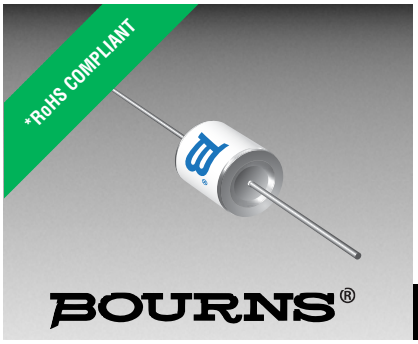

Features

- Formerly a JENSEN DEVICES product
- High insulation resistance
- Quick response, long service life
- Available DC breakdown range: 2.4 kV to 7.2 kV
- Wide operating temperature range
- RoHS compliant*

Applications

- Street lighting
- Medical devices
- Air conditioning
- Power supplies
- Projectors
- Welders

SA2 Series High Voltage Gas Discharge Tube

Description

Bourns® SA2 Series two-electrode High Voltage Gas Discharge Tube devices are designed for high isolation applications. The series offers high insulation resistance over a wide temperature range and is offered with DC breakdowns from 2.4 kV to 7.2 kV. Other customized voltages between 2 kV and 7.2 kV are available upon request.

Agency Recognition

Agency	Category	Agency File No.
UL	UL 1449	E313168

Electrical Characteristics

Part No.	Device Specifications									Life Ratings		
	DC Breakdown Voltage @ 500 V/s				Impulse Breakdown	Ramp	Insulation Resistance @ 250 Vdc	Arc Voltage @ 5A min.	Capacitance @ 1 MHz	Nominal Impulse Discharge		Nom. DC Break-down After Life
	Min.	Typ.	Max.	Tol.	Max.	Typ.	Min.	Typ.	Max.	1 Operation	10 Operations	
SA2-2400-Dxx-STD	2040	2400	2880	-15 % to +20 %	3800 V	@1 kV/µs	10 G Ohm	20 V	1 pF	10 kA, 8/20 µs	5 kA, 8/20 µs, ±5 operations in each polarity	>2.0 kV
SA2-2400-Cxx-STD	1920	2400	2880	-20 % to +20 %								>1.9 kV
SA2-3000-Dxx-STD	2550	3000	3600	-15 % to +20 %	4500 V	@7.5 kV/µs						>2.4 kV
SA2-3000-Cxx-STD	2400	3000	3600	-20 % to +20 %								>2.3 kV
SA2-3600-Dxx-STD	3060	3600	4320	-15 % to +20 %	5400 V	@7.5 kV/µs						>3.0 kV
SA2-3600-Cxx-STD	2880	3600	4320	-20 % to +20 %								>2.8 kV
SA2-5500-Dxx-STD	4675	5500	6600	-15 % to +20 %	8000 V	@7.5 kV/µs						>4.4 kV
SA2-5500-Cxx-STD	4400	5500	6600	-20 % to +20 %								>4.2 kV
SA2-6200-Dxx-STD	5270	6200	7440	-15 % to +20 %	8000 V	@7.5 kV/µs						>5.2 kV
SA2-6200-Cxx-STD	4960	6200	7440	-20 % to +20 %								>4.9 kV
SA2-6300-Dxx-STD	5355	6300	7560	-15 % to +20 %	9200 V	@7.5 kV/µs						>5.3 kV
SA2-6300-Cxx-STD	5040	6300	7560	-20 % to +20 %								>5.0 kV
SA2-7200-Dxx-STD	6120	7200	8640	-15 % to +20 %	10000 V	@1 kV/µs						>6.3 kV
SA2-7200-Cxx-STD	5760	7200	8640	-20 % to +20 %								>6.0 kV

Note: Model SA2-7200 specification is based on the customer providing sufficient encapsulation/working environment for the component to avoid outside surface breakdown (e.g., non-contaminated equivalent surface in RH 40 % reaches breakdown at 10-12 kV).

Product Characteristics

Operating Temperature Range ..... -40 °C to +125 °C
Storage Temperature Range ..... -65 °C to +125 °C
Device Plating ..... Matte-Sn

*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.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.

Environmental Characteristics

Section	Category	Test	Condition
IEC 60068-2-13 test M	Operational	Low Air Pressure	Temp. +55 °C, Time 0.5 Sec., Pressure 600 hPa
IEC 60068-2-1, test Ab	Non-Operational	Cold	-40 °C, 96 Hours
IEC 60068-2-2, test Bb		Dry Heat	+100 °C, 96 Hours
IEC 60068-2-30, test Ca		Damp Heat, Steady State	+40 °C, 93 % RH, 21 Days
IEC 60068-2-14, test Na		Rapid Change in Temperature	Upper Temp. +100 ° C, Lower Temp. -40 °C, 5 Cycles
IEC 60068-2-6, test Fc		Vibration	10-55 Hz, 30 Min. per Axis, Double Amplitude 0.70 Min.
IEC 60068-2-27, test Ea		Shock Test	30 g, 11 ms, Half Sine Pulse
IEC 60068-2-20, test Ta		Solderability	Method 1, +235 °C, 2 Sec., Aging
IEC 60068-2-20, test Tb		Resistance to Soldering Heat	Method 1A, +260 °C, 5 Sec.
IEC 60068-2-21		Robustness of Terminations	Ua1 (Tensile), Ua2 (Thrust), Ub (Bending) and Uc (Torsion)

How to Order

SA 2 - nnnn - x x x - STD

Series Designator

No. of Electrodes
- 2 = 2 Electrodes

Breakdown Voltage
- 2400 = 2400 V
- 3000 = 3000 V
- 3600 = 3600 V
- 5500 = 5500 V
- 6200 = 6200 V
- 6300 = 6300 V
- 7200 = 7200 V

Tolerance
- C = -20 % to +20 %
- D = -15 % to +20 %

Lead Shape
- B = Bent Leads*
- C = No Leads*
- K = Bent Leads with Kinks*
- K1 = Bent Leads with Kinks*
- L = Straight Leads**

Packaging
- B = Bulk
- T = Tape & Reel

Standard or Modified Product Indicator
- STD = Standard

* Available in bulk packaging only.

** Bulk packaging available for straight lead devices ≤3600 V. Devices >3600 V available in tape and reel only.

Typical Part Marking

..... B SA2-xxxx VL®

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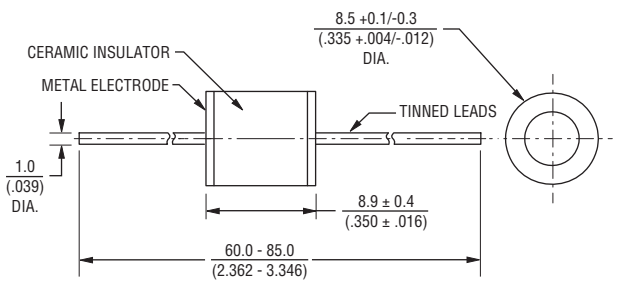
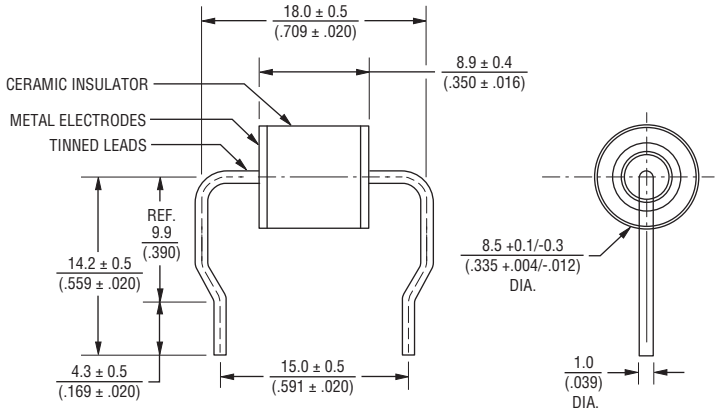
Product Dimensions

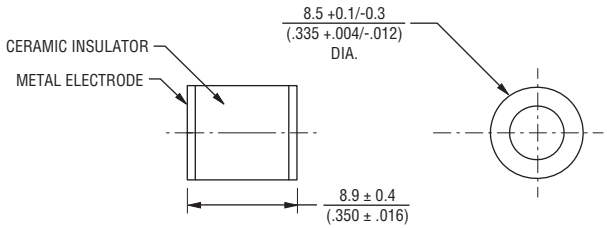
SA2-xxxx-xLx



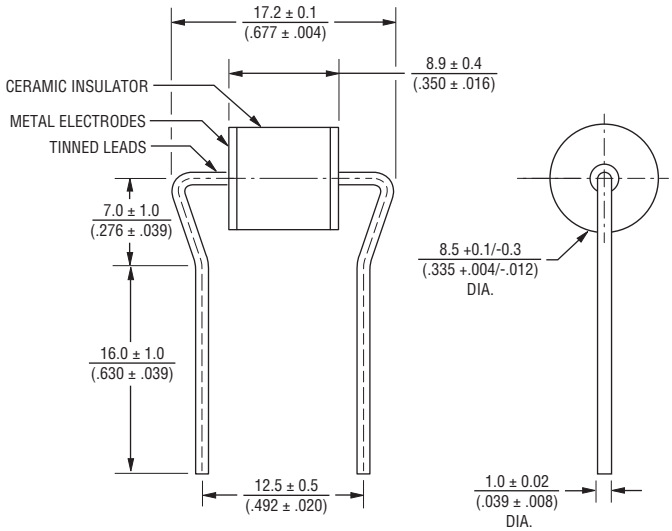
SA2-xxxx-xKx



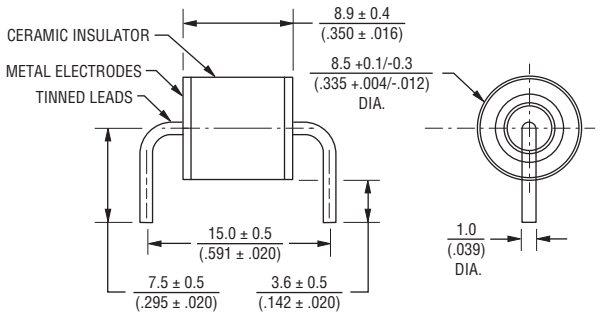
SA2-xxxx-xCx



SA2-xxxx-xK1x



SA2-xxxx-xBx



DIMENSIONS: MM / (INCHES)

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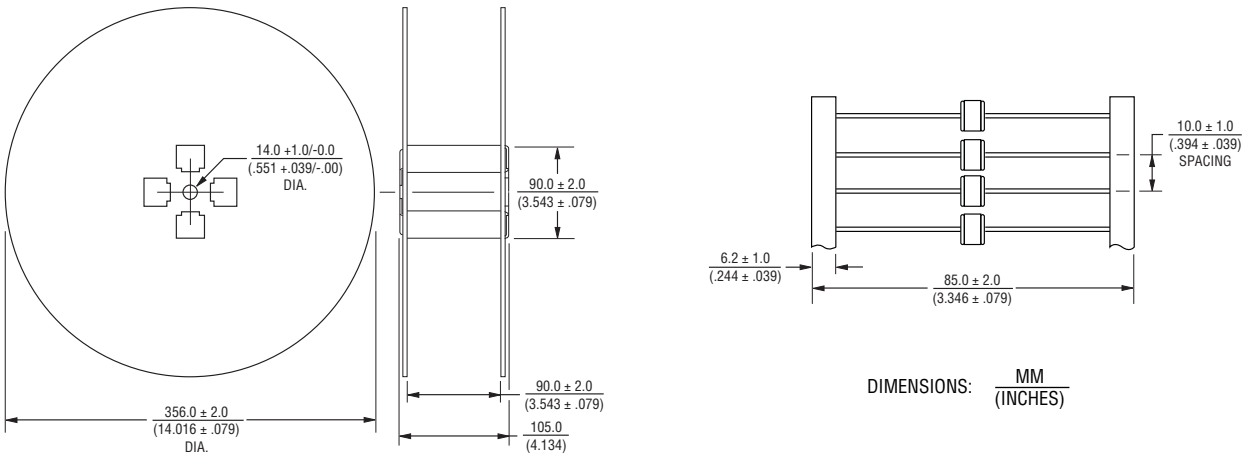
Packaging Specifications

Model SA2-xxxx-xxB ships standard bulk pack, 1,000 pcs./bag*.
The optional tape and reel packaging contains 1,000 pcs./reel for Model SA2-xxxx-xLT.

* Straight leads version available in bulk or tape and reel packaging; all other models available in bulk packaging only.

SA2-xxxx-xLT



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