



## Features

- Self-resetting sneak current protection with Bourns® TBU® Electronic Current Limiter (ECL) for overcurrent and overvoltage protection
- Fast-acting
- High DC voltage
- Stable breakdown throughout life
- High bandwidth performance

## Applications

- Telecommunications
- Data communications

# 2469 Series 5-Pin TBU® Surge Protector

The Bourns® 2469 Series Surge Protector Module incorporates Bourns® TBU® Electronic Current Limiters. Bourns® TBU® ECL devices are electronic circuit protectors that provide high-speed overcurrent protection. The Model 2469 is designed to fail “open” should a power cross or high current event occur.

## Characteristics

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

DC Breakdown .....	700 V typ. 670 V min. 800 V max.
Insulation Resistance .....	100 Vdc ..... > 100 MΩ
Voltage Control ( $V_{op}/V_{out}$ ) .....	1 kV/ $\mu$ s @ 25°C ..... 670/800 V
Current Control ( $I_{op}/I_{out}$ ) .....	25°C ..... 180/360 mA
Line Series Resistance .....	24 $\Omega$ typ.
Line Resistance Balance .....	0.5 $\Omega$ typ. / 1.0 $\Omega$ max.
Capacitance Tip to Ring .....	1 MHz ..... 30 pF typ.
Capacitance Tip or Ring to Ground .....	1 MHz ..... 30 pF typ.
Time-to-protect ( $t_{protect}$ ) .....	10 $\mu$ s
Impulse Life Characteristics (ELTGS) .....	10 A, 10/1000 $\mu$ s ..... Unlimited
	40 A, 10/1000 $\mu$ s ..... Unlimited
	2.5 kA, 8/20 $\mu$ s (ELTGS 5 kA total) ..... 1 operation <sup>1</sup>
AC Life Characteristics (ELTGS) .....	600 Vrms 1 A 1 second fault ..... > 60 operations
	600 Vrms 5 A 1 second fault ..... 1 operation <sup>1</sup>
<b>Absolute Maximum Ratings</b>	
Continuous AC Fault Voltage ( $V_{ac}$ ) .....	470 Vrms / 670 Vpeak
Impulse Discharge Current ( $I_{fault}$ ) .....	8/20 $\mu$ s ELTGS ..... 250 A
Storage and Operating Temperature .....	-55 to +85 °C

## Notes:

<sup>1</sup> Fuse will fail open and disconnect from circuit.

## Definitions:

- $V_{ac}$  ..... Maximum blocking voltage for continuous AC faults; module shunts voltages greater than these ratings.
- $I_{fault}$  ..... Maximum current-carrying capability of the module .
- $V_{impulse}$  ..... Maximum protection voltage for impulse faults ( $V_{impulse} = I_{fault} \times R_{load}$ ).
- $V_{op}$  ..... Maximum voltage on the input of the device that will not cause voltage limiting.
- $V_{out}$  ..... Maximum voltage on the output of the device under any condition.
- $I_{op}$  ..... Maximum current through the device that will not cause current blocking (at 85 °C, use 0.80 derating factor, linear throughout temperature range).
- $I_{out}$  ..... Maximum current through the device under any condition (at 85 °C, use 0.80 derating factor, linear throughout temperature range).
- $t_{protect}$  ..... Maximum time for the device to go from normal operating state to protected state.
- ELTGS ..... Each Line to Ground Simultaneously.
- Line resistance balance ..... Maximum difference in series resistance for tip/ring pair (line-line).

Consult factory for alternate specification values.

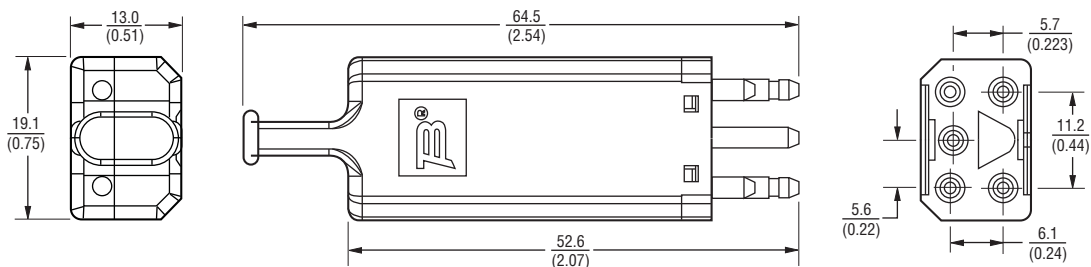
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The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

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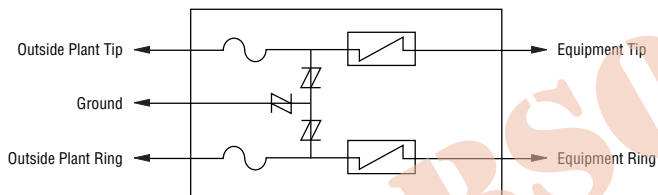
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## Product Dimensions



DIMENSIONS: MILLIMETERS  
(INCHES)

## Schematic



## How to Order

2469 - 4 x(x) - x - x(x)

Model Number Designator

Housing Color/Circuit Type

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

Pin Plating

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

Special Options

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

**BOURNS®**

Asia-Pacific: Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe: Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas: Tel: +1-951 781-5500 • Fax: +1-951 781-5700

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

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