




Features

- Bourns® FLAT® GDT technology
- Flexible mounting options
- Low profile, space-saving design
- 10x 20 kA 8/20 μ s rating
-  UL Recognized
- RoHS compliant*

Applications

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

2018 Series Gas Discharge Tube Surge Arrestor with FLAT® Technology

Description

Bourns sets a new industry standard by offering this 3-electrode Gas Discharge Tube (GDT) in an innovative flat package design. The Model 2018 Series with FLAT® Technology provides a low profile, space-saving solution for space-restricted PCB applications.

Characteristics

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

Characteristic	Model No.					
	2018-09	2018-15	2018-23	2018-35	2018-42	2018-50
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	>315 V	>375 V
Impulse Sparkover Voltage ⁽³⁾						
100 V/ μ s Typical / For 99 % of Values	350 / <600 V	400 / <750 V	450 / <900 V	600 / <1050 V	700 / <1150 V	800 / <1250 V
1 kV/ μ s Typical / For 99 % of Values	650 / <850 V	650 / <900 V	600 / <1000 V	800 / <1250 V	900 / <1400 V	1000 / <1600 V

Insulation Resistance (IR)	100 V (50 V for Model 2018-09)	>1 G Ω
Glow Voltage	10 mA	~70 V
Arc Voltage	>1 A	~10 V
Capacitance	1 MHz	<2.5 pF
Impulse Discharge Current ⁽⁴⁾	24,000 A, 8/20 μ s ⁽⁵⁾	1 operation
	20,000 A, 8/20 μ s	>10 operations
	5,000 A, 10/350 μ s	1 operation
	200 A, 10/1000 μ s	>300 operations
	20 A, 10/1000 μ s	>1500 operations
Alternating Discharge Current	10 Arms, 1 s	>10 operations
Operating/Storage Temperature		-55 to +105 °C
Climatic Category (IEC 60068-1)		55/105/21
Moisture Sensitivity Level		1
ESD Classification		3B (>8000 V)

Notes:

- **UL Recognized component, UL File E153537**
- DC Breakdown and Impulse Sparkover voltage are specified line to ground. Line to Line values are typically 1.8 to 2 times the stated line to ground values.
- (1) In ionized mode. (4) Total current rating through center electrode; half value each line to center electrode.
- (2) IR after life >10⁶ Ω . (5) DC Sparkover may exceed $\pm 25\%$ after discharge, but will continue to protect without venting.
- (3) At delivery AQL 0.65 Level II, DIN ISO 2859.

How to Order

Series Designator 2018 - xx - SMH - RP LF

2018 = 3-electrode GDT with FLAT® Technology, 20 kA 8/20 μ s rated

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

Configuration SMH = Horizontal Mount SMD

Packaging RP = Reelpack (Standard)

RoHS Compliancy 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.

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Technical drawing of the B18-XXX-XXXX connector, showing side and end views with dimensions.

DIMENSIONS: MM (INCHES)

Side View Dimensions:

- Overall length: 10.90 ± 0.20 (.429 \pm .008)
- Terminal length: $8.00 + 0.10/-0.30$ (.315 \pm .004/-0.012) DIA.
- Terminal diameter: 2.00 ± 0.30 (.079 \pm .012)
- Terminal diameter: 3.50 ± 0.30 (.138 \pm .012)
- Terminal diameter: 0.50 ± 0.10 (.020 \pm .004)
- Terminal diameter: 1.00 ± 0.20 (.039 \pm .008)
- 2 PLCS.

End View Dimensions:

- Overall diameter: 2.50 ± 0.20 (.098 \pm .008)

Other Dimensions:

- COPLANARITY BETWEEN TERMINALS NOT TO EXCEED 1.00 (.039)

Technical drawing of a mechanical part showing dimensions and tolerances.

Dimensions:

- R .025 (.010)
- 12 PLCS.
- GRID PLACEMENT COURTYARD
- 9.58 (.377) DIA.
- 7.22 (.284) DIA.
- 6.50 (.256)
- 11.62 (.457)
- 13.30 (.524)
- 0.84 (.033)
- 1.02 (.040) 2 PLCS.
- 3.12 (.123) 2 PLCS.
- 4.80 (.189)

Tolerance: ±0.05 (±.002)

MANUFACTURER'S TRADEMARK

VOLTAGE:
90 V
150 V
230 V
420 V
500 V

18-XXX
XXXX

DATE CODE:
"WWYY" =
WEEK AND YEAR
OF MANUFACTURE

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Packaging Specifications

The standard tape and reel packaging contains 1,500 pieces per 13-inch reel.

