



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

Sparcube® Switching Spark Gap ST-0400 Series

Description

Bourns® Sparcube® 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 ¹

First Ignition Values	< 500 V
Following Ignition Values	400 V ±12 %

Electrical Life:

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

Breakdown Characteristics @ 500 V Limit

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

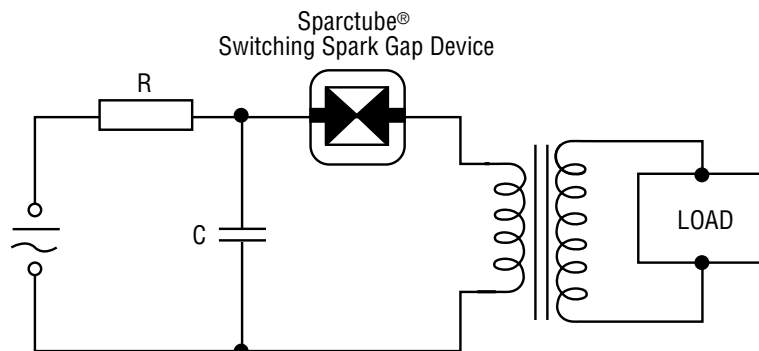
General Data:

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

Notes:

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

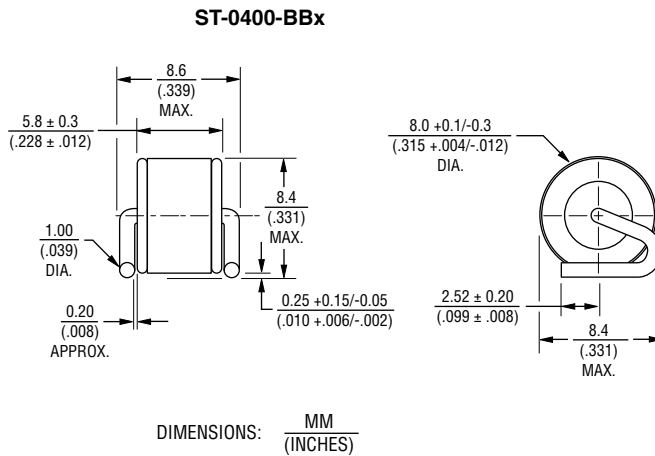
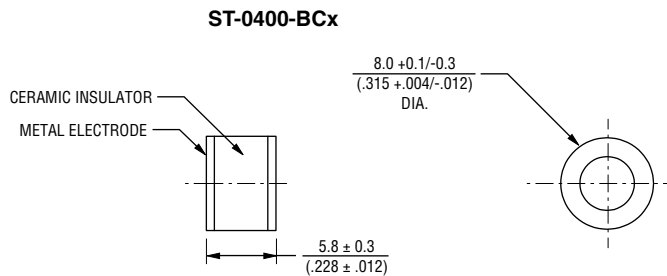
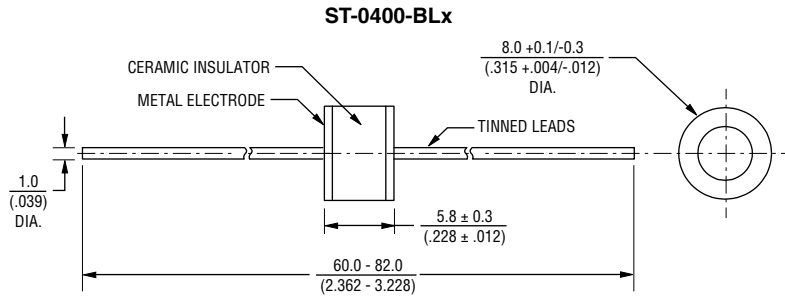
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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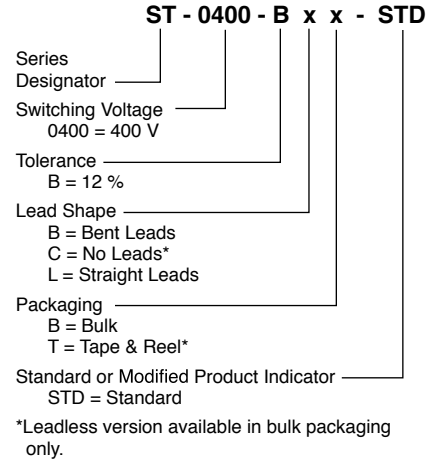
Sparctube® Switching Spark Gap ST-0400 Series

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Product Dimensions



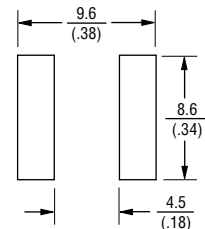
How to Order



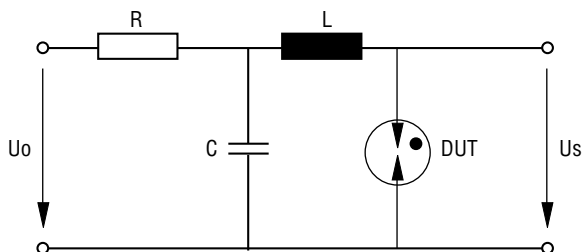
Typical Part Marking

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

Recommended Pad Layout



Test Circuit



U_o 500 V
 R See Note
 C 470 nF
 L 0.5 μ H
 DUT Device Under Test
 U_s Breakdown Voltages

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

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Sparctube® Switching Spark Gap ST-0400 Series

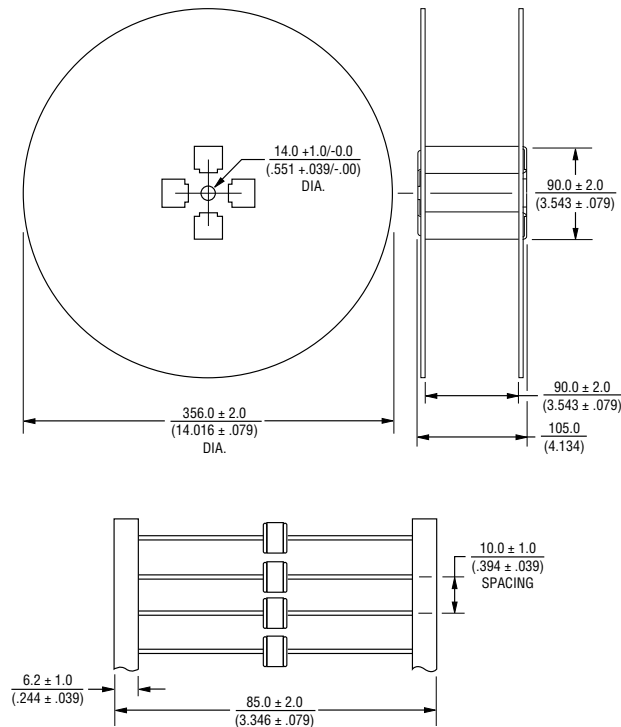
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Packaging Specifications

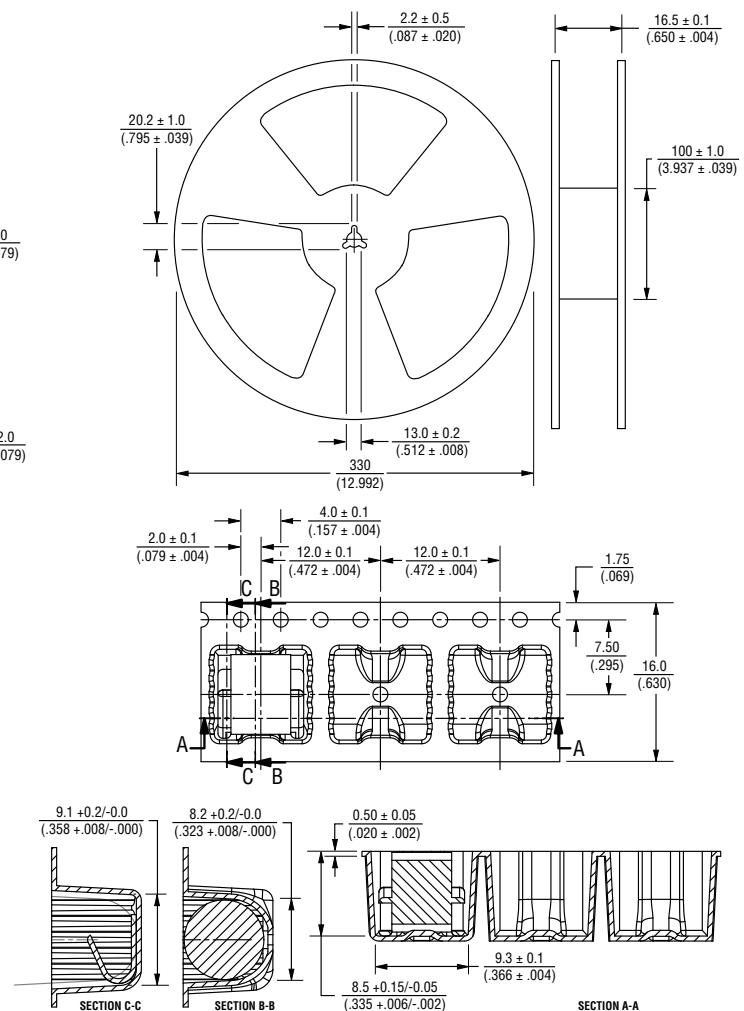
Models ST-0400-BBB, ST-0400-BLB and ST-0400-BCB* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0400-BLT; 500 pcs./reel for Model ST-0400-BBT.

* Available in bulk packaging only.

ST-0400-BLT



ST-0400-BBT



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

REV. 11/18

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