



Features

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

Applications

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

2019 Series Gas Discharge Tube Surge Arrestor with FLAT® Technology

Description

Bourns sets a new industry standard by offering a high current rated 2-electrode GDT in an innovative flat-package design. The Model 2019 Series with FLAT® Technology is an ITU K.12 Class IV GDT device rated at 25 kA maximum on an 8/20 μ s waveform, providing a volume and space-saving solution for high density and space-restricted PCB applications. This surface mount device is available in a horizontal mounting configuration.

Characteristics

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

Characteristic	Model No.		
	2019-09	2019-15	2019-23
DC Sparkover $\pm 20\%$ @ 100 V/s ⁽¹⁾	90 V	150 V	230 V
DC Sparkover End-of-Life Values ⁽²⁾			
Maximum (99 % of values)	<120 V	<195 V	<300 V
Minimum (99 % of values)	>65 V	>110 V	>170 V
Impulse Sparkover Voltage ⁽³⁾			
100 V/ μ s Typical / For 99 % of Values	350 / <450 V	400 / <550 V	450 / <600 V
1 kV/ μ s Typical / For 99 % of Values	600 / <800 V	600 / <850 V	700 / <950 V

Insulation Resistance (IR)	100 V (50 V for Model 2019-09)	>1 G Ω
Glow Voltage	10 mA	~70 V
Arc Voltage	>1 A	~10 V
Capacitance	1 MHz	<4 pF
Impulse Discharge Current	25 kA, 8/20 μ s	1 operation ⁽⁴⁾
	20 kA, 8/20 μ s	10 operations
	5000 A, 10/350 μ s	1 operation ⁽⁴⁾
	100 A, 10/1000 μ s	300 operations
	10 A, 10/1000 μ s	1500 operations ⁽⁴⁾
Alternating Discharge Current	20 Arms, 1 s	10 operations
Operating Temperature		-55 to +85 °C
Storage 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

- (1) In ionized mode.
- (2) IR after life $>10^8 \Omega$.
- (3) At delivery AQL 0.65 Level II, DIN ISO 2859.
- (4) DC Sparkover may exceed $\pm 20\%$ after discharge, but will continue to protect without venting.



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* 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.

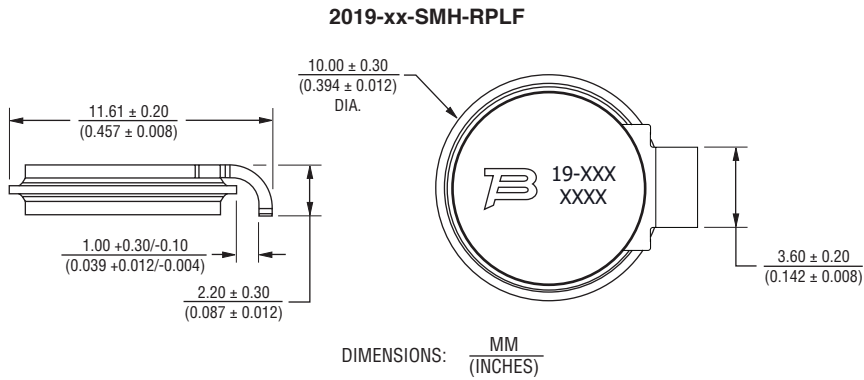
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Users should verify actual device performance in their specific applications.

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Product Dimensions



How to Order

2019 - xx - SMH - RP LF

Series Designator _____
 2019 = 2-electrode GDT with FLAT® Technology, 20 kA 8/20 μ s rated

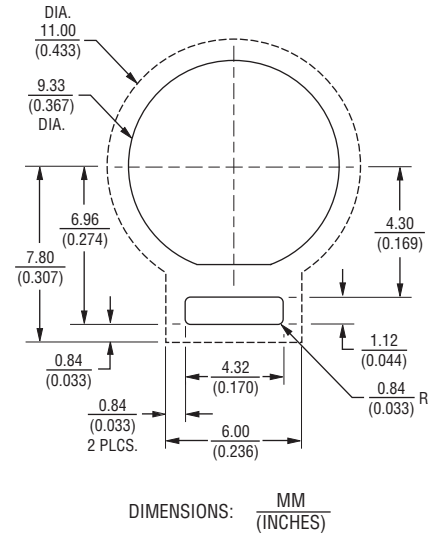
Voltage (Divided by 10) _____
 09 = 90 V
 15 = 150 V
 23 = 230 V

Configuration _____
 SMH = Horizontal Mount SMD

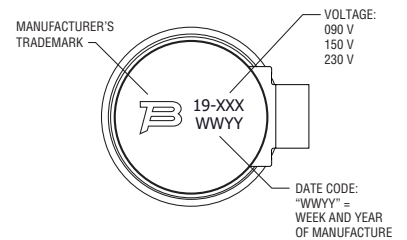
Packaging _____
 RP = Reelpack (Standard)
 Blank = Bulk Pack

RoHS Compliancy _____
 LF = RoHS Compliant Product

Pad Layout



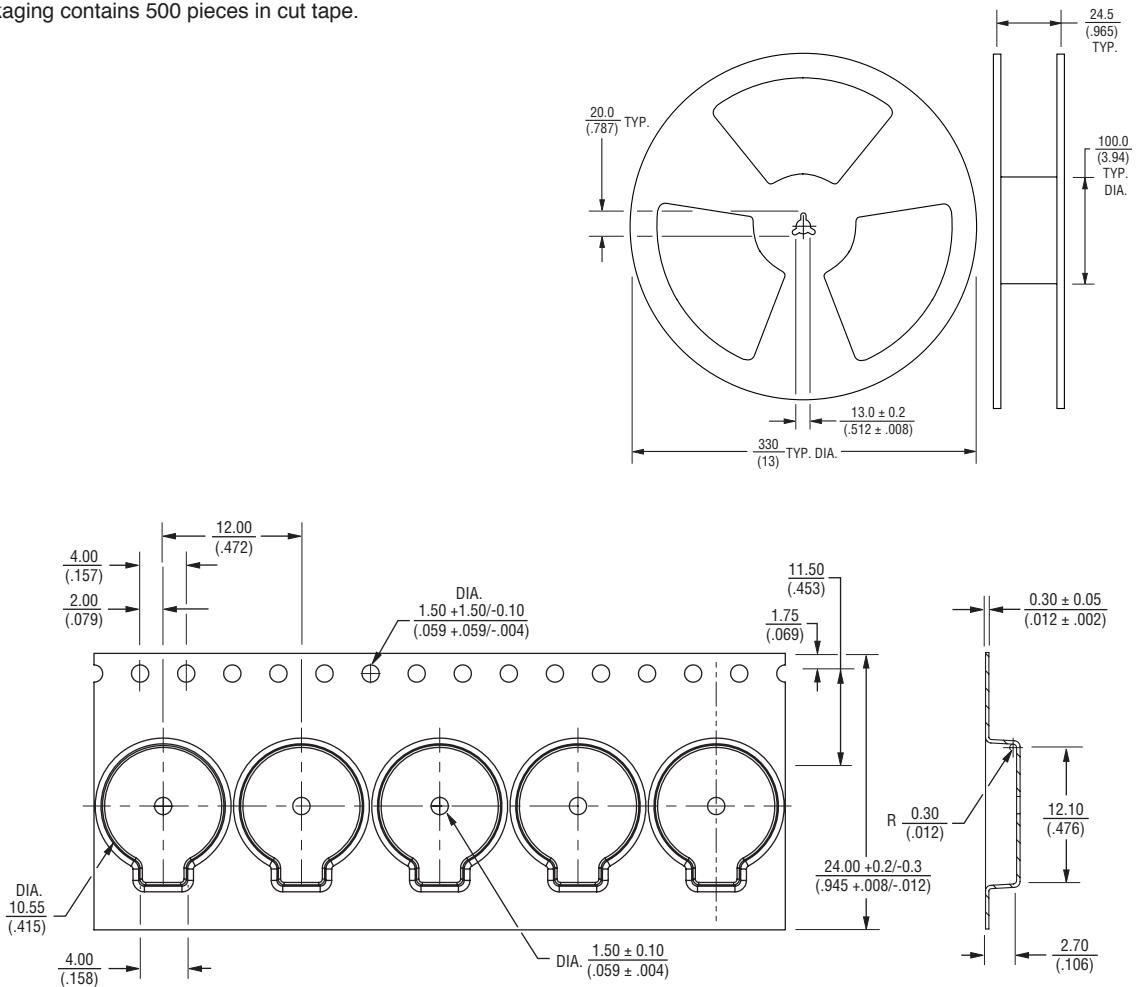
Typical Part Marking



Packaging Specification

The standard tape and reel packaging contains 2,000 pieces per 13-inch reel.

Bulk packaging contains 500 pieces in cut tape.



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

REV. A – 09/18

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