

# ANTREX Electronics

## Electronic Components Sourcing Information

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### Product Reference Information

|                      |                                 |
|----------------------|---------------------------------|
| <b>Part Number:</b>  | 2029-09-SM-RPLF                 |
| <b>Manufacturer:</b> | Bourns Inc.                     |
| <b>Package:</b>      | Tape & Reel (TR), Cut Tape (CT) |
| <b>Availability:</b> | Please confirm with sales       |

#### Product Page:

<https://antrexco.com/product/details/bourns-inc/2029-09-sm-rplf.html>

#### Request a Quote:

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### Contact Information

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### Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

#### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



## Features

- Surface mount for economical assembly
- High surge current rating
- Designed to meet ITU-T K.12 class 5 surge current requirements
- Low capacitance and insertion loss
- Stable breakdown throughout life
- UL Recognized 

## Applications

- Telecommunications
- Industrial electronics
- Commercial electronics

## 2029-xx-SMLF Heavy Duty Gas Discharge Tube Surge Arrestor

Bourns offers a heavy duty 2-electrode GDT surge arrestor in an 8x6 mm surface mount (SM) package. The Model 2029-xx-SMLF Series is categorized as a Class 5 rated GDT and attains the highest performance classification available under ITU K.12 requirements. High performance in a compact surface mount package makes this series ideal for use in heavily exposed telecommunications, commercial and industrial applications.

### Additional Information

Click these links for more information:



### Characteristics

Test Methods per ITU-T K.12, IEEE C62.31 and IEC 61643-311 GDT standards.

| Characteristic                                                                        | Model No.      |                |                |                |                 |
|---------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|-----------------|
|                                                                                       | 2029-09-SMLF   | 2029-15-SMLF   | 2029-23-SMLF   | 2029-35-SMLF   | 2029-42-SMLF    |
| DC Sparkover $\pm 20\%$<br>@ 100 V/s                                                  | 90 V           | 150 V          | 230 V          | 350 V          | 420 V           |
| Impulse Sparkover <sup>(1)</sup><br>100 V/ $\mu$ s (Typical)<br>100 V/ $\mu$ s (99 %) | 275 V<br>375 V | 325 V<br>375 V | 450 V<br>500 V | 600 V<br>625 V | 650 V<br>750 V  |
| Impulse Sparkover <sup>(1)</sup><br>1 kV/ $\mu$ s (Typical)<br>1 kV/ $\mu$ s (99 %)   | 525 V<br>600 V | 525 V<br>625 V | 650 V<br>750 V | 775 V<br>875 V | 850 V<br>1000 V |

<sup>(1)</sup> Impulse Sparkover voltage is defined as typical values of distribution.

|                                          |                                                                            |                                    |
|------------------------------------------|----------------------------------------------------------------------------|------------------------------------|
| Insulation Resistance .....              | 100 V (50 V for Model 2029-09-SMLF).....                                   | $> 10^{10} \Omega$                 |
| Glow Voltage .....                       | 10 mA.....                                                                 | $\sim 70$ V                        |
| Arc Voltage .....                        | $> 1$ A.....                                                               | $\sim 12$ V                        |
| Glow-Arc Transition Current .....        | .....                                                                      | $< 0.5$ A                          |
| Capacitance.....                         | 1 MHz .....                                                                | $< 1$ pF                           |
| DC Holdover Voltage <sup>(2)</sup> ..... | 135 V, (52 V for Model 2029-09-SMLF;<br>80 V for Model 2029-15-SMLF) ..... | $< 150$ ms                         |
| Impulse Discharge Current.....           | 25000 A, 8/20 $\mu$ s .....                                                | 1 operation minimum <sup>(3)</sup> |
|                                          | 20000 A, 8/20 $\mu$ s .....                                                | 10 operations                      |
|                                          | 5 kA, 10/350 $\mu$ s .....                                                 | 1 operation minimum <sup>(3)</sup> |
|                                          | 100 A, 10/1000 $\mu$ s.....                                                | 300 operations                     |
|                                          | 10 A, 10/1000 $\mu$ s.....                                                 | 1500 operations                    |
| Alternating Discharge Current .....      | 65 Arms, 11 cycles .....                                                   | 1 operation minimum <sup>(3)</sup> |
|                                          | 20 Arms, 1 s.....                                                          | 10 operations                      |
| Storage Temperature .....                | .....                                                                      | -55 to +105 °C                     |
| Operating Temperature.....               | .....                                                                      | -55 to +105 °C                     |
| Climatic Category (IEC 60068-1).....     | .....                                                                      | 55/105/21                          |
| Moisture Sensitivity Level .....         | .....                                                                      | 1                                  |
| ESD Classification (HBM).....            | .....                                                                      | N/A                                |

### Notes:

- UL recognized component, UL File E153537.
- Model number marking on tube: 2029-xxxV.
- Surface Mount (SM) parts may show a temporary increase in DCBD after the solder reflow process. Most devices will recover within 24 hours time. It should be noted that there is no quality defect nor change in protection levels during the temporary change in DCBD.
- Sparkover limits  $\pm 25\%$  and IR  $> 10^7 \Omega$  after life (-25%/+30% for Model 2029-09-SM)
- At delivery AQL 0.65 Level II, DIN ISO 2859. .
- Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev D.

<sup>(2)</sup> Network applied.

<sup>(3)</sup> DC Sparkover may exceed  $\pm 20\%$  after discharge, but will continue to protect without venting.

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

\*\*Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less. Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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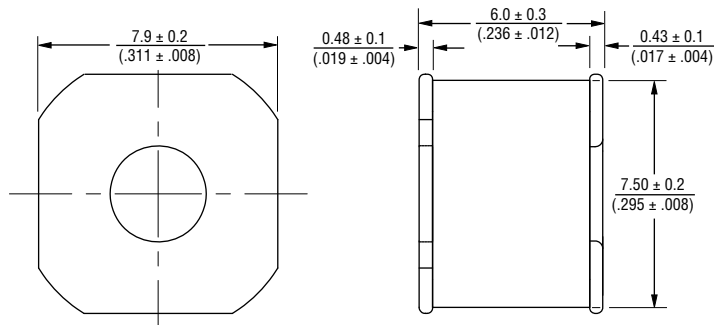


**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## 2029-xx-SMLF Heavy Duty Gas Discharge Tube Surge Arrestor

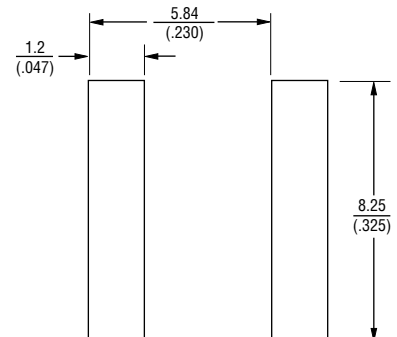
**BOURNS®**

### Product Dimensions



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

### Recommended Pad Layout



TOLERANCES:  $\pm \frac{0.25}{(0.10)}$

### How to Order

**2029 - xx - SM -RP LF**

Model Number Designator \_\_\_\_\_

Voltage (Divided by 10) \_\_\_\_\_

09 = 90 V      23 = 230 V      42 = 420 V

15 = 150 V      35 = 350 V

Surface Mount \_\_\_\_\_

Packaging Option \_\_\_\_\_

Blank = Bulk Packaging (Standard)

-RP = 16 mm Reelpack (Optional)

RoHS Compliancy \_\_\_\_\_

LF = RoHS Compliant Product

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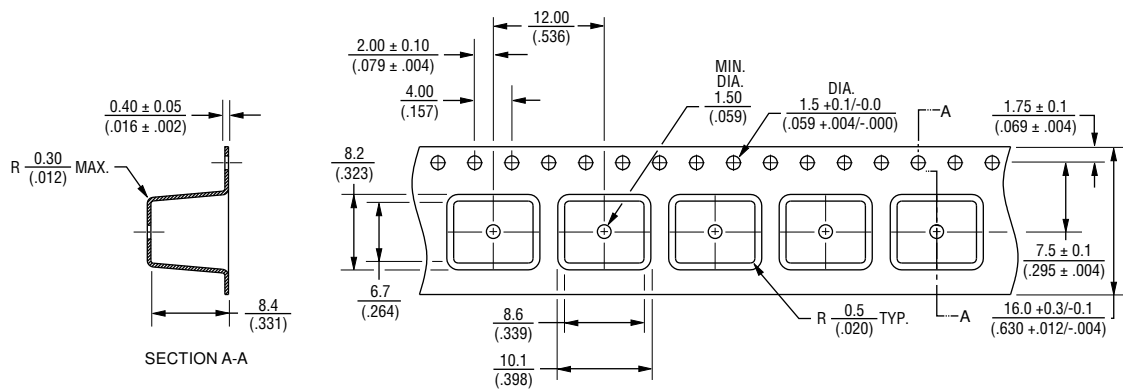
**BOURNS®**

### Packaging Specifications

| Model           | Standard Packaging Quantity |      |      |      |
|-----------------|-----------------------------|------|------|------|
|                 | Bulk (Bag)                  | Tray | Box  | Reel |
| 2029-xx-SMLF    | 250                         |      | 1000 |      |
| 2029-xx-SM-RPLF |                             |      |      | 500  |

### -RP

Reel is 33 cm in diameter and 3 cm wide.



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

Unless otherwise specified, tolerances in decimals are .X ± 0.3, .XX ± 0.15 for lengths in millimeters and ±1 ° for degrees.

**BOURNS®**

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