



## Features

- Leadless, surface mount for economical assembly
  - Compact mini-size
  - High surge current rating
  - Low capacitance and insertion loss
  - Stable breakdown throughout life
- UL Recognized
  - RoHS compliant\* version available

## 2035-xx-SM Precision Gas Discharge Tube Surge Protector

Bourns now offers a surface mount (SM) 2-electrode GDT surge protection device. The industry-leading quality and features of the Bourns® miniature 2035 Series GDT continue in this new SM version. Compatible with “pick and place” assembly systems, the SM is ideal for high-density applications such as PCBs for telecommunications, commercial and industrial applications.

### Characteristics

Test Methods per ITU-T (CCITT) K.12, IEEE C62.31

Characteristic	Model No.					
	2035-09	2035-15	2035-20	2035-23	2035-25	2035-30
DC Sparkover ±15 % (±20 % for Model 2035-09) @ 100 V/s	90 V	150 V	200 V	230 V	250 V	300V
Impulse Sparkover						
100 V/μs	350 V	400 V	425 V	450 V	475 V	525 V
1000 V/μs	525 V	550 V	575 V	600 V	625 V	650 V

Characteristic	Model No.				
	2035-35	2035-40	2035-42	2035-47	2035-60
DC Sparkover ±15 % @ 100 V/s (-12 %, +15 % for Model 2035-60) @ 100 V/s	350 V	400 V	420 V	470 V	600 V
Impulse Sparkover					
100 V/μs	600 V	650 V	675 V	750 V	950 V
1000 V/μs	750 V	800 V	850 V	950 V	1100 V

Insulation Resistance (IR) .....	100 V (50 V for Model 2035-09) .....	> 10 <sup>10</sup> Ω
Glow Voltage .....	10 mA .....	~ 70 V
Arc Voltage .....	>1 A .....	~ 10 V
Glow-Arc Transition Current .....	.....	< 0.5 A
Capacitance .....	1 MHz .....	< 1 pF
DC Holdover Voltage <sup>1</sup> .....	>135 V, (52 V for Model 2035-09), 80 V for Model 2035-15) .....	< 150 ms
Impulse Discharge Current.....	10000 A, 8/20 μs <sup>2</sup> .....	1 operation minimum
	5000 A, 8/20 μs .....	> 10 operations
	1000 A, 10/350 μs .....	1 operation
	100 A, 10/1000 μs .....	> 300 operations
	100 A, 10/700 μs .....	> 500 operations
Alternating Discharge Current .....	20 Arms, 11 cycles <sup>2</sup> .....	1 operation minimum
	5 Arms, 1 s .....	> 10 operations
Operating Temperature.....	.....	-55 to +85 °C
Climatic Category (IEC 60068-1).....	.....	40/90/21

#### Notes:

- **UL Recognized component, UL File E153537**
- 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 after life ±20 % (-25 %, +30 % for Model 2035-09, 2035-60), IR >10<sup>9</sup>.
- At delivery AQL 0.65 Level II, DIN ISO 2859.

<sup>1</sup> Network applied.

<sup>2</sup> Tube may exceed ±20 % but will continue to protect without venting.

\*RoHS Directive 2002/95/EC Jan 27, 2003 including Annex.

Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

# 2035-xx-SM Precision Gas Discharge Tube Surge Protector



## Product Dimensions



## Packaging Specifications

The Model 2035-xx-SM ships standard bulk pack, 100 pieces per bag.

### -RP

The optional -RP reelpack contains 1,500 pieces per reel. Reel is 13 inches in diameter and 3/4 inch wide.



### -RP3

The optional -RP3 reelpack contains 1,000 pieces per reel. Reel is 13 inches in diameter and 11/16 inch wide.



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

## Recommended Pad Layout



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

## How to Order



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