



Features

- Bourns® FLAT® GDT technology
- Flexible mounting options
- Volume- and space-saving design
- Improved impulse performance
- 10 kA 8/20 μ s rated
-  UL Recognized
- RoHS compliant*

Applications

- Telecom CPE
- Industrial Communications
- Surge Protective Devices
- High density PCB assemblies

2017 Series Gas Discharge Tube Surge Arrestor with FLAT® Technology

Description

Bourns sets a new industry standard by offering this 2-electrode Gas Discharge Tube (GDT) in an innovative flat package design. The Model 2017 Series with FLAT® Technology provides a volume and space-saving solution for high density and space-restricted PCB applications. The series is offered in a leadless version for cartridge or clamp fit applications. Surface mount versions are available in vertical and horizontal mounting configurations.

Characteristics

Test Methods per ITU-T (CCITT) K.12 Class 3 and IEC 61643-311

Characteristic	Model No.					
	2017-09	2017-15	2017-23	2017-35	2017-42	2017-50
DC Sparkover $\pm 20\%$ @ 100 V/s ⁽¹⁾	90 V	150 V	230 V	350 V	420 V	500 V
DC Sparkover End-of-Life Values ⁽²⁾						
Maximum (99 % of values)	<120 V	<195 V	<300 V	<455 V	<550 V	<650 V
Minimum (99 % of values)	>65 V	>110 V	>170 V	>260 V	>360 V	>400 V
Impulse Sparkover Voltage ⁽³⁾						
100 V/ μ s Typical / For 99 % of Values	350 / <450 V	400 / <550 V	450 / <600 V	600 / <750 V	700 / <850 V	750 / <950 V
1 kV/ μ s Typical / For 99 % of Values	600 / <800 V	600 / <850 V	700 / <950 V	800 / <1000 V	900 / <1050 V	950 / <1200 V

Insulation Resistance (IR)	100 V (50 V for Model 2017-09)	>1 G Ω
Glow Voltage	10 mA	~70 V
Arc Voltage	>1 A	~10 V
Capacitance	1 MHz	<2.5 pF
Impulse Discharge Current	12000 A, 8/20 μ s	1 operation
	10000 A, 8/20 μ s	>10 operations
	2500 A, 10/350 μ s	1 operation
	100 A, 10/1000 μ s	>300 operations
	10 A, 10/1000 μ s	>1500 operations
Alternating Discharge Current	10 Arms, 1 s	>10 operations
Operating Temperature		-55 to +85 °C
Storage Temperature		-55 to +105 °C
Climatic Category (IEC 60068-1)		40/90/21
Pushover Strength ⁽⁴⁾		5 kg

Notes:

UL Recognized component, UL File E153537

(1) In ionized mode. (3) At delivery AQL 0.65 Level II, DIN ISO 2859.

(2) IR after life >10⁸ Ω . (4) Pushover Strength test performed on a board-mounted Model 2017-xx-SMC (Vertical Mount).

How to Order

Series Designator 2017 - xx - xxx - RP LF

2017 = 2-electrode GDT with FLAT® Technology, 10 kA 8/20 μ s rated

Voltage (Divided by 10) _____

09 = 90 V 23 = 230 V 42 = 420 V
15 = 150 V 35 = 350 V 50 = 500 V

Configuration _____

A = No Leads, (Clamp-Cartridge)
SMH = Horizontal Mount SMD
SMC = Vertical Mount SMD

Packaging _____

RP = Reelpack (Standard)

RoHS Compliance _____

LF = RoHS Compliant Product

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

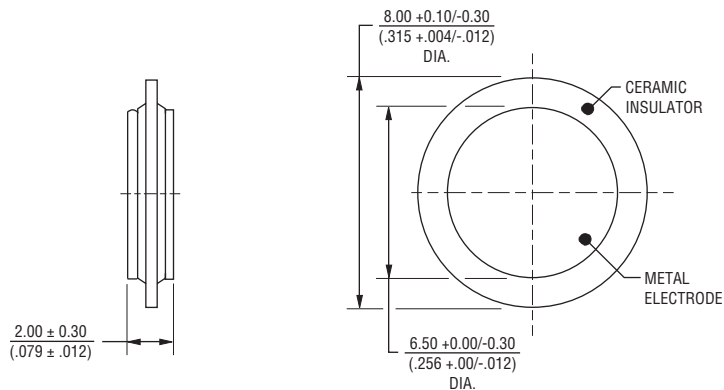
"FLAT" is a registered trademark of Bourns, Inc. in the U.S. and other countries. Specifications are subject to change without notice. The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

2017 Series Gas Discharge Tube Surge Arrestor with FLAT® Technology

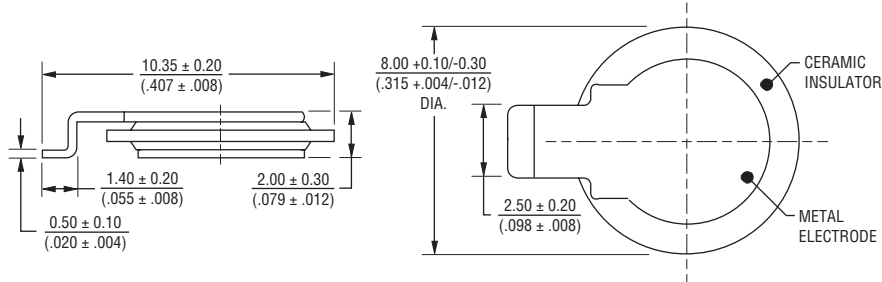
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Product Dimensions

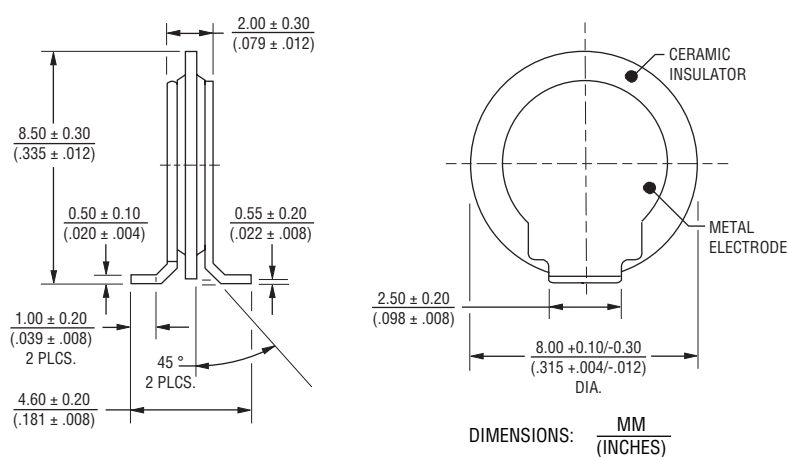
2017-xx-A-RPLF



2017-xx--SMH-RPLF



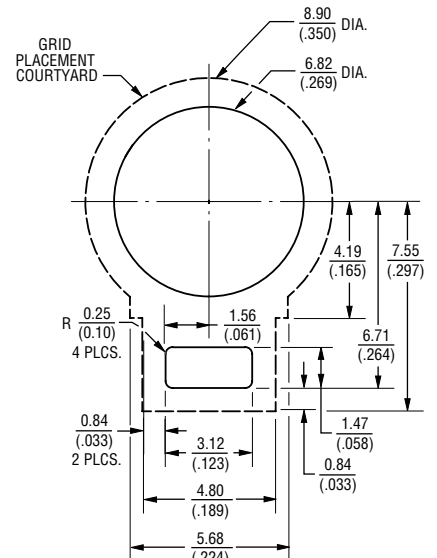
2017-xx-SMC-RPLF



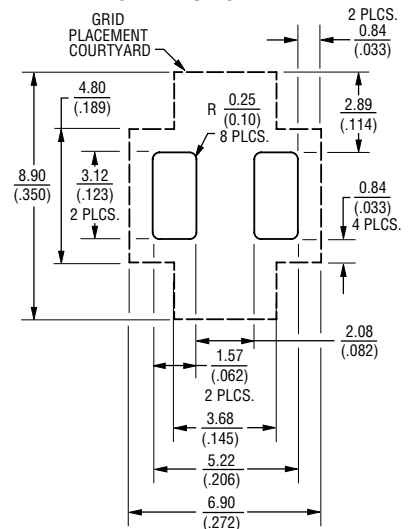
DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Pad Layouts

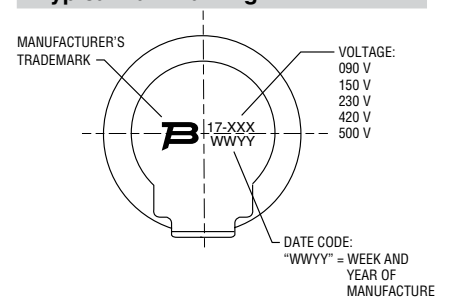
2017-xx--SMH-RPLF



2017-xx-SMC-RPLF



Typical Part Marking



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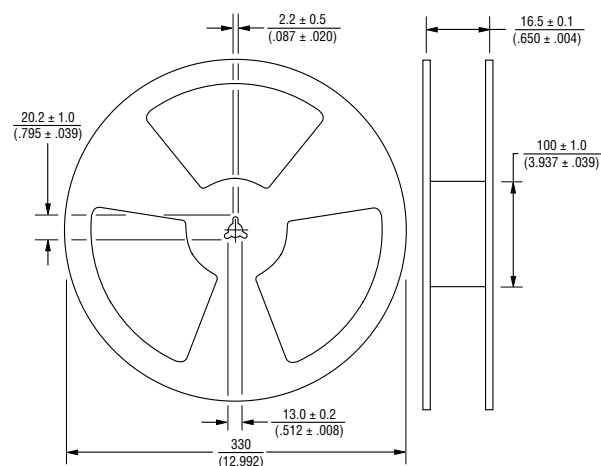
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Model 2017-xx-SMC-RPLF: The standard tape and reel packaging contains 500 pieces per 13-inch reel.

Model 2017-xx-SMH-RPLF and 2017-xx-A-RPLF: The standard tape and reel packaging contains 2,000 pieces per 13-inch reel.

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



Technical drawing of the 177-XX-SMC-RL-E component, showing a top view and a side view. The top view is a long, narrow rectangular plate with a series of eight cross-shaped features along its length. Dimensions are provided in millimeters, with tolerances in parentheses. The side view shows the profile of the component, which is a trapezoidal shape with a flat top and a sloped bottom. Dimensions for the side view are also provided.

Top View Dimensions:

- Overall length: 12.00 ± 0.10 ($.472 \pm .004$)
- Overall width: $8.90 \pm 0.20 / -0.05$ ($.350 \pm .008 / -.002$)
- Distance from left edge to first cross: 4.38 ± 0.15 ($.173 \pm .006$)
- Distance between crosses: 10.99 ± 0.20 ($.433 \pm .008$)
- Distance from last cross to right edge: 1.79 ± 0.20 ($.070 \pm .008$)
- Distance from top edge to first cross: $1.50 \pm 0.10 / -0.05$ ($.059 \pm .004 / -.002$)
- Distance from top edge to last cross: 7.50 ± 0.10 ($.295 \pm .004$)
- Distance from bottom edge to first cross: 8.77 ± 0.15 ($.345 \pm .006$)
- Distance from bottom edge to last cross: 16.00 ± 0.30 ($.630 \pm .012$)
- Distance from left edge to center of first cross: 4.00 ± 0.10 ($.157 \pm .004$)
- Distance from center of first cross to center of last cross: 2.00 ± 0.10 ($.079 \pm .004$)
- Distance from center of last cross to right edge: $1.75 \pm 0.10 / -0.00$ ($.069 \pm .004 / -.000$)
- Distance from left edge to center of last cross: 5.33 ± 0.10 ($.210 \pm .004$)
- Distance from center of last cross to right edge: 2.79 ± 0.20 ($.110 \pm .008$)
- Distance from top edge to center of first cross: 5.28 ± 0.20 ($.208 \pm .008$)
- Distance from top edge to center of last cross: $9.05 \pm 0.20 / -0.05$ ($.356 \pm .008 / -.002$)
- Distance from bottom edge to center of first cross: 3.30 ± 0.20 ($.130 \pm .008$)
- Distance from bottom edge to center of last cross: $8.90 \pm 0.20 / -0.05$ ($.350 \pm .008 / -.002$)

Side View Dimensions:

- Overall height: 0.65 ± 0.10 ($.026 \pm .004$)
- Distance from top edge to bottom edge: $8.90 \pm 0.20 / -0.05$ ($.350 \pm .008 / -.002$)

Other Dimensions:

- Distance from top edge to center of first cross: 1.50 ± 0.10 ($.059 \pm .004$)
- Distance from bottom edge to center of first cross: 1.50 ± 0.10 ($.059 \pm .004$)
- Angle: 85°
- Angle: 60°

Technical drawing of a 10-hole 1/2 inch NPT x 1/2 inch NPT manifold. The drawing includes a top view and a side view with detailed dimensions.

Top View Dimensions:

- Overall Length: 11.03 ± 0.10 ($.434 \pm .004$)
- Overall Width: 1.50 ± 0.10 ($.059 \pm .004$)
- Port Spacing (Center-to-Center): 4.00 ± 0.10 ($.157 \pm .004$)
- Port Diameter: 0.830 ± 0.05 ($.327 \pm .002$)
- Port Spacing (Edge-to-Edge): 2.00 ± 0.10 ($.079 \pm .004$)
- Port Spacing (Edge-to-Edge): $2.85 \pm 0.10 / -0.05$ ($.112 \pm .004 / -.002$)
- Port Spacing (Edge-to-Edge): $1.75 \pm 0.10 / -0.00$ ($.069 \pm .004 / -.000$)
- Port Spacing (Edge-to-Edge): 0.40 ± 0.10 ($.016 \pm .004$)
- Port Spacing (Edge-to-Edge): $2.55 \pm 0.20 / -0.05$ ($.100 \pm .008 / -.002$)
- Port Spacing (Edge-to-Edge): $2.40 \pm 0.25 / -0.00$ ($.095 \pm .010 / -.000$)
- Port Spacing (Edge-to-Edge): 16.00 ± 0.30 ($.630 \pm .012$)
- Port Spacing (Edge-to-Edge): 10.38 ± 0.10 ($.409 \pm .004$)
- Port Spacing (Edge-to-Edge): 8.05 ± 0.10 ($.317 \pm .004$)
- Port Spacing (Edge-to-Edge): 2.98 ± 0.10 ($.117 \pm .004$)
- Port Spacing (Edge-to-Edge): $1.50 \pm 0.10 / -0.05$ ($.059 \pm .004 / -.002$)

Side View Dimensions:

- Overall Height: 0.40 ± 0.10 ($.016 \pm .004$)
- Port Height: 0.40 ± 0.10 ($.016 \pm .004$)
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Detail View Dimensions:

- Angle: $93^\circ \pm 2^\circ$
- Dimension: $2.40 \pm 0.25 / -0.00$ ($.095 \pm .010 / -.000$)

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