



## Features

- Rugged 3-electrode BUG-less GDT
- Patented Switch-Grade Fail-Short device
- Quick response and high energy handling
- Resettable low resistance sneak current protection
- cUL<sub>us</sub> UL Listed
- Test point access option
- Sealed option for harsh environments
- Solid brass, gold-plated pins
- Ideal for high-speed networks in high-exposure environments

## 2446 Series 5-Pin Surge Protector

Bourns® 5-Pin 2446 Series is a new generation of Bourns® telecommunications protectors for superior performance and long life. The 2446 Protectors provide highly reliable overvoltage and resettable sneak current protection for copper pair voice-band and high-speed data circuits. Bourns® high-efficiency balanced Gas Discharge Tube (GDT) is UL approved for use without a Back-Up Gap (BUG). Its Switch-Grade Fail-Short mechanism ensures superior thermal protection with fast acting, highly reliable response to thermal overload conditions. This combined technology provides low capacitance, high reliability and long life. Bourns® Multifuse® PPTCs are used for sneak current protection, providing reliable and resettable performance.

Bourns® 2446 Protectors can be used universally for broadband voice and data circuits including ADSL, ADSL2+, VDSL and VDSL2 and high-speed Ethernet. The 2446 Series is an innovative, reliable and effective choice for 5-pin protection of copper pair circuits.

### Characteristics

Test Methods per UL 497, CSA C22.2, Telcordia GR 974, 1361 and SBC SR 5165.

DC Breakdown .....	184-264 V
AC Breakdown @ 60 Hz .....	184-264 V
Impulse Breakdown	
100 V/ $\mu$ s .....	450 V
1000 V/ $\mu$ s .....	650 V
Insulation Resistance @ 100 Vdc .....	> 1 G $\Omega$
Insertion Loss @ 100 MHz .....	Exceeds Category 5 <sup>1</sup>
Return Loss @ 100 MHz .....	Exceeds Category 5 <sup>1</sup>
Capacitance Tip to Ring @ 1 MHz .....	< 1.25 pF typical
Capacitance Tip or Ring to Ground @ 1 MHz .....	< 2.50 pF typical
Impulse Reset <sup>2</sup>	
52 V, 260 mA .....	< 10 ms
135 V, 200 mA .....	< 10 ms
150 V, 200 mA .....	< 150 ms
Impulse Life Characteristics (Tip and Ring to Ground Simultaneously)	
10 A, 10/1000 $\mu$ s .....	> 3000 operations
100 A, 10/1000 $\mu$ s .....	> 300 operations
300 A, 10/1000 $\mu$ s .....	> 100 operations
500 A, 10/1000 $\mu$ s .....	> 400 operations <sup>3</sup>
2,000 A, 10/250 $\mu$ s .....	> 25 operations
5,000 A, 20/100 $\mu$ s .....	> 2 operations
20,000 A, 8/20 $\mu$ s .....	> 1 operation
AC Life Characteristics (Tip and Ring to Ground Simultaneously)	
0.5 A rms continuous .....	> 30 seconds
1 A rms, 1 second, 600 ft. cable .....	> 60 operations
1 A rms, 1 second, 1 mile cable .....	> 60 operations
10 A rms, 1 second .....	> 5 operations
65 A rms, 11 cycles .....	> 1 operation <sup>3</sup>
120 A rms, 0.1 second .....	1 operation
High Current Capability and Thermal Operation (T/R to Ground) .....	> 30 Arms, simultaneously
Storage and Operating Temperature .....	-55 to +85 °C
Sneak Current Characteristics	
Resistance (No Heat Coil Inductance) .....	~ 4 ohms typical
Transition Current @ -40 °C (800 mA), +20 °C (5400 mA), +65 °C (300 mA) .....	< 210 seconds
Rated Current @ -40 °C (100 mA), +20 °C (100 mA), +65 °C (100 mA) .....	> 3 hours
Impulse Life Current 10/1000 $\mu$ s @ -40 °C, +20 °C, +65 °C .....	25 A ELTGS

### Notes:

<sup>1</sup> Tested according to Category 5 requirements

<sup>2</sup> Network applied

<sup>3</sup> Per Rus PE 80

Line to Line voltage is approximately 1.8 to 2 times the stated Line to Ground breakdown voltage.

Specifications are subject to change without notice.

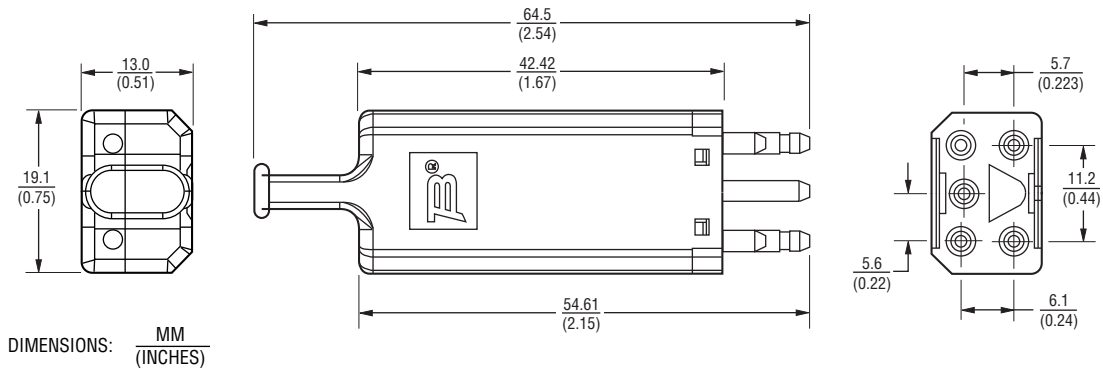
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

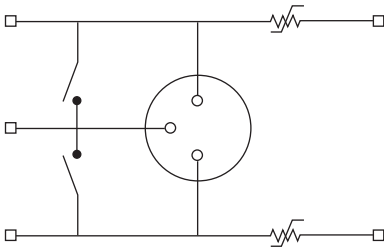
# 2446 Series 5-Pin Surge Protector

**BOURNS®**

## Product Dimensions



## Schematic



## How To Order

**2446 - 4 xx - x - xx**

**Model Number Designator** \_\_\_\_\_

**Overcurrent Protection** \_\_\_\_\_

**Housing Color** \_\_\_\_\_

- 1 = Black
- 3 = Red
- 6 = Blue
- 7 = Violet
- 9 = Orange
- 10 = Yellow

**Pin Plating** \_\_\_\_\_

- G = Gold Plated
- N = Tin Plated (Ground pin is tin plated on all models)

**Housing Options** \_\_\_\_\_

- S = Sealed
- T = Test Points
- ST = Sealed and Test Points

*Examples:*

- 2446-41-G-T = Black housing, 4 ohm self-resetting, gold-plated pins, test points
- 2446-43-N = Red housing, 4 ohm self-resetting, tin-plated pins, no test points

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