



Features

- Wide operating temperature range
(-55 °C to +125 °C)
- Stable performance over temperature range
- Long life design
- Low capacitance
- Small size
-  UL Recognized

- RoHS compliant*

Applications

- Outdoor communications equipment
- Equipment exposed to harsh environments

2036-xx-SM-H High Temperature Rated GDT Surge Protector

The Bourns® Model 2036 High Temperature Rated TRIGARD™ Series is a 3-electrode Gas Discharge Tube (GDT) Surge Protection device. The surface mount device provides robust performance and balanced protection in a small 5 mm diameter package. The Model 2036 High Temperature Series provides stable and long term performance over a wide temperature range, making it ideal for applications and equipment exposed to harsh environments.

Characteristics

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

Characteristic	Model No.					
	2036-09	2036-15	2036-23	2036-35	2036-47	2036-60
DC Sparkover $\pm 25\%$ @ 100 V/s ^{(1) (2)}	90 V	150 V	230 V	350 V	470 V	600 V
Impulse Sparkover ⁽³⁾						
100 V/ μ s	250 V	350 V	450 V	600 V	750 V	850 V
1000 V/ μ s	550 V	500 V	600 V	750 V	950 V	1100 V

Impulse Transverse Delay	1000 V/ μ s	< 75 ns
Nominal Insulation Resistance (IR)	100 V (50 V for Model 2036-09)	$10^{10} \Omega$ initially
Glow Voltage	10 mA	~ 70 V
Arc Voltage	1 A	~ 10 V
Glow-Arc Transition Current		< 0.5 A
Capacitance	1 MHz	< 2 pF
DC Holdover Voltage ⁽⁴⁾	>135 V, (52 V for Model 2036-09,	< 150 ms
	80 V for Model 2036-15)	
Nominal Impulse Discharge Current ⁽⁵⁾	20000 A, 8/20 μ s ⁽⁶⁾	1 operation
	10000 A, 8/20 μ s	10 operations
	200 A, 10/1000 μ s	300 operations
	2000 A, 10/350 μ s	1 operation
Alternating Discharge Current	20 Arms, 1 s ²	1 operation
	10 Arms, 1 s	10 operations
Storage Temperature		-55 to +125 °C
Operating Temperature		-55 to +125 °C
Climatic Category (IEC 60068-1)		55/125/21
Moisture Sensitivity Level		1
ESD Classification (HBM)		6

Notes:

- (1) In ionized mode
- (2) At delivery AQL 0.65 Level II, DIN ISO 2859
- (3) Impulse sparkover value is defined as typical values of distribution
- (4) Network applied per ITU K.12
- (5) Total current through center electrode, half value each end electrode to center electrode
- (6) DC Sparkover limit may exceed +25 %; GDT will continue to protect as designed

- Line to Line voltage is approximately 1.8 to 2 times the stated Line to Center electrode breakdown voltage values
- Bourns recommends soldering surface mount devices per IPC/JEDEC J-STD-020 rev. D
- Test methods per ITU-T K.12, IEEE C62.31 and IEC 61643-311 GDT standards
- DC Sparkover limits after life $\pm 25\%$ (-25 %, +30 % for Model 2036-09 and 2036-60), IR $> 10^8 \Omega$
- UL Recognized component, UL File E153537

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

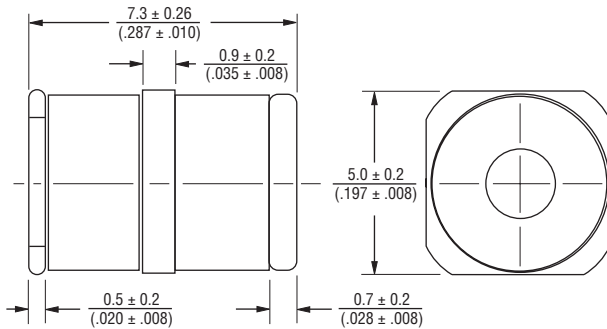
Specifications are subject to change without notice.

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.

2036-xx-SM-H High Temperature Rated GDT Surge Protector

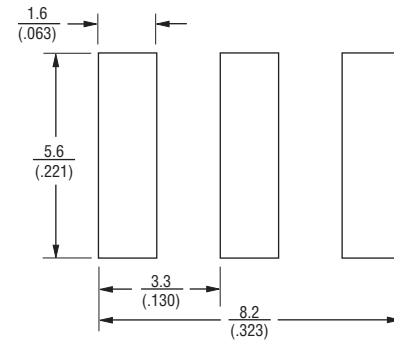
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Product Dimensions



DIMENSIONS: MILLIMETERS/(INCHES)

Recommended Pad Layout



How to Order

2036 - xx - SM - RP LF - H

Model Number Designator

Voltage (Divided by 10)

Surface Mount

Packaging Options*

Blank = Bulk Packaging (Standard)

RP = Reelpack - 1000 pcs./reel (Optional)

RP2 = Reelpack - 1000 pcs./reel (Optional)

RoHS Compliance

LF = RoHS Compliant Product

Suffix

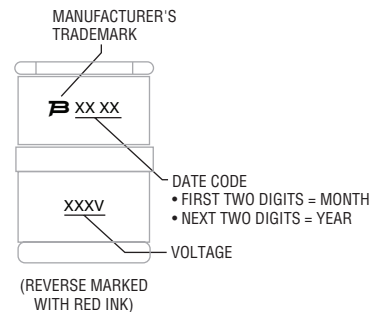
H = High Temperature Component

* The optional -RP & -RP2 reelpacks contain 1000 pcs./reel.

The reels are 330 mm in diameter.

The -RP reelpack is 16 mm wide; the -RP2 reelpack is 24 mm wide.

Typical Part Marking



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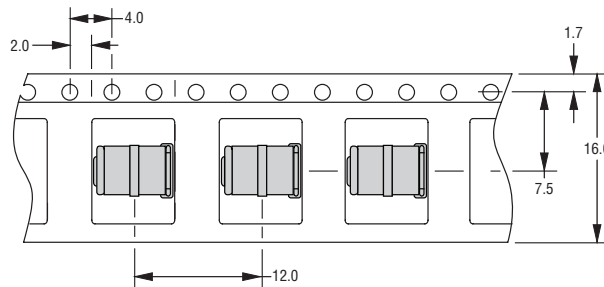
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Packaging Specifications

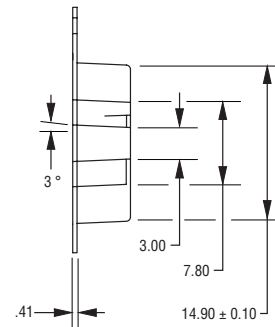
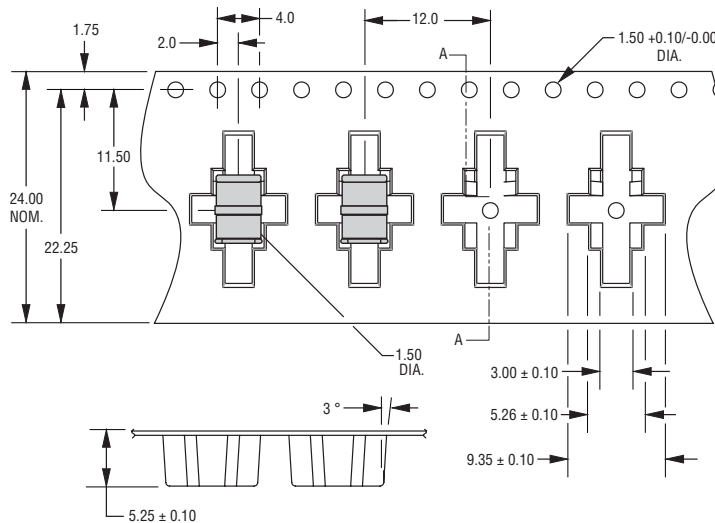
The Model 2036-xx-SM-H ships standard bulk pack, 250 pieces per bag, 4 bags per box.

The optional -RP & -RP2 reelpacks contain 1,000 pcs./reel. The reels are 330 mm in diameter. The -RP reelpack is 16 mm wide. The -RP2 reelpack is 24 mm wide.

-RP



-RP2



TOLERANCES: 0.13 UNLESS OTHERWISE NOTED

DIMENSIONS: MILLIMETERS

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