



Features

- Formerly a **JENZEN-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 1

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

Electrical Life:

Minimum Number of Switching Cycles 2x10⁵

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:

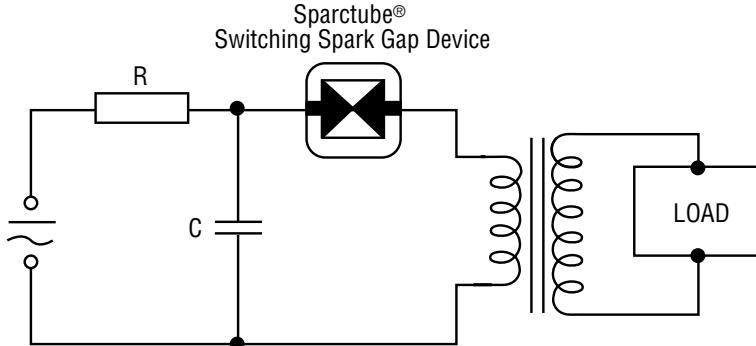
1 At delivery AQL 0.65 Level II, DIN ISO 2859.

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



BOURNS®

Asia-Pacific:

Tel: +886-2 2562-4117

Email: asiacus@bourns.com

Europe:

Tel: +36 88 520 390

Email: euocus@bourns.com

The Americas:

Tel: +1-951 781-5500

Email: americus@bourns.com

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. Users should verify actual device performance in their specific applications.

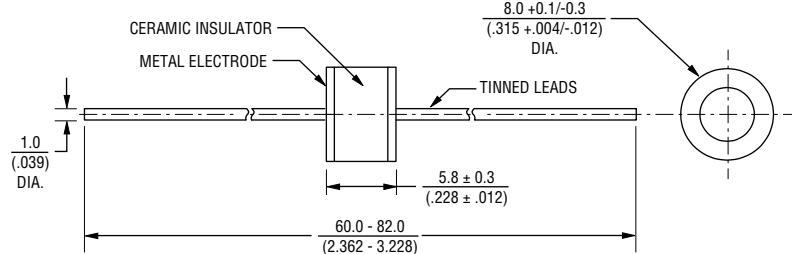
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Sparctube® Switching Spark Gap ST-0400 Series

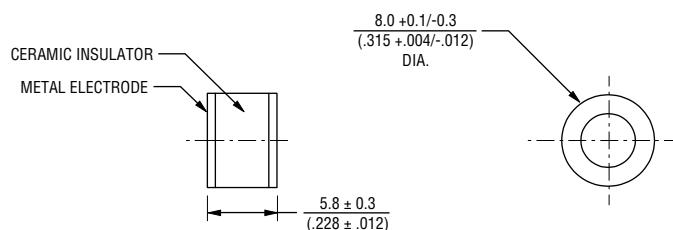
BOURNS®

Product Dimensions

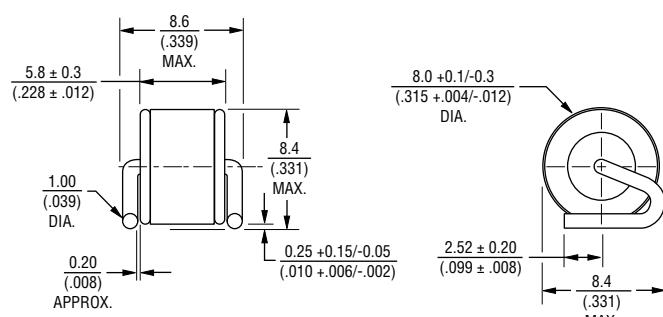
ST-0400-BLx



ST-0400-BCx



ST-0400-BBx



DIMENSIONS: **MM**
(INCHES)

How to Order

ST - 0400 - B x x - STD

Series
Designator

Switching Voltage
0400 = 400 V

Tolerance
B = 12 %

Lead Shape
B = Bent Leads
C = No Leads*
L = Straight Leads

Packaging
B = Bulk
T = Tape & Reel*

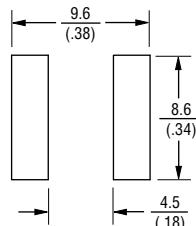
Standard or Modified Product Indicator
STD = Standard

*Leadless version available in bulk packaging
only.

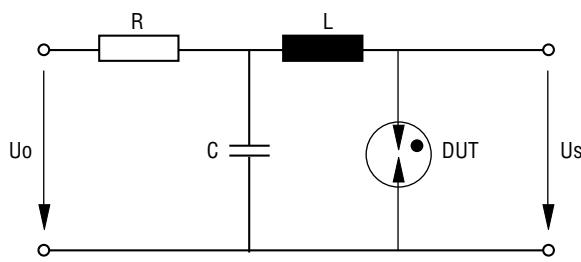
Typical Part Marking

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

Recommended Pad Layout



Test Circuit



Uo 500 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-0400 Series

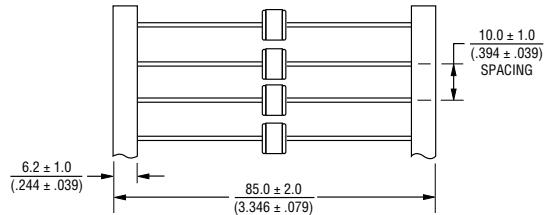
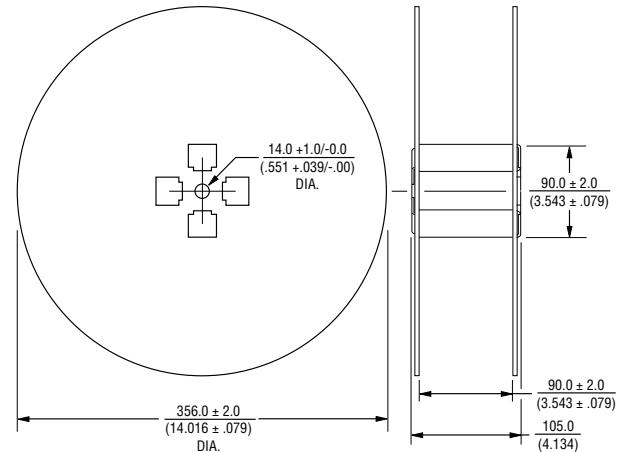
BOURNS®

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.

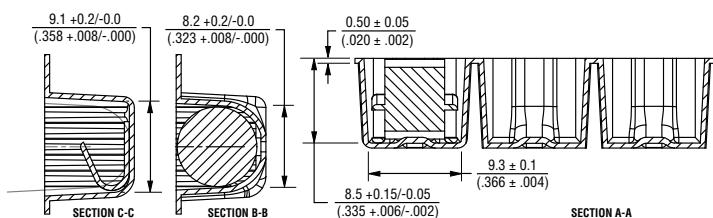
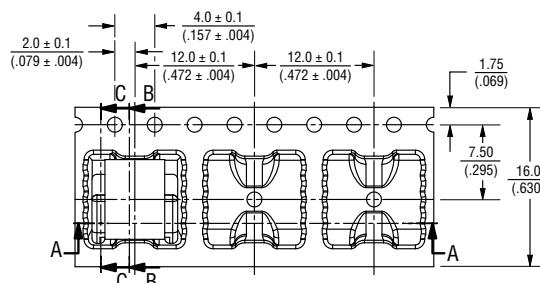
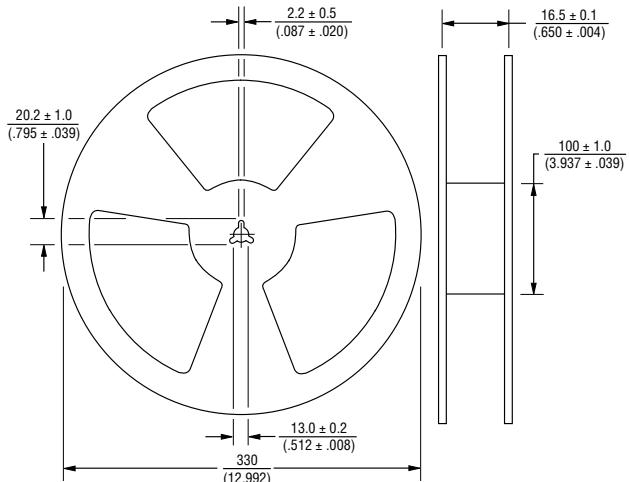
* Available in bulk packaging only.

ST-0400-BLT



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

ST-0400-BBT



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