

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-0400 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 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 | ≤ 500 V |
| Delay Time | < 60 ms |
| Following Ignition Values | 400 V ±15 % |

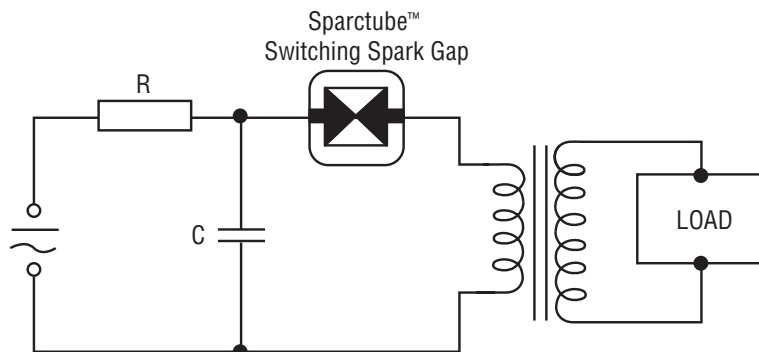
General Data:

| | |
|--|-----------------------------|
| 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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Asia-Pacific:

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Tel: +41-41 768 5555
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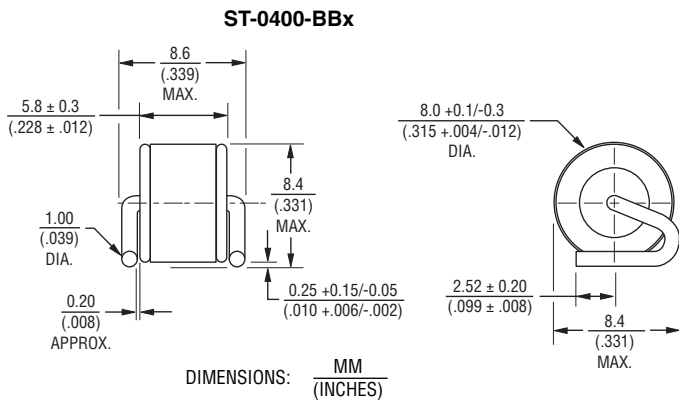
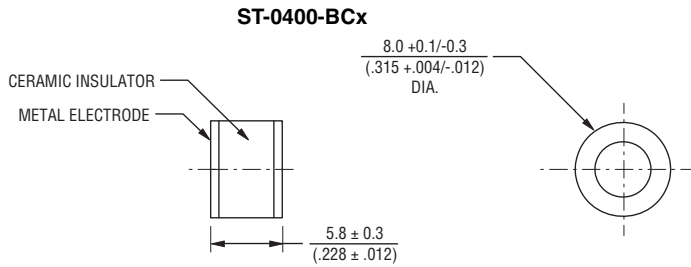
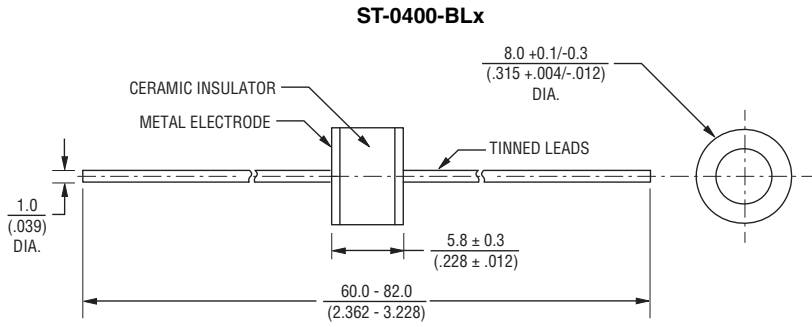
www.bourns.com

*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. Customers should verify actual device performance in their specific applications.

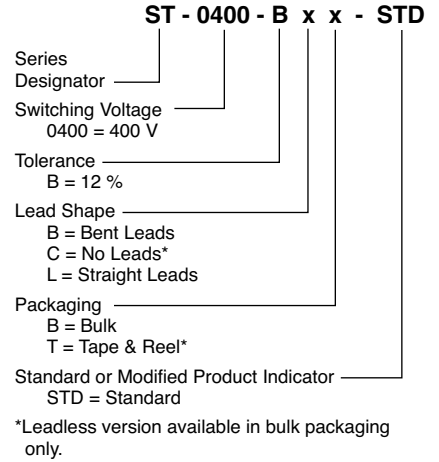
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Product Dimensions



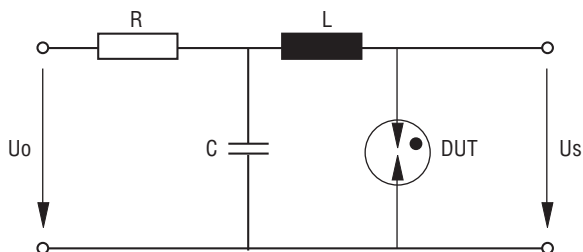
How to Order



Typical Part Marking

B ST 0400 wwy “wwy” = Week and year of production

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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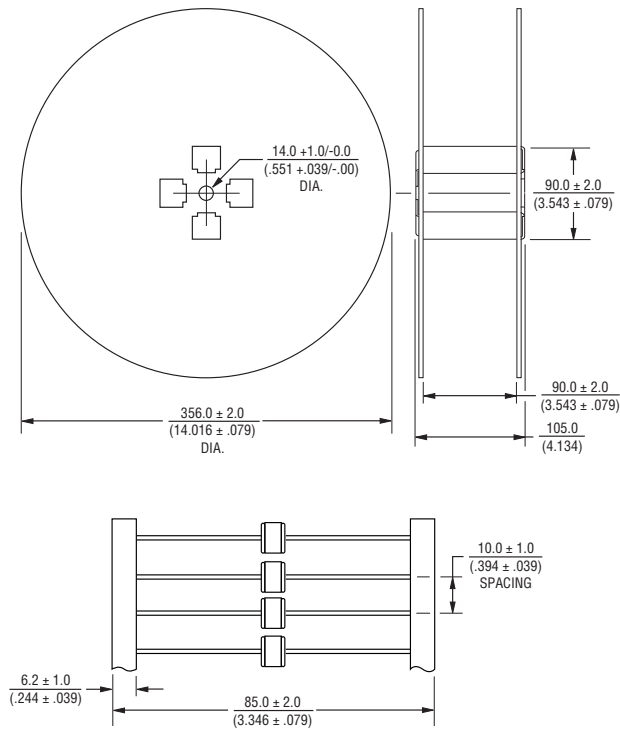
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Packaging Specifications

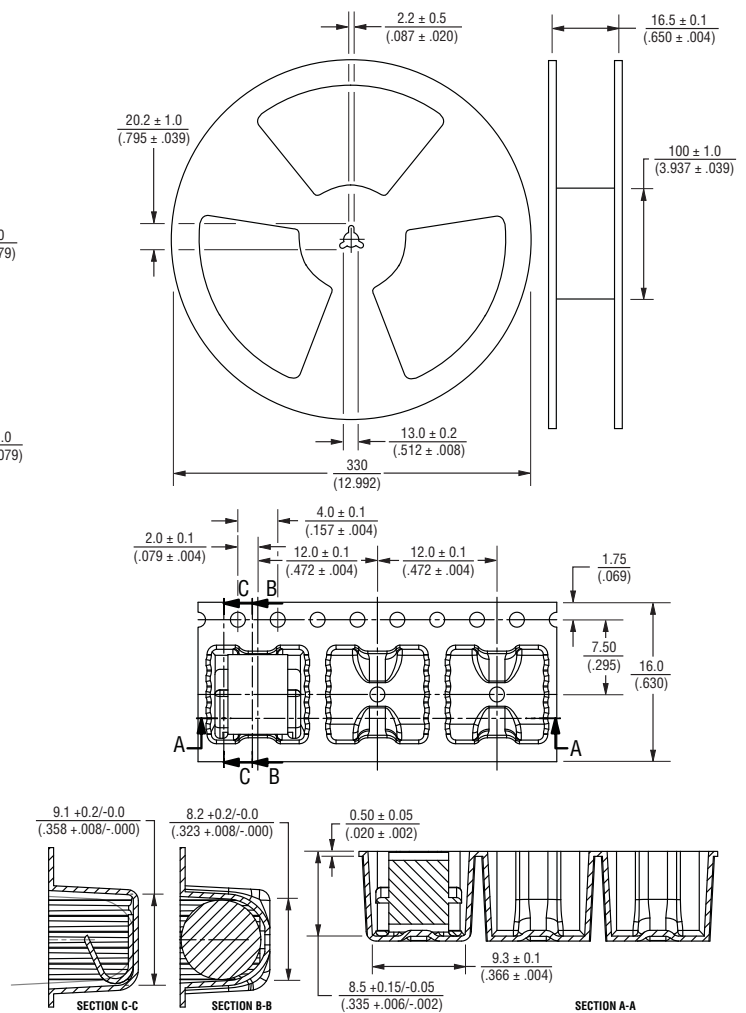
Models ST-0400-BBB, ST-0400-BLB and ST-0400-BCB* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0400-BLT; 500 pcs./reel for Model ST-0400-BBT.

* Available in bulk packaging only.

ST-0400-BLT



ST-0400-BBT



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

REV. 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.

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