




## Features

- Heavy duty design
- High frequency DC-4 GHz
- DC Pass to  $\pm 48$  V
- VSWR <1.2
- Low insertion loss <0.1 dB
- Bidirectional
- Water resistant
- Replaceable gas tube
- Three grounding options
- RoHS compliant\*
-  Listed (File: E360007)

## 1977 Series High Frequency Coaxial SPD

### General Information

The Bourns® Model 1977 Series Coaxial Surge Protective Device (SPD) has been designed to provide heavy duty protection for antennas, broadband, microwave, GPS, cellular and CATV applications against surges caused by lightning and other electrical transients.

### Electrical Characteristics

Characteristic	Model No.		
	1977-09-xxx	1977-25-xxx	1977-50-xxx
Frequency Range	DC-4 GHz		
DC Turn-On (Breakdown)	90-130 V	200-300 V	400-600 V
Technology	Gas Discharge Tube		
Insertion Loss	$\leq 0.2$ db		
Return Loss	$\geq 20$ db		
VSWR	<1.2:1		
$I_{peak}$ (8/20 $\mu$ s)	20 kA		
Maximum Power	25 W	190 W	780 W
Maximum Current	10 A		
Impedance	50 ohms <sup>1</sup>		

<sup>1</sup> Impedance for F-Type Connector is 75 ohms.

### General Characteristics

Characteristic	Model No.		
	1977-09-xxx	1977-25-xxx	1977-50-xxx
Connection Method	Series (Bidirectional)		
Connectors	N, F		
Grounding	M6 Screw, Bulkhead, Bracket		
Weight	4.4 oz.		

### Environmental Characteristics

Characteristic	Model No.		
	1977-09-xxx	1977-25-xxx	1977-50-xxx
Environmental Rating	IP 65		
Operating Temperature	-50 °C to +85 °C		
Operating Altitude	13,000 ft. (4,000 m)		
Relative Humidity	Up to 5-95 % Non-condensing: Up to 100 %		

# BOURNS®

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[www.bourns.com](http://www.bourns.com)

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. 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.

## Applications

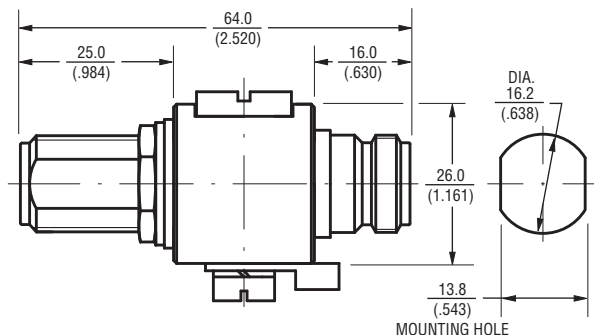
- Multi-point radio and backhaul bridges
- Tower Mounted Amplifiers (TMA)
- Antenna systems
- Tower Top Electronics (TTE)
- Transmitters and receivers
- WiFi
- Wimax broadband wireless

# 1977 Series High Frequency Coaxial SPD

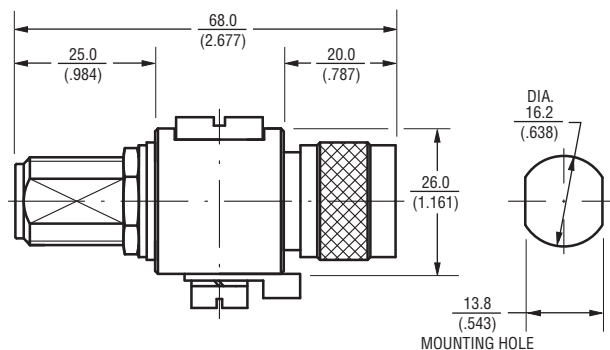
**BOURNS®**

## Product Dimensions

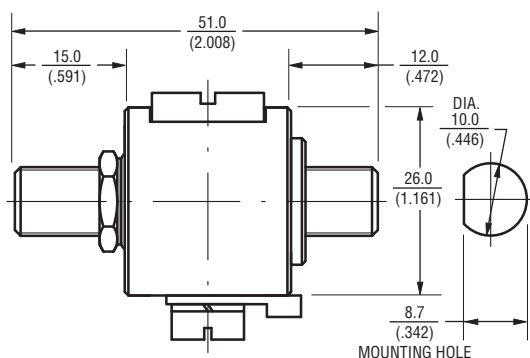
1977-xx-A00



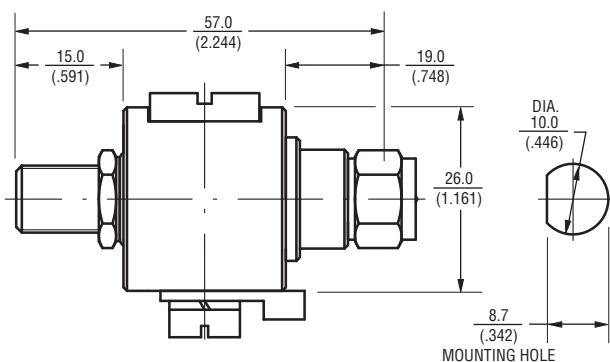
1977-xx-A01



1977-xx-A02



1977-xx-A03



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

## How To Order

1977 - xx - xxx

Series \_\_\_\_\_  
 DC Turn-On \_\_\_\_\_  
 09 = 90-130 V  
 25 = 200-300 V  
 50 = 400-600 V  
 Connector Type \_\_\_\_\_  
 A00 = N-type Female/Female  
 A01 = N-type Male/Female  
 A02 = F-type Female/Female  
 A03 = F-type Male/Female

### Examples:

1977-09-A00.....Coax, DC to 4 GHz, N, FF, 25 W  
 1977-09-A01.....Coax, DC to 4 GHz, N, MF, 25 W  
 1977-09-A02.....Coax, DC to 4 GHz, F, FF, 25 W  
 1977-09-A03.....Coax, DC to 4 GHz, F, MF, 25 W  
 1977-25-A00.....Coax, DC to 4 GHz, N, FF, 190 W  
 1977-25-A01.....Coax, DC to 4 GHz, N, MF, 190 W  
 1977-25-A02.....Coax, DC to 4 GHz, F, FF, 190 W  
 1977-25-A03.....Coax, DC to 4 GHz, F, MF, 190 W  
 1977-50-A00.....Coax, DC to 4 GHz, N, FF, 780 W  
 1977-50-A01.....Coax, DC to 4 GHz, N, MF, 780 W  
 1977-50-A02.....Coax, DC to 4 GHz, F, FF, 780 W  
 1977-50-A03.....Coax, DC to 4 GHz, F, MF, 780 W

REV. 09/13

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## Bourns:

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[1977-50-A02](#) [1977-25-A03](#) [1977-09-A03](#) [1977-50-A03](#)