

Features

- Patented multi-stage protection
- Balanced TRIGARD® GDT
- Self-resetting sneak current protection with Bourns® TBU® Electronic Current Limiter (ECL)
- Overcurrent and overvoltage protection
- Fast response to transients



This series is currently available but not recommended for new designs.

2470 Series 5-Pin TBU® Surge Protector

Bourns® 2470 Series 5-Pin TBU® Protector is a new generation of telecommunications protector designed for protection of sensitive high-speed network data circuits. Bourns® 2470 Series 5-Pin TBU® Protector integrates four advanced technologies: Our proprietary advanced balanced TRIGARD® GDT, precision matched Metal Oxide Varistors (MOVs), a patented Switch-Grade Fail-Short mechanism, and our patented Transient Blocking Unit (TBU®) device that protects the circuit by rapidly switching to a blocking state. These technologies are combined to provide robust overvoltage and fast, resettable sneak-current protection with extremely low surge let-through. Additionally, the 2470 Series has very low loss characteristics making it the ultimate choice for protection of sensitive, high speed communication lines.

Characteristics

Test Methods per IEEE C62.31, UL 497, CSA C22.2, Telcordia GR 1361 and applicable sections of Telcordia GR 974.

DC Breakdown ¹		300-400 V
AC Breakdown ¹	60 Hz	300-400 V
Impulse Breakdown	100 V/ μ s	600 V
	1000 V/ μ s	650 V
Insulation Resistance	100 Vdc	> 1 G Ω
Insertion Loss	100 MHz	< 1 dB over frequency range ²
Return Loss	100 MHz	< 10 dB over frequency range ²
Capacitance Line to Line	1 MHz	12 pF typical
Capacitance Line to Ground	1 MHz	23 pF typical
Line Resistance (Line In - Line Out)		12 ohms typical
V _{reset}		< 14 V typical ³
Impulse Reset ⁴	52 V, 260 mA	< 10 ms ⁵
	135 V, 200 mA	< 10 ms ⁵
	150 V, 200 mA	< 150 ms ⁵
Impulse Life Characteristics (Per Side, Simultaneously)	100 A, 10/1000 μ s	> 3000 operations ⁶
	300 A, 10/1000 μ s	> 1000 operations ⁶
	500 A, 10/1000 μ s	> 1000 operations ⁷
	2,000 A, 10/250 μ s	> 100 operations ⁶
	5,000 A, 20/100 μ s	> 10 operations ⁶
	20,000 A, 8/20 μ s	> 1 operation
AC Life Characteristics	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	> 20 operations
	200 A rms, 11 cycles	1 operation ⁸
120 A rms, 0.1 second	1 operation	
Life Test Criteria		
Insulation Resistance Throughout the Life Test		100 megohms
Life Test Failures		0.0 %
Failures During Environmental Cycling w/surges		0.0 %
Fail-Short (Vented or Non-vented Gas Tube)		> 30 Arms, simultaneously
Storage and Operating Temperature		-55 to +85 °C

Notes:

The 2470 Series protectors are not to be used over powered spans.

¹ Line to Line voltage is approximately 1.8 times the stated Line to Ground breakdown voltage.

² See insertion and return loss charts on page 2.

³ Designers should note that deliberate DC bias such as sealing current or remote powering can hold the TBU® device in a blocking state after a fault has passed.

⁴ Network applied.

⁵ Surpasses Telcordia GR 974.

⁶ Exceeds Telcordia GR 1361.

⁷ RUS PE-80.

⁸ Protector may short to ground.




WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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Features (Continued)

- High current handling
- Switch-Grade Fail-Short
-  UL Listed per UL 497 (File: E53117)

Applications

- Telecommunications
- Data communications
- High-speed network compatible, i.e. ADSL2+, VDSL2 and beyond

2470 Series 5-Pin TBU® Surge Protector

BOURNS®

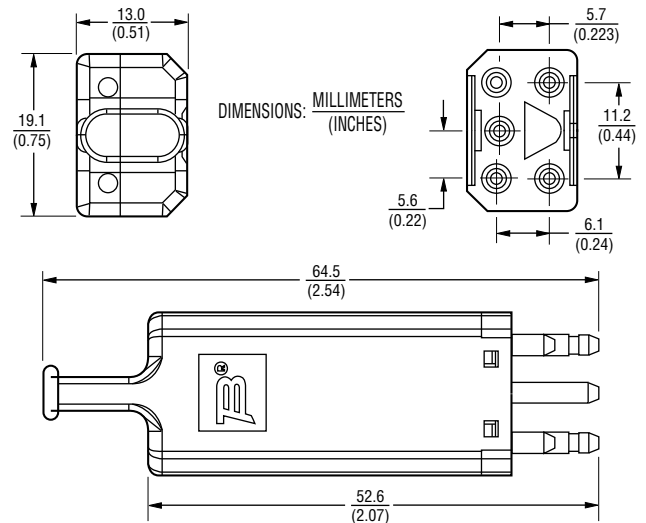
How to Order

2470 - 4 x(x) - G - xx - x(x)

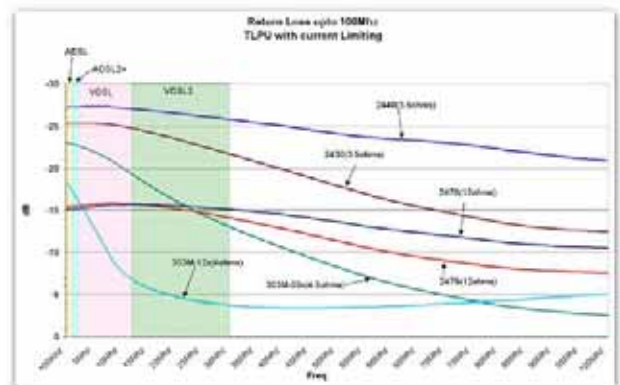
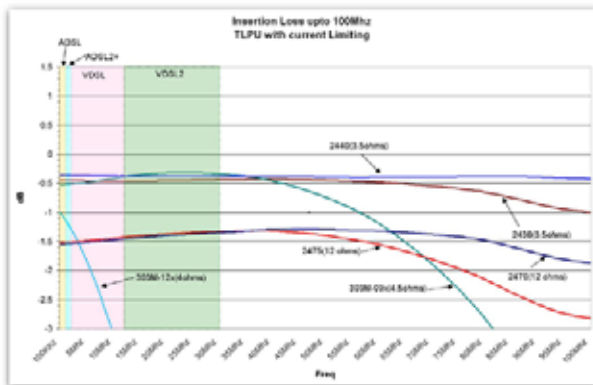
- Model Number Designator _____
- Housing Color/Circuit Type _____
- 1 = Black/Standard
 - 3 = Red/Special
 - 6 = Blue/Standard
 - 7 = Violet
 - 9 = Orange/Standard Service (Non-Bridgelifter)
 - 10 = Yellow/Standard
- Pin Plating _____
- G = Gold-plated
- Protector Type _____
- Blank = Multi-Stage Protector (MSP®)
 - BC = Balanced Capacitance Multi-Stage Protector (MSP®)*
- Special Options _____
- S = Sealed Case
 - ST = Sealed Case and Test Points
 - T = Test Points

* For use on DSL systems that require balanced capacitance of ≤ 1 pF.

Product Dimensions



Loss Characteristics for 5-Pin Protector Groups with Current Limiting Devices



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