



## Features

- Bourns® FLAT® GDT technology
- Improved impulse performance
- Flexible mounting options
- Stable breakdown throughout life
- Volume- and space-saving design
- UL Recognized
- RoHS compliant\* and halogen free\*\*

## Applications

- Telecommunications
- Industrial Communications
- Surge Protective Devices
- High density PCB assemblies

## 2011 Series Fast Acting GDT Surge Arrestor with FLAT® Technology

### Description

Bourns sets a new industry standard by offering this fast acting 2-electrode Gas Discharge Tube (GDT) in an innovative flat package design. The Model 2011 Series with FLAT® Technology provides a volume and space-saving solution for high density and space-restricted PCB applications.

### Characteristics

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

Characteristic	Model No.
	2011-15
Minimum / Maximum DC Sparkover (100 V/s) Throughout Service Life	60 V / 350 V
Maximum Impulse Sparkover (5 kV 1.2/50 $\mu$ s) Throughout Service Life	650 V

Insulation Resistance (IR) .....	50 V .....	>10 megohms
Capacitance.....	1 MHz .....	<2.9 pF
Service Life.....	8/20 $\mu$ s, 1000 A.....	2 operations
	2/10 $\mu$ s, 5 kV, 500 A.....	20 operations
	600 Vrms, 1 A, 0.2 s .....	5 operations
Operating Temperature.....		-40 to +90 °C
Storage Temperature.....		-40 to +90 °C
Climatic Category (IEC 60068-1).....		40/90/21
Moisture Sensitivity Level.....		1
ESD Classification (HBM).....		N/A

#### Notes:

#### UL Recognized component, UL File E153537

Surge polarity should be reversed between consecutive surges (+--+)

At delivery AQL 0.65 Level II, DIN ISO2859

Bourns recommends reflowing surface mount devices per IPC/JEDEC J-STD-020 rev D

### How to Order

Series Designator	2011 - 15 - SMH - RP LF
2011 = Fast Acting 2-Electrode GDT with FLAT® Technology	
Voltage (Divided by 10)	15 = 150 V
Configuration	SMH = Horizontal Mount SMD
Packaging	RP = Reelpack (Standard) Blank = Cut Tape
RoHS Compliance	LF = RoHS Compliant Product

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**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://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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Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

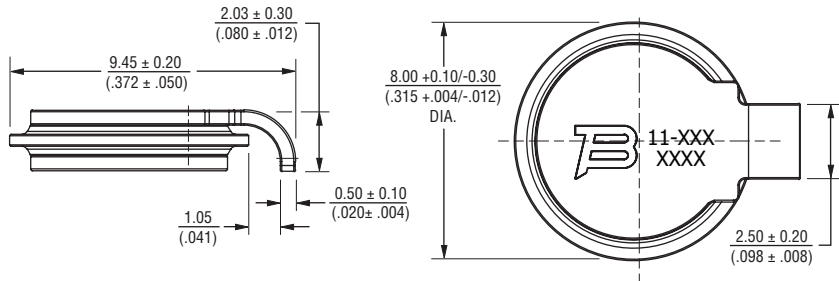
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## 2011 Series Fast-Acting GDT Surge Arrestor with FLAT® Technology

**BOURNS®**

### Product Dimensions

2011-15-SMH-RPLF



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

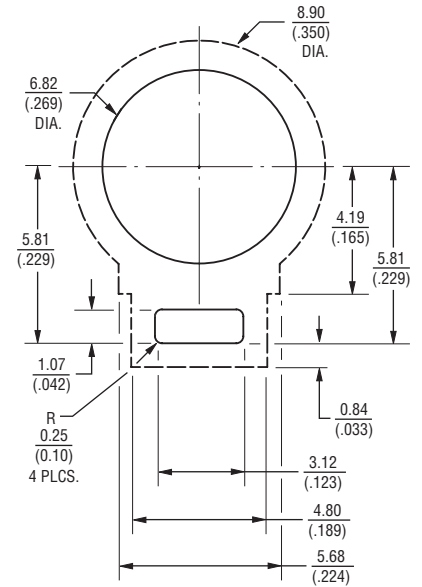
TOLERANCES:  $X = \pm \frac{1.27}{(.05)}$

$.XX = \pm \frac{0.254}{(.01)}$

$.XXX = \pm \frac{0.127}{(.005)}$

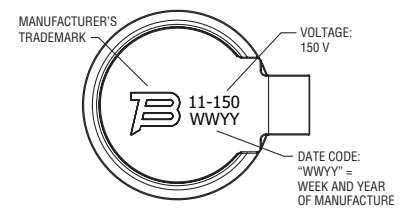
### Pad Layout

2011-15-SMH-RPLF



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

### Typical Part Marking



Information may be placed vertically or horizontally on the various models.

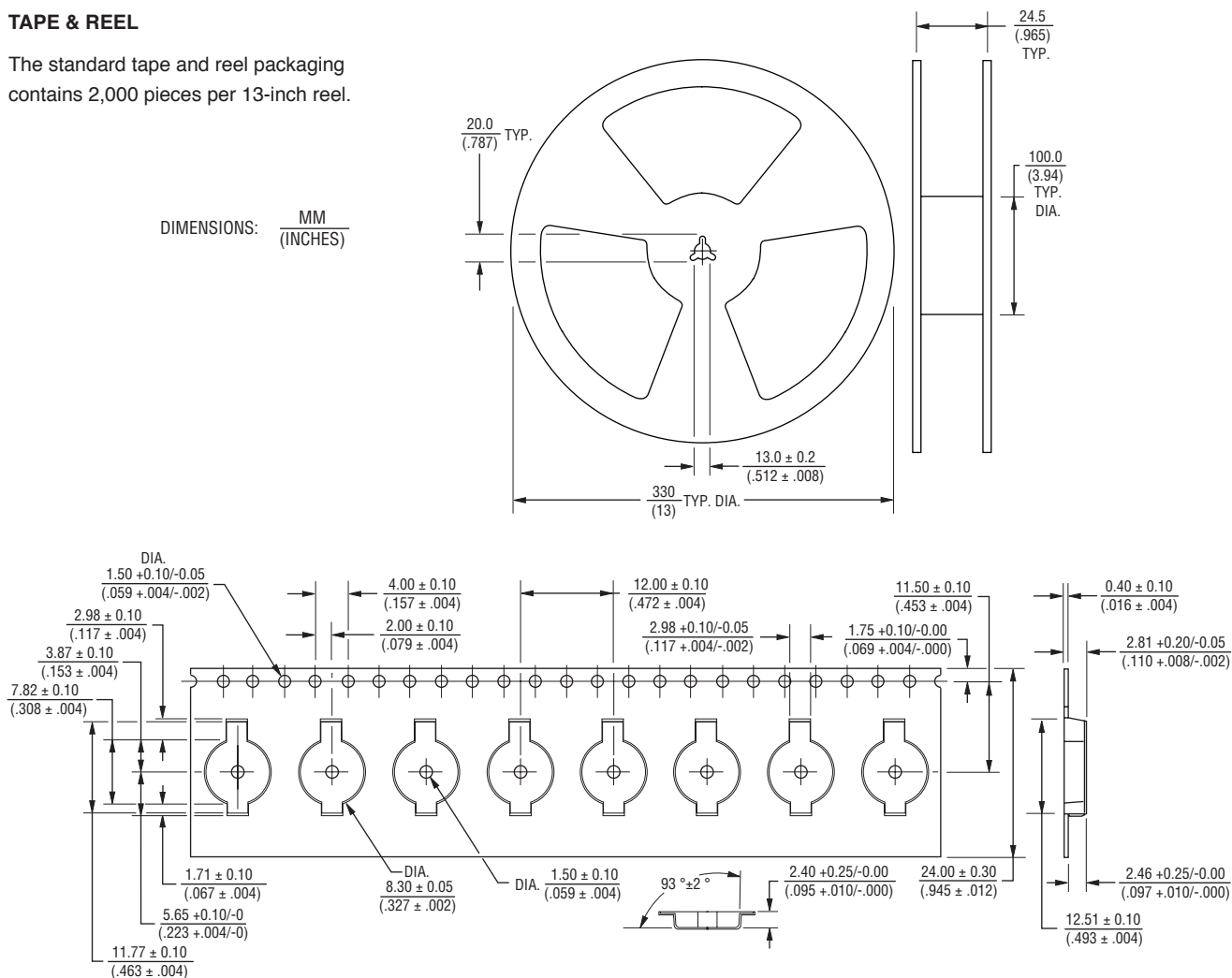
## 2011 Series Fast-Acting GDT Surge Arrestor with FLAT® Technology

**BOURNS®**

### Packaging Specification

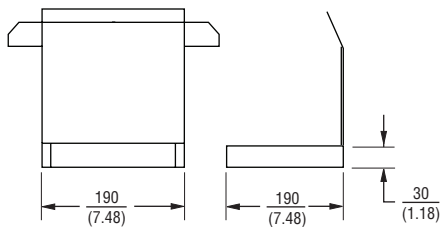
#### TAPE & REEL

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



#### CUT TAPE

Cut tape contains 500 pieces within a carton box.



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

REV. A – 12/18

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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