




## 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 μs) Throughout Service Life	650 V

Insulation Resistance (IR) .....	50 V .....	>10 megohms
Capacitance.....	1 MHz .....	<2.9 pF
Service Life.....	8/20 μs, 1000 A.....	2 operations
	2/10 μs, 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 _____	<b>2011 - 15 - SMH - RP LF</b>
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 Compliancy _____	
LF = RoHS Compliant Product	

## BOURNS®

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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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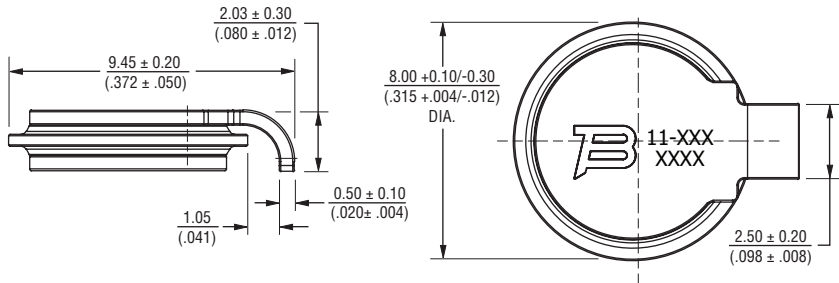
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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**Product Dimensions**

2011-15-SMH-RPLF



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

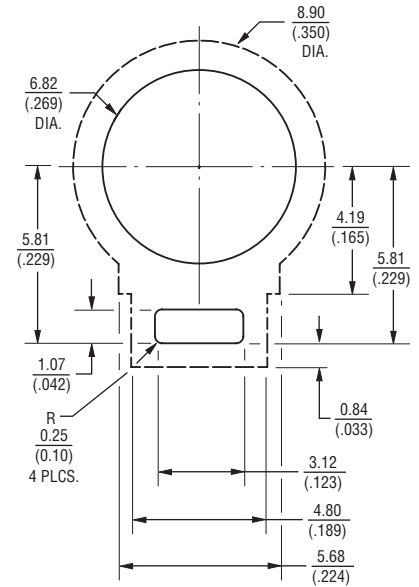
TOLERANCES: X = ±  $\frac{1.27}{(.05)}$

.XX = ±  $\frac{0.254}{(.01)}$

.XXX = ±  $\frac{0.127}{(.005)}$

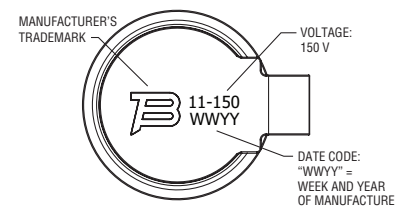
**Pad Layout**

2011-15-SMH-RPLF



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

**Typical Part Marking**



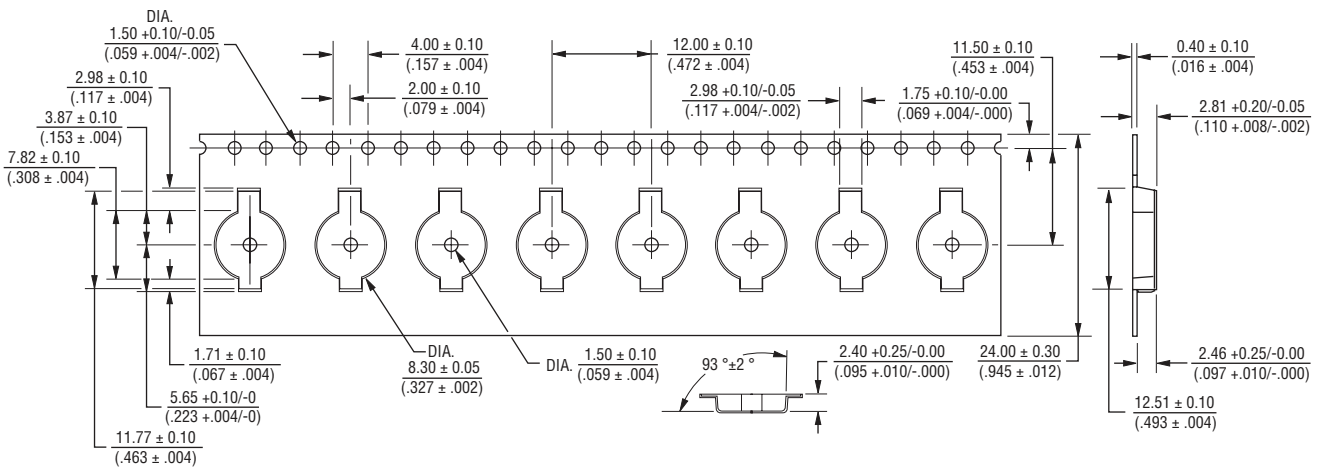
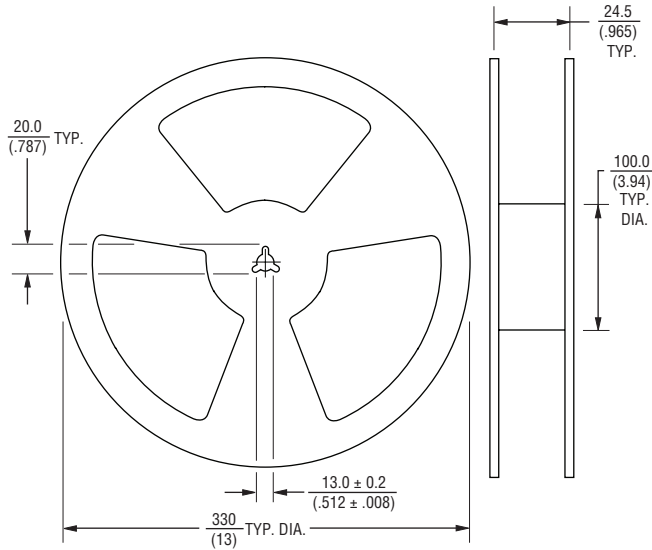
Information may be placed vertically or horizontally on the various models.

**Packaging Specification**

**TAPE & REEL**

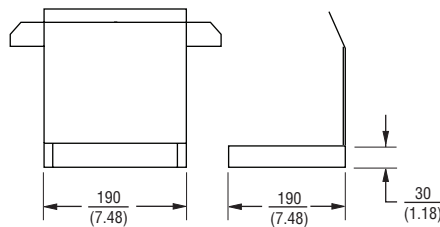
The standard tape and reel packaging contains 2,000 pieces per 13-inch reel.

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



**CUT TAPE**

Cut tape contains 500 pieces within a carton box.



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

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