



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-0840 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 < 950 V

Following Ignition Values 740 V to 940 V

Electrical Life:

Minimum Number of Switching Cycles 2x10⁵

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 720 V to 960 V

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 (< 720 V) < 1 %

Residual Voltage @ 50 ns < 300 V

Capacitance < 1 pF

Operating Temperature Range ² -40 °C to +170 °C

Storage Temperature Range -65 °C to +125 °C

Weight Approx. 2.3 g

Testing 100 %

Robustness of Terminations IEC 60068-2-21 ³

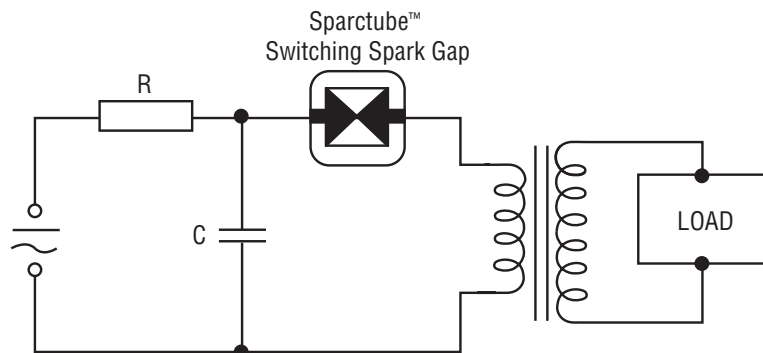
Notes:

¹ At delivery AQL 0.65 Level II, DIN ISO 2859.

² Distribution of switchings: maximum 20 % above +125 °C and 20 % below +20 °C.

³ Test Ua1 (tensile), Ua2 (thrust), Ub (bending) and Uc (torsion).

Basic Application Circuit



BOURNS®

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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.

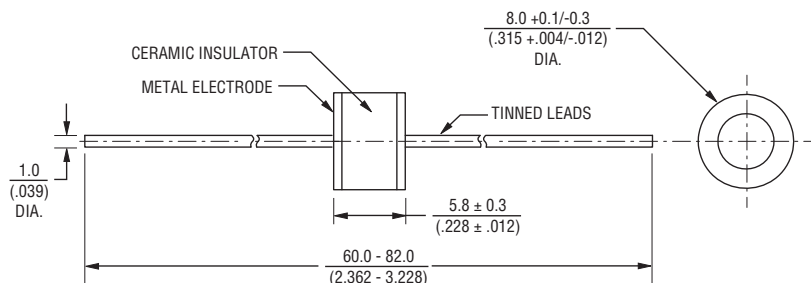
Customers should verify actual device performance in their specific applications.

ST-0840 Series Sparctube™ Switching Spark Gap

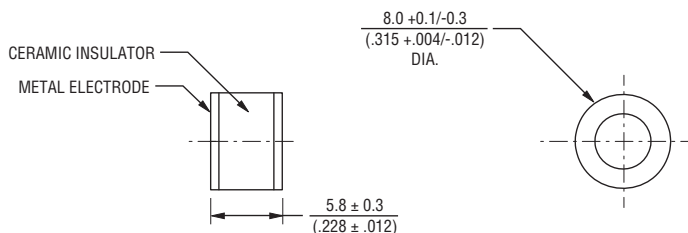
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Product Dimensions

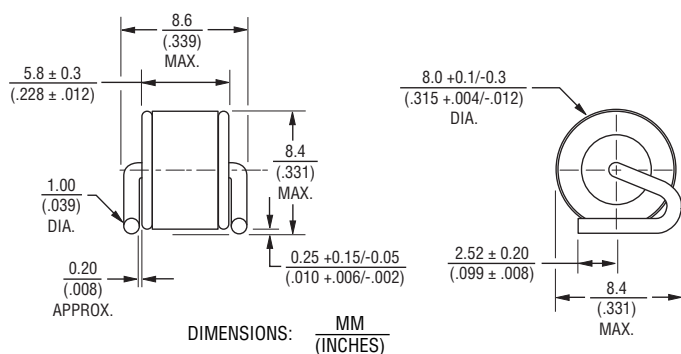
ST-0840-BLx



ST-0840-BCx



ST-0840-BBx



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

How to Order

ST - 0840 - B x x - STD

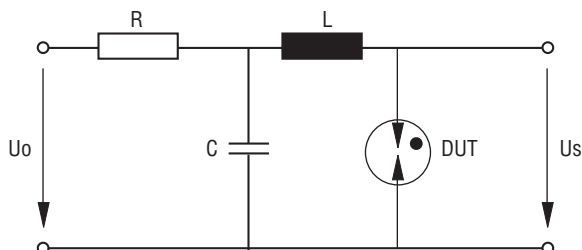
Series Designator
Switching Voltage 0840 = 840 V
Tolerance B = 12 %
Lead Shape B = Bent Leads
C = No Leads*
L = Straight Leads
Packaging B = Bulk
T = Tape & Reel*
Standard or Modified Product Indicator STD = Standard

*Leadless version available in bulk packaging only.

Typical Part Marking

B ST 0840 wwyy "wwyy" = Week and year of production

Test Circuit



U_o 1000-1500 V
 R See Note
 C 100 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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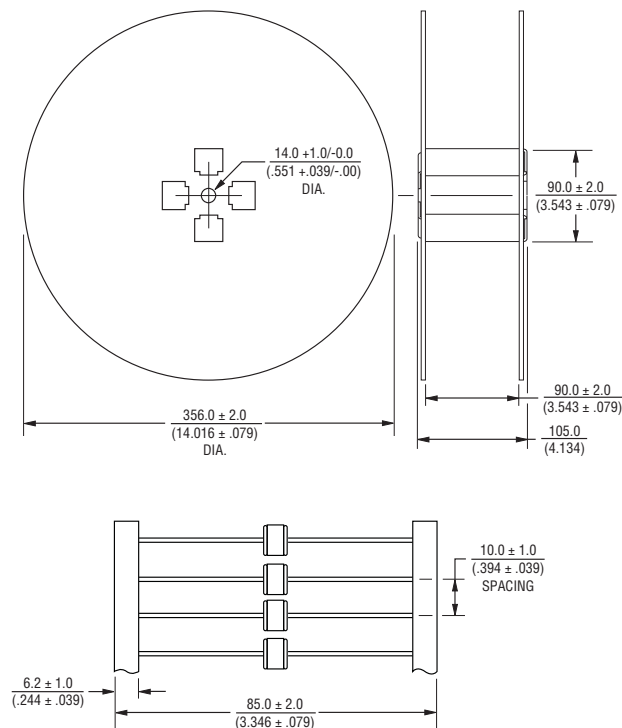
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Packaging Specifications

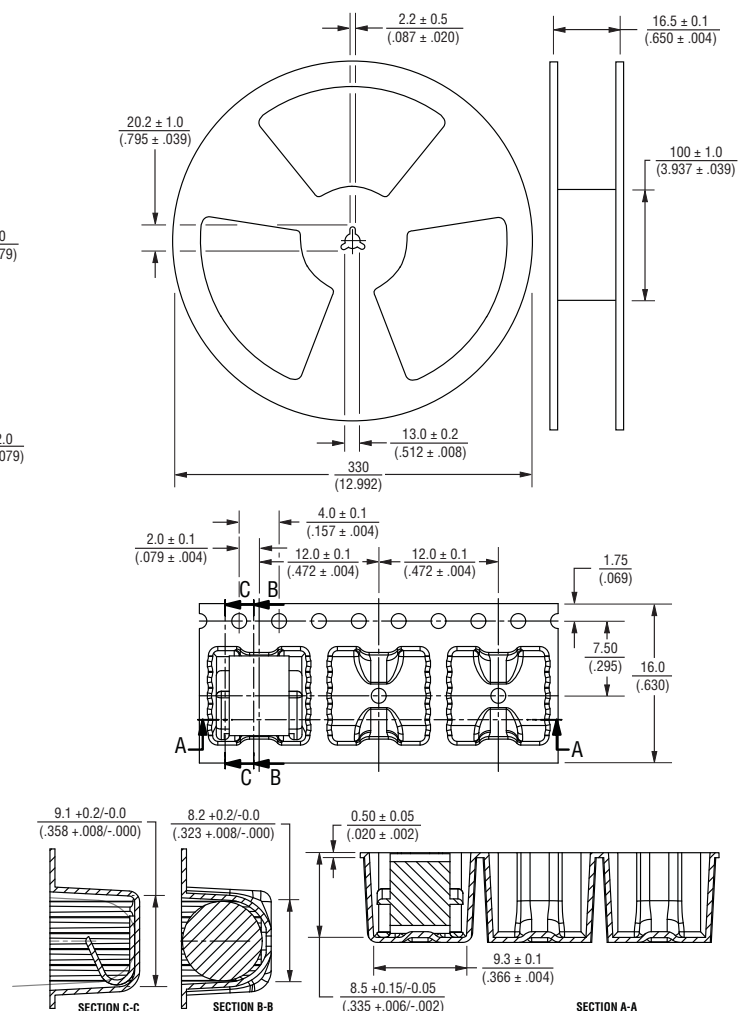
Models ST-0840-BBB, ST-0840-BLB and ST-0840-BCB* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0840-BLT; 500 pcs./reel for Model ST-0840-BBT.

* Available in bulk packaging only.

ST-0840-BLT



ST-0840-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.