

## 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 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-0400 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 .....	< 500 V
Following Ignition Values .....	400 V ±12 %

#### Electrical Life:

Minimum Number of Switching Cycles .....	2x10 <sup>5</sup>
Peak Current (Approx.) .....	500 A
Maximum Switching Frequency .....	200 Hz <sup>2</sup>

#### Breakdown Characteristics @ 500 V Limit

First Ignition Values .....	≤ V 500
Delay Time .....	< 60 ms
Following Ignition Values .....	400 V ±15 %

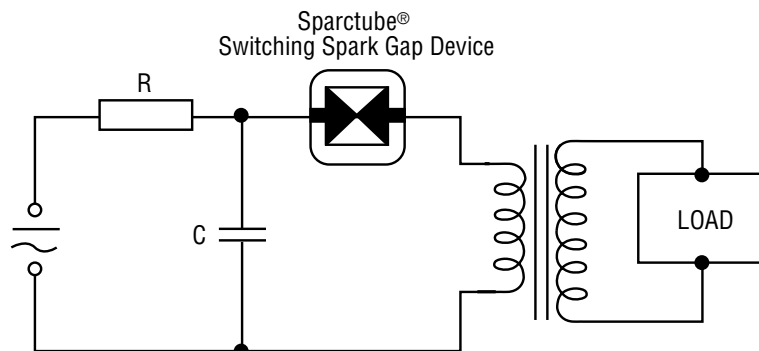
#### General Data:

Insulation Resistance @100 Vdc .....	> 100 megohms
Share of Early Ignition Values (< 340 V) .....	< 1 %
Breakdown Time .....	< 50 ns
Capacitance .....	< 1 pF
Operating Temperature Range <sup>3</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>4</sup>

#### Notes:

- <sup>1</sup> At delivery AQL 0.65 Level II, DIN ISO 2859.
- <sup>2</sup> The maximum switching frequency is 100 Hz at circuit capacitance >470 nF ~ 680 nF.
- <sup>3</sup> Distribution of switchings: maximum 20 % above +125 °C and 20 % below +20°C.
- <sup>4</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.

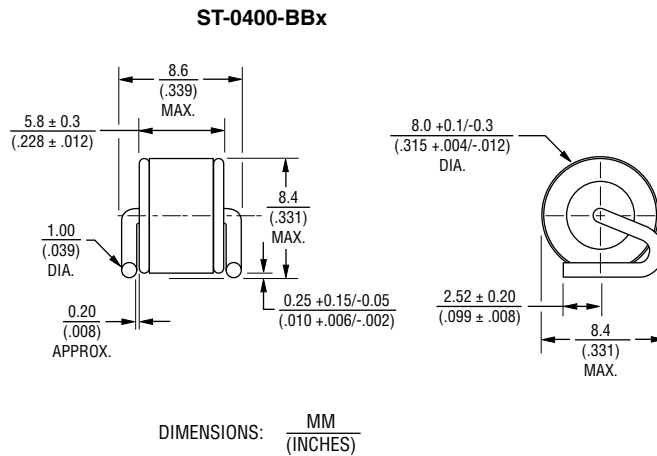
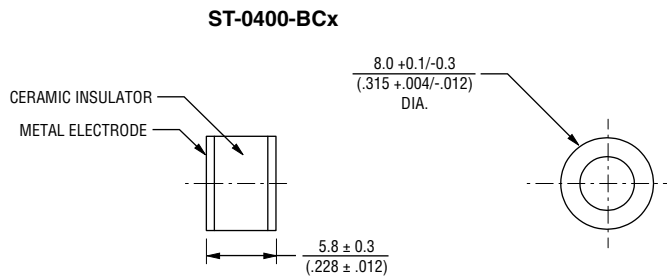
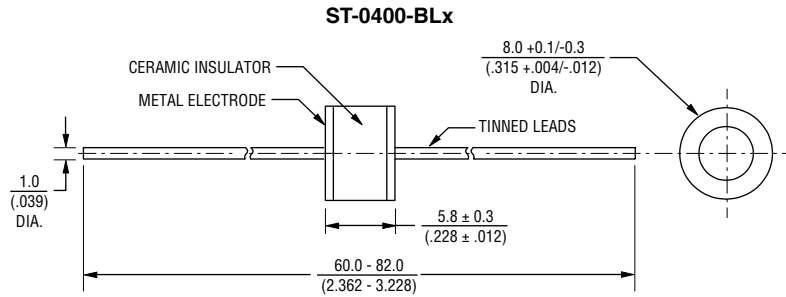
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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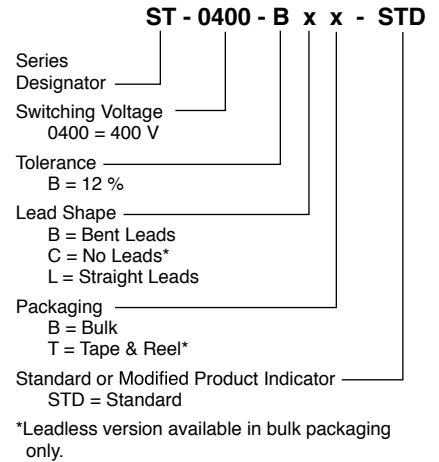
# Sparctube® Switching Spark Gap ST-0400 Series

**BOURNS®**

## Product Dimensions



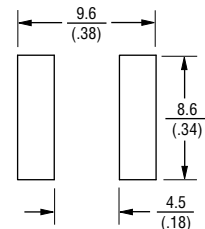
## How to Order



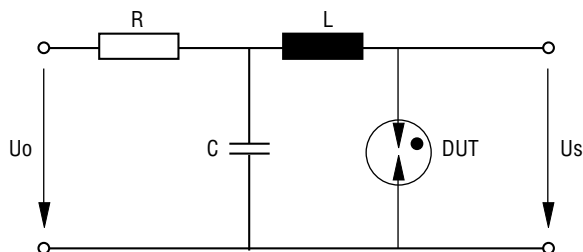
## Typical Part Marking

**B** ST 0400 wwy ..... "wwy" = Week and year of production

## Recommended Pad Layout



## Test Circuit



U<sub>o</sub> ..... 500 V  
 R ..... See Note  
 C ..... 470 nF  
 L ..... 0.5 μH  
 DUT ..... Device Under Test  
 U<sub>s</sub> ..... Breakdown Voltages

NOTE: U<sub>o</sub> and R are set to provide suitable conditions for different measurements.

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# Sparctube® Switching Spark Gap ST-0400 Series

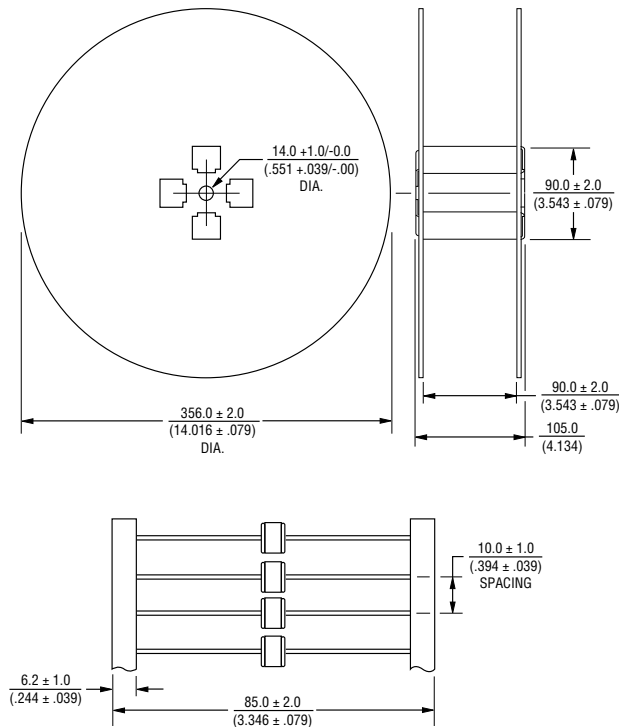
# BOURNS®

## Packaging Specifications

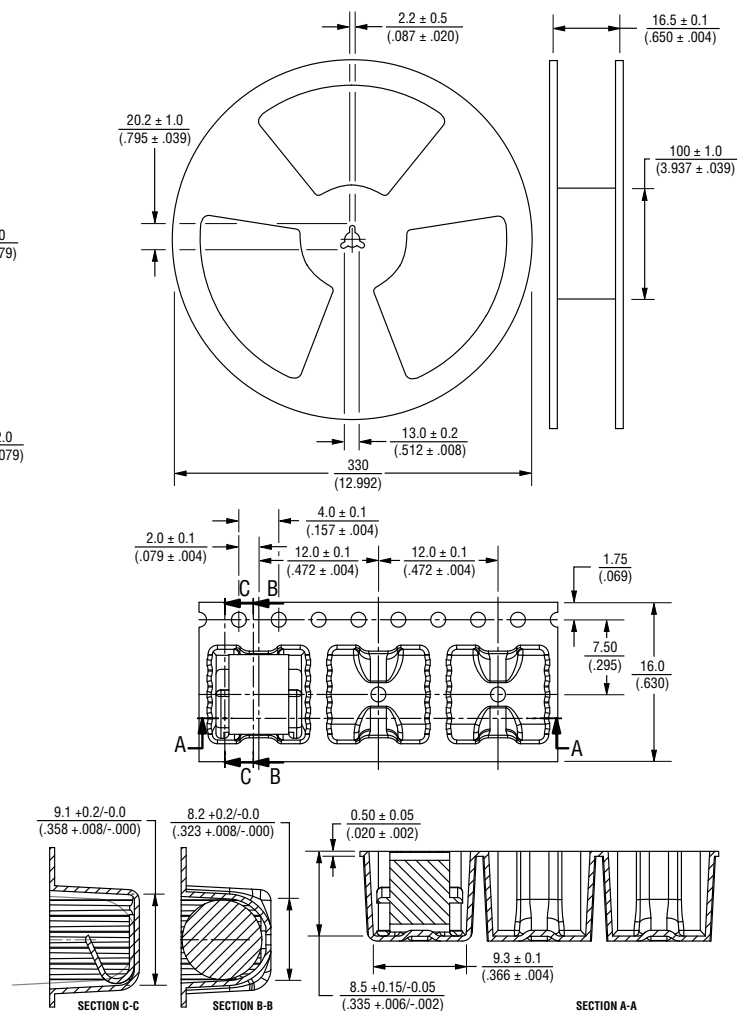
Models ST-0400-BBB, ST-0400-BLB and ST-0400-BCB\* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0400-BLT; 500 pcs./reel for Model ST-0400-BBT.

\* Available in bulk packaging only.

**ST-0400-BLT**



**ST-0400-BBT**



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

REV. 11/18

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