

Features

- High current rating
- High insulation resistance
- Quick response, long service life
- Wide operating temperature range
- RoHS compliant*

Applications

- Power supplies
- Medical devices (low/medium risk)**
- Air conditioning
- Lighting

Sustainability

- Corrosion-resistant for longevity
- ISO 14001, low impact energy
- Responsibly sourced and produced

Product Overview

Bourns® SA2-HS Series Two-electrode High Voltage Gas Discharge Tube (GDT) devices are designed for fast-response and high-isolation applications.

This series offers the proven reliability of the SA2 family with an enhanced impulse response, activating closer to its DC breakdown level to minimize voltage overshoot during fast transient events.

The SA2-HS provides high insulation resistance over a wide temperature range and is available with a DC breakdown of approximately 3.1 kV and an impulse sparkover of 3.7 kV at 1 kV/μs.

These characteristics make the SA2-HS Series ideal for use in high voltage power, industrial, and energy conversion systems that require fast and consistent overvoltage protection performance.

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Bourns Part No.	Device Specifications							Life Ratings		
	DC Sparkover Voltage @ 5 kV/s		Impulse Sparkover Voltage @ 1 kV/μs	Insulation Resistance (IR) @ 1000 VDC	Arc Voltage @ 5 A Min.	Arc Withstand Voltage	Capacitance @ 1 MHz	Nominal Impulse Discharge		
	Min.	Max.	Max.	Min.	Typ.	1 Sec.	Max.	1 Operation	20 Operations	300 Operations
SA2-3100-Sxx-HS	2850 V	3500 V	3700 V	10 GΩ	20 V	1750 Vrms	1 pF	10 kA, 8/20 μs	5 kA, 8/20 μs, ±10 operations in each polarity, 3 minute intervals	100 A, 8/20 μs, 1-2 minute intervals

Bourns Part No.	After Life Ratings			
	DC Sparkover Voltage @ 5 kV/s		Impulse Sparkover Voltage @ 1 kV/μs	Insulation Resistance (IR) @ 1000 VDC
	Min.	Max.	Max.	Typ.
SA2-3100-Sxx-HS	2650 V	3700 V	4200 V	>1 GΩ

Product Characteristics

Operating Temperature Range..... -40 °C to +125 °C
 Storage Temperature Range..... -65 °C to +125 °C
 Climatic Category (IEC 60068-1)..... 65 / 125 / 21
 Device Plating Matte-Sn
 Moisture Sensitivity Level (MSL) 1
 ESD Classification - HBM N/A

Agency Recognition

Agency	Category	Agency File No.
UL	1449 4th Edition	E313168

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

** Bourns® products have not been designed for and are not intended for use in "lifesaving," "life-critical" or "life-sustaining" applications nor any other applications where failure or malfunction of the Bourns® product may result in personal injury or death. See Legal Disclaimer Notice: www.bourns.com/docs/legal/disclaimer.pdf.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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How to Order

Series Designator **SA 2 - 3100 - S x x - HS**

Number of Electrodes _____
2 = 2-Electrodes

DC Sparkover Voltage _____
3100 = 3100 V Nominal

Tolerance _____
S = Special Range (2850 V Min. / 3500 V Max.)


Lead Shape _____
B = Bent Leads*
K = Bent Leads with Kinks*
L = Straight Leads

Packaging Options _____
B = Bulk
T = Tape & Reel

Suffix _____
HS = High Speed

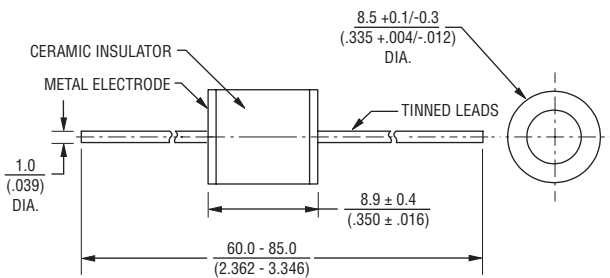
*Available in bulk packaging only.

Typical Part Marking

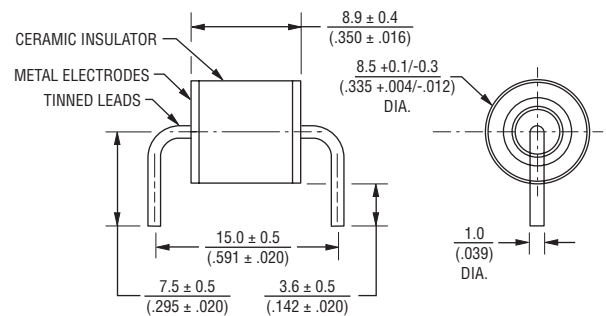
..... **SA2-S3100** 

Product Dimensions

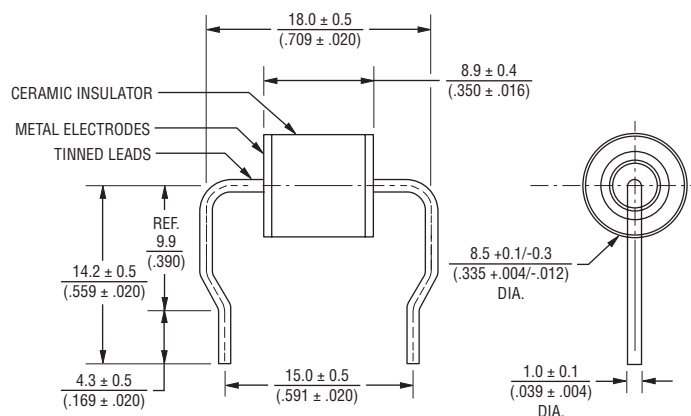
SA2-3100-SLx-HS



SA2-3100-SBB-HS



SA2-3100-SKB-HS



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

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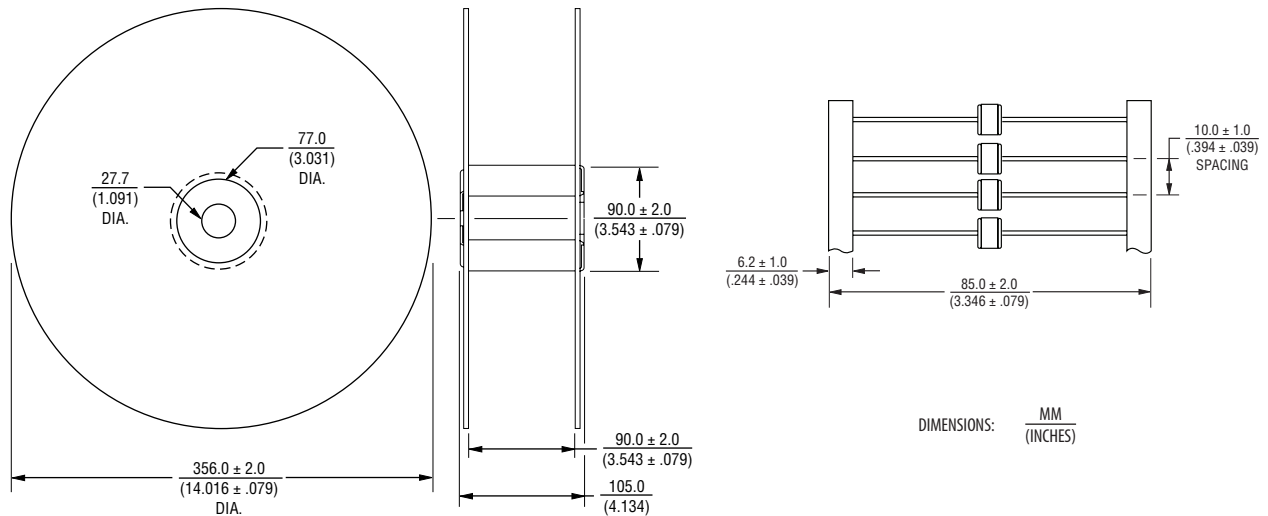
Packaging Specifications

Model	Standard Packaging Quantity		
	Bulk (Bag)	Box	Reel
SA2-3100-SLB-HS	50 pcs.	5 bags/250 pcs.	--
SA2-3100-SLT-HS	--	--	1000 pcs.
SA2-3100-SBB-HS SA2-3100-SKB-HS	100 pcs.	5 bags/500 pcs.	--

Straight lead versions are available in bulk or tape and reel packaging

Bent lead versions are available in bulk packaging only.

SA2-3100-SLT-HS



Contact Information

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CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant.
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