------------|
| Minimum Number of Switching Cycles ..... | 2x10 <sup>5</sup> |
| Peak Current (Approx.) .....             | 450 A             |
| Maximum Switching Frequency .....        | 200 Hz            |
| Breakdown Characteristics @ 950 V Limit  |                   |
| First Ignition Values .....              | ≤ 950 V           |
| Delay Time .....                         | < 60 ms           |
| Following Ignition Values .....          | 750 V ±15 %       |

#### General Data:

|   |                             |
|---|-----------------------------|
| Breakdown Time .....                              | < 50 ns                     |
| Insulation Resistance @100 Vdc .....              | > 100 megohms               |
| Maximum Static Breakdown Voltage @ 100 V/ms ..... | 1250 V                      |
| Share of Early Ignition Values (< 638 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> |

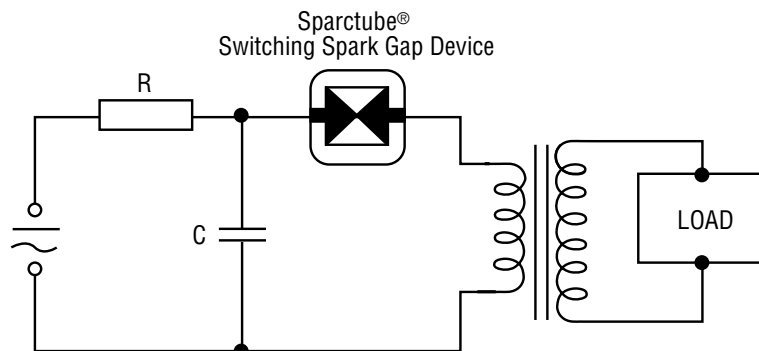
#### Notes:

<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



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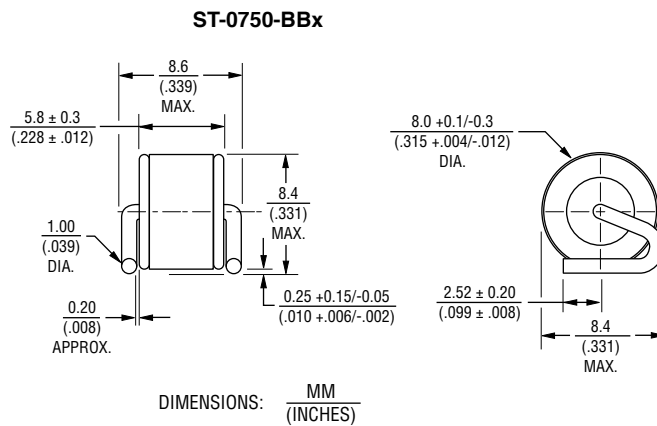
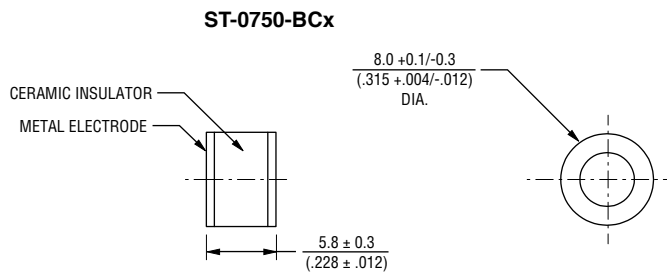
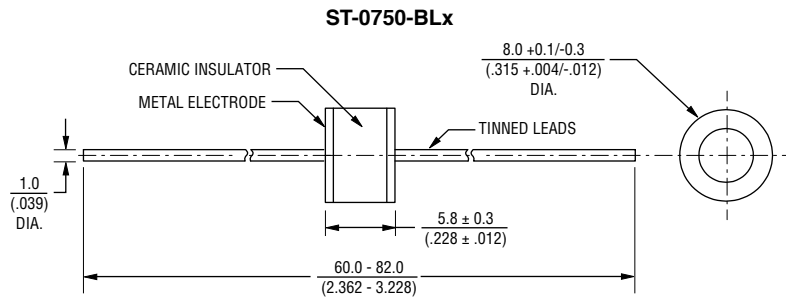
\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

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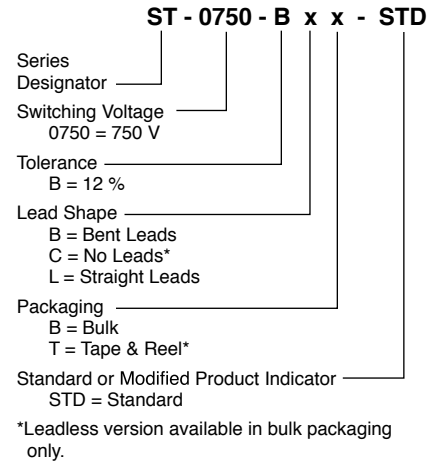
# Sparctube® Switching Spark Gap ST-0750 Series

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## Product Dimensions



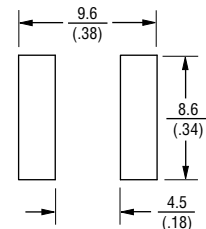
## How to Order



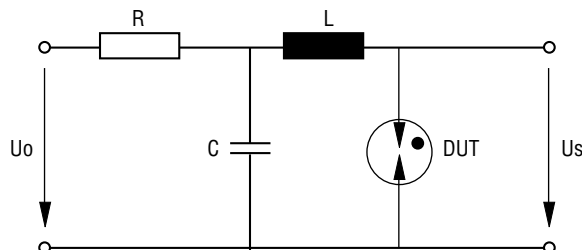
## Typical Part Marking

**B** ST 0750 wwy ..... "wwy" = Week and year of production

## Recommended Pad Layout



## Test Circuit



$U_o$  ..... 1000-1500 V  
 $R$  ..... See Note  
 $C$  ..... 100 nF  
 $L$  ..... 0.5  $\mu$ H  
 $DUT$  ..... Device Under Test  
 $U_s$  ..... Breakdown Voltages

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

# Sparctube® Switching Spark Gap ST-0750 Series

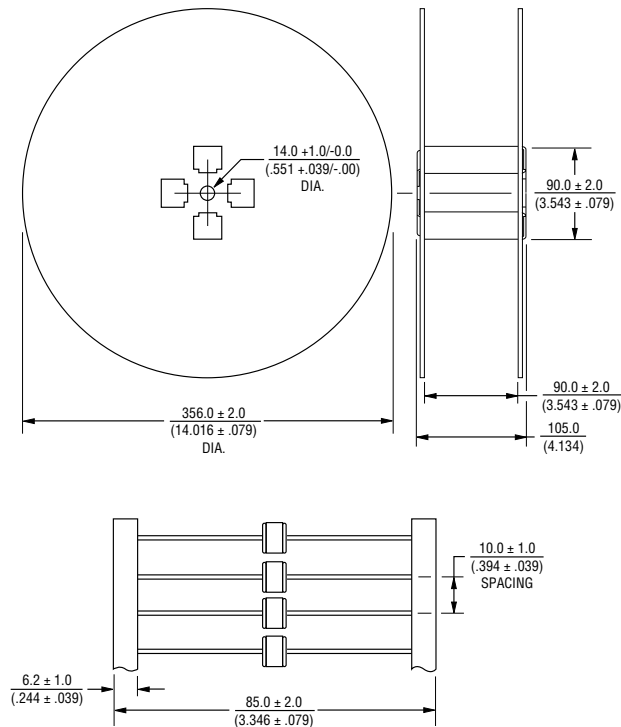
**BOURNS®**

## Packaging Specifications

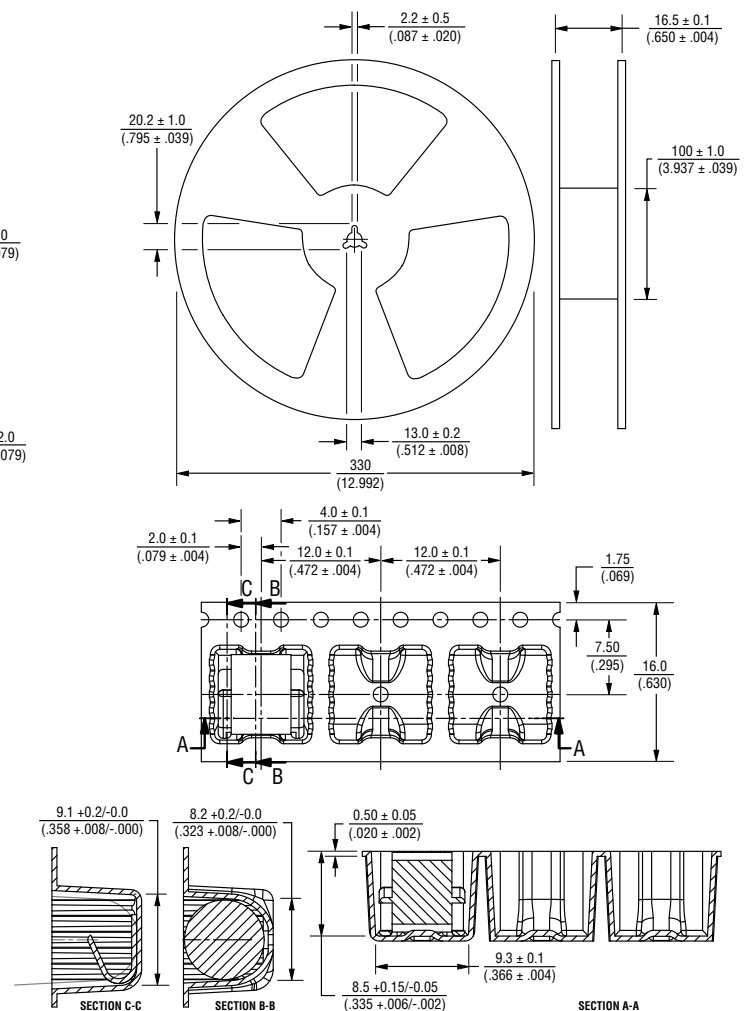
Models ST-0750-BBB, ST-0750-BLB and ST-0750-BCB\* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0750-BLT; 500 pcs./reel for Model ST-0750-BBT.

\* Available in bulk packaging only.

**ST-0750-BLT**



**ST-0750-BBT**



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

REV. 11/18

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