



Features

- Formerly a JDS MICRO-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-0470 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 ¹

First Ignition Values	< 620 V
Following Ignition Values	470 V ±12 %

Electrical Life:

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

Breakdown Characteristics @ 620 V Limit

First Ignition Values	≤ 620 V
Delay Time	< 60 ms
Following Ignition Values	470 V ±15 %

General Data:

Breakdown Time	< 50 ns
Insulation Resistance @ 100 Vdc	> 100 megohms
Share of Early Ignition Values (< 400 V)	< 1 %
Capacitance	< 1 pF
Operating Temperature Range ²	-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 ³

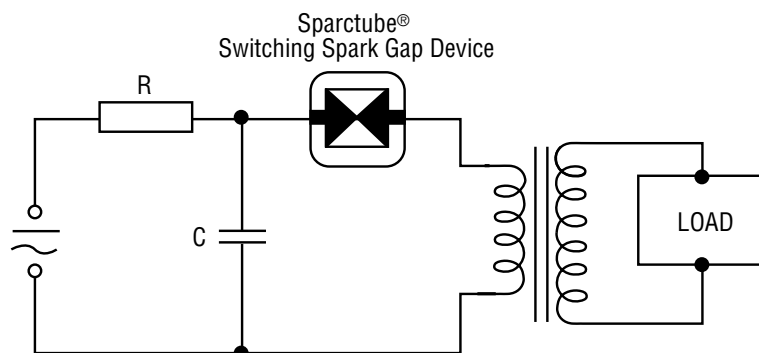
Notes:

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



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

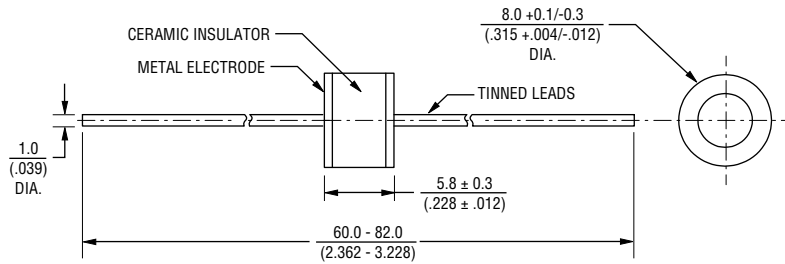
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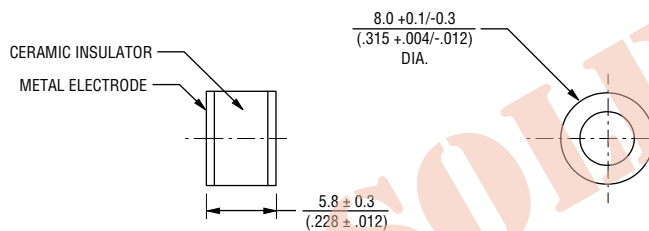
BOURNS®

Product Dimensions

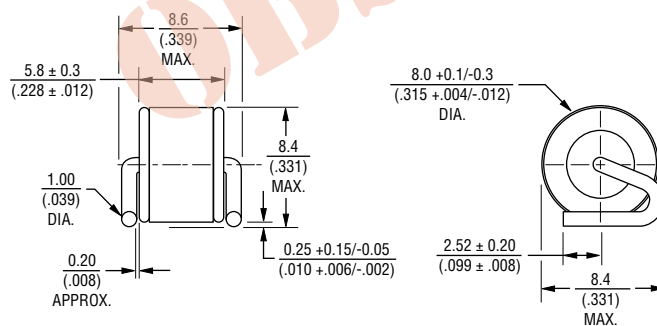
ST-0470-BLx



ST-0470-BCx



ST-0470-BBx



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

How to Order

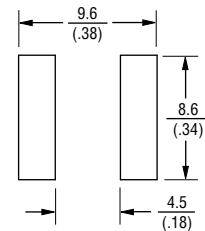
ST - 0470 - B x x - STD

Series Designator
Switching Voltage
0470 = 470 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.

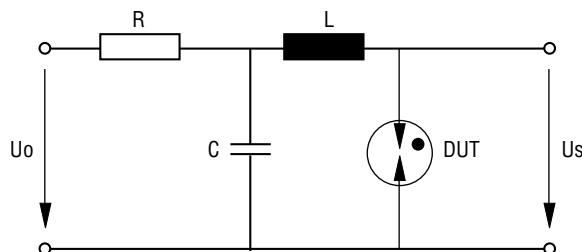
Typical Part Marking

B ST 0470 wwyy "wwyy" = Week and year of production

Recommended Pad Layout



Test Circuit



Uo 620 V
R See Note
C 470 nF
L 0.5 μ H
DUT Device Under Test
Us Breakdown Voltages

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

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Sparctube® Switching Spark Gap ST-0470 Series

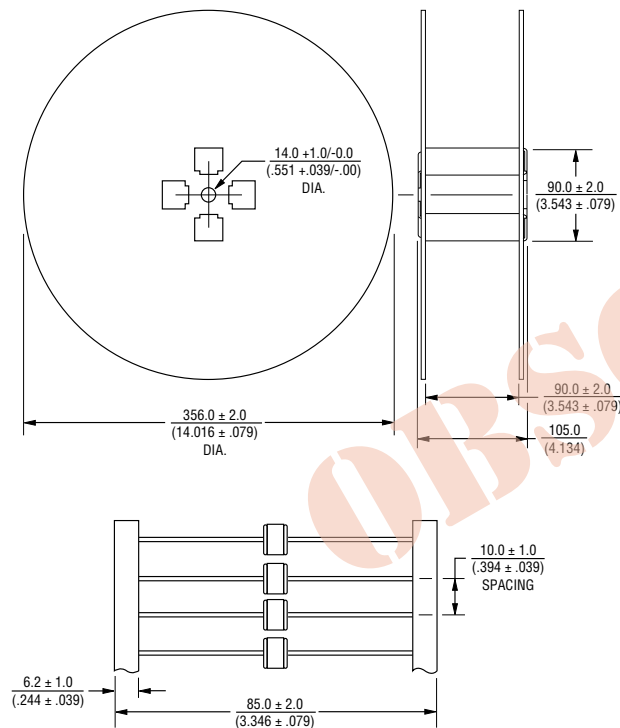
BOURNS®

Packaging Specifications

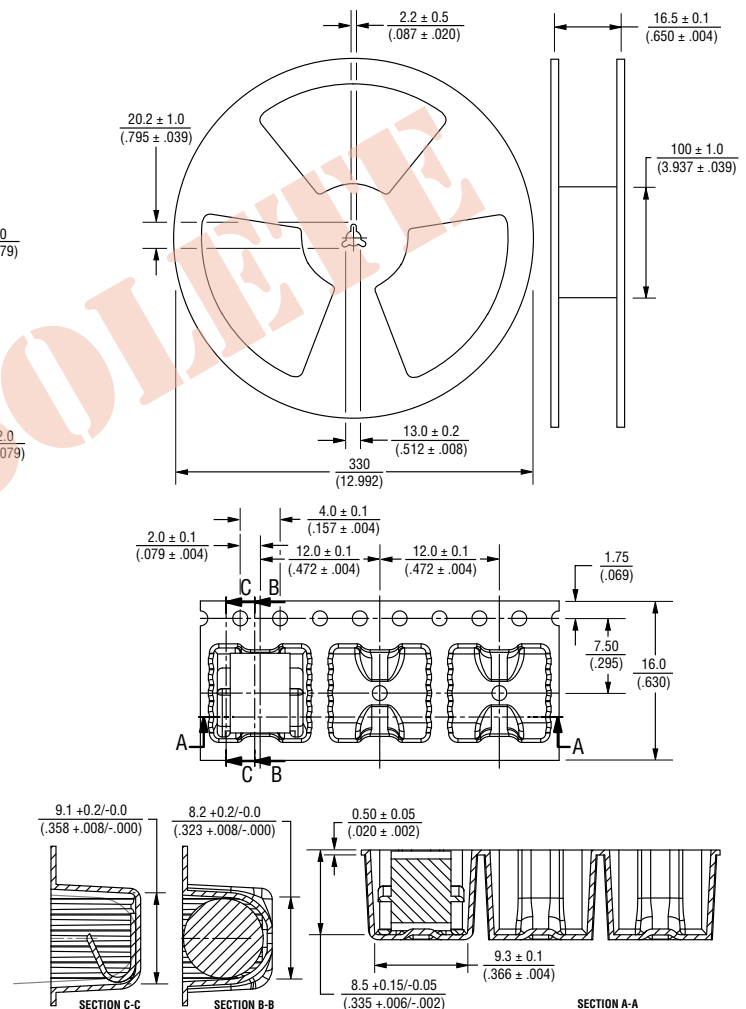
Models ST-0470-BBB, ST-0470-BLB and ST-0470-BCB* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0470-BLT; 500 pcs./reel for Model ST-0470-BBT.

* Available in bulk packaging only.

ST-0470-BLT



ST-0470-BBT



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

REV. 05/19

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