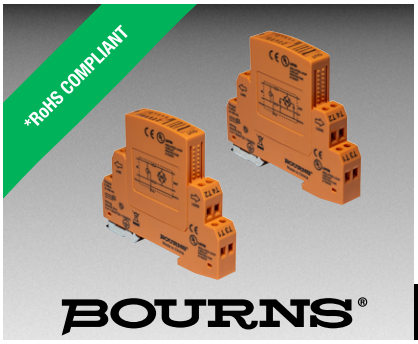

Features

- UL listed dataline protector per UL 497B standard
- Signal transmission is not interrupted when exchanging modules
- Two-stage protection circuit limits the transients associated with gas discharge tubes and diodes
- Complies with UL 497B, and IEC 61643-21, category D1/C1/C2/C3
- Pluggable surge protection for DIN-Rail mounting
- Impulse current capacity up to 2.5 kA, 10/350 µs

2510 Series Data and Signal Surge Protective Device

General Information

The Bourns® Model 2510 Series is a Data and Signal Surge Protective Device (SPD) designed to protect datalines, providing surge protection for 1-pair lines or 2 single lines with common reference potential in the data, signal and communication systems.

Additional Information

Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Electrical Characteristics

Characteristic		2510-2L1-xx				
		5	12	24	48	110
Compliance		UL 497B; IEC 61643-21				
Nominal Voltage (VDC)	U_n	5	12	24	48	110
Max. Continuous Operating Voltage (VDC/VAC)	U_c	6/4.2	15/10.6	33/23.3	54/38.1	170/120
C2 Nominal Discharge Current (8/20 µs) per Line	I_n	10 kA				
C2 Max. Discharge Current (8/20 µs) per Line	I_{max}	20 kA				
D1 Lightning Impulse Current (10/350 µs) per Line	I_{imp}	2.5 kA				
Voltage Protection Level (V)	L-L@I_n, C2 (8/20 µs) U_p	≤30	≤45	≤55	≤100	≤300
	L-PG@I_n, C2 (8/20 µs) U_p	≤30	≤45	≤55	≤100	≤300
Nominal Current	I_L	1 A				
Cut-off Frequency	f_G	100 MHz				
Series Impedance per Line		0.68 Ohm				
Protection Line		1-pair or 2 single lines				

Agency Recognition

Agency	Category	Agency File No.
UL LISTED	UL 497B	E153537

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*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.

Applications

- RS-232, RS-422 and RS-485 interfaces
- Telecommunications
- Low voltage alarm circuits
- High-frequency transmission systems
- Analog/digital communications

Electrical Characteristics (continued)

Characteristic		2510-2L2-xx				
		5	12	24	48	110
Compliance		UL 497B; IEC 61643-21				
Nominal Voltage (VDC)	U_n	5	12	24	48	110
Max. Continuous Operating Voltage (VDC/VAC)	U_c	6/4.2	15/10.6	33/23.3	54/38.1	170/120
C2 Nominal Discharge Current (8/20 μs) per Line	I_n	10 kA				
C2 Max. Discharge Current (8/20 μs) per Line	I_{max}	20 kA				
D1 Lightning Impulse Current (10/350 μs) per Line	I_{imp}	2.5 kA				
Voltage Protection Level (V)	L-L@I_n, C2 (8/20 μs) U_p	≤30	≤45	≤55	≤100	≤300
	L-PG@I_n, C2 (8/20 μs) U_p	≤500	≤500	≤500	≤500	≤500
Nominal Current	I_L	1 A				
Cut-off Frequency	f_G	100 MHz				
Series Impedance per Line		0.68 Ohm				
Protection Line		1-pair or 2 single lines				

Characteristic		2510-2L3-xx				
		5	12	24	48	110
Compliance		UL 497B; IEC 61643-21				
Nominal Voltage (VDC)	U_n	5	12	24	48	110
Max. Continuous Operating Voltage (VDC/VAC)	U_c	6/4.2	15/10.6	33/23.3	54/38.1	170/120
C2 Nominal Discharge Current (8/20 μs) per Line	I_n	10 kA				
C2 Max. Discharge Current (8/20 μs) per Line	I_{max}	20 kA				
D1 Lightning Impulse Current (10/350 μs) per Line	I_{imp}	2.5 kA				
Voltage Protection Level (V)	L-L/L-PG@I_n, C2 (8/20 μs) U_p	≤30	≤45	≤55	≤100	≤300
	PG-SG@I_n, C2 (8/20 μs) U_p	≤500	≤500	≤500	≤500	≤500
Nominal Current	I_L	1 A				
Cut-off Frequency	f_G	100 MHz				
Series Impedance per Line		0.68 Ohm				
Protection Line		1-pair + shield				

Electrical Characteristics (continued)

Characteristic			2510-2L4-xx				
			5	12	24	48	110
Compliance			UL 497B; IEC 61643-21				
Nominal Voltage (VDC)		U_n	5	12	24	48	110
Max. Continuous Operating Voltage (VDC/VAC)		U_c	6/4.2	15/10.6	33/23.3	54/38.1	170/120
C2 Nominal Discharge Current (8/20 μs) per Line		I_n	10 kA				
C2 Max. Discharge Current (8/20 μs) per Line		I_{max}	20 kA				
D1 Lightning Impulse Current (10/350 μs) per Line		I_{imp}	2.5 kA				
Voltage Protection Level (V)	L-L@I_n, C2 (8/20 μs) U_p		≤30	≤45	≤55	≤100	≤300
	L-PG/PG-SG@I_n, C2 (8/20 μs) U_p		≤500	≤500	≤500	≤500	≤500
Nominal Current		I_L	1 A				
Cut-off Frequency		f_G	100 MHz				
Series Impedance per Line			0.68 Ohm				
Protection Line			1-pair + shield				

Characteristic			2510-2L5-xx			
			12	24	48	110
Compliance			UL 497B; IEC 61643-21			
Nominal Voltage (VDC)		U_n	12	24	48	110
Max. Continuous Operating Voltage (VDC/VAC)		U_c	15/10.6	33/23.3	54/38.1	170/120
C2 Nominal Discharge Current (8/20 μs) per Line		I_n	10 kA			
C2 Max. Discharge Current (8/20 μs) per Line		I_{max}	20 kA			
D1 Lightning Impulse Current (10/350 μs) per Line		I_{imp}	2.5 kA			
Voltage Protection Level (V)	L-L@I_n, C2 (8/20 μs) U_p		≤25	≤50	≤100	≤260
	L-PG@I_n, C2 (8/20 μs) U_p		≤750	≤750	≤750	≤750
Nominal Current		I_L	1 A			
Cut-off Frequency		f_G	2 MHz			
Series Impedance per Line			1.36 Ohm			
Protection Line			1-pair or 2 single lines			

Electrical Characteristics (continued)

Characteristic		2510-2L6-xx			
		5	12	24	48
Compliance		UL 497B; IEC 61643-21			
Nominal Voltage (VDC)	U_n	5	12	24	48
Max. Continuous Operating Voltage (VDC/VAC)	U_c	6/4.2	15/10.6	33/23.3	54/38.1
C2 Nominal Discharge Current (8/20 μs) per Line	I_n	L-L: 300 A, L-G: 10 kA			
C2 Max. Discharge Current (8/20 μs) per Line	I_{max}	L-L: 500A, L-G: 20 kA			
D1 Lightning Impulse Current (10/350 μs) per Line	I_{imp}	2.5 kA			
Voltage Protection Level (V)	L-L@I_n, C2 (8/20 μs) U_p	≤30	≤45	≤55	≤100
	L-PG@I_n, C2 (8/20 μs) U_p	≤500	≤500	≤500	≤500
Nominal Current	I_L	2 A			
Cut-off Frequency	f_G	100 MHz			
Series Impedance per Line		0 Ohm			
Protection Line		1-pair or 2 single lines			

General Characteristics

Characteristic	2510-2Lx-xx
Mounting	35 mm DIN-Rail in accordance with EN 50022/DIN46277-3
Type of Connection IN/OUT	screw/screw
Dimensions (mm)	90 x 12 x 74
Operating Temperature Range	-40 °C ~ +85 °C
Enclosure Material	Thermoplastic, extinguishing degree, UL 94V-0

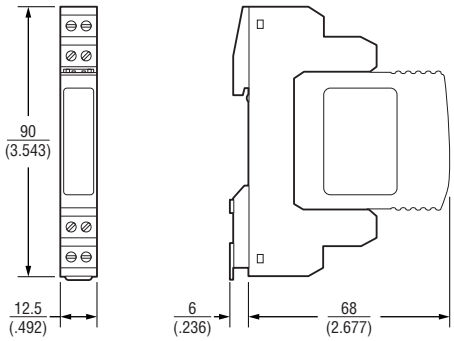
2510 Series Data and Signal Surge Protective Device

BOURNS®

Standards Compliance

IEC 61643-21 ..... Category D1/C1/C2/C3
UL497B
IEEE C62.41
RoHS..... RoHS Directive 2015/863, Mar 31, 2015 and Annex

Product Dimensions



DIMENSIONS: MM / (INCHES)

How to Order

2510 - 2L n - xxx

Model Designator
- 2510 = Data and Signal SPD

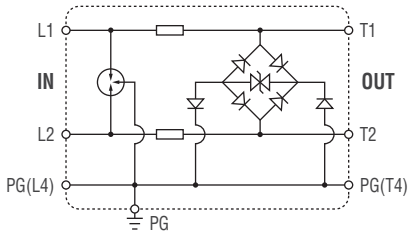
Number of Datalines
- 2L = 1-Pair or 2 Single Lines

Circuit Configuration (Refer to Product Schematics)
- 1 = Circuit Type 1
- 2 = Circuit Type 2
- 3 = Circuit Type 3
- 4 = Circuit Type 4
- 5 = Circuit Type 5
- 6 = Circuit Type 6

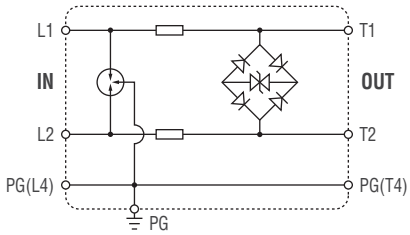
Nominal Voltage
- 05 = 5 VDC
- 12 = 12 VDC
- 24 = 24 VDC
- 48 = 48 VDC
- 110 = 110 VDC

Product Schematics

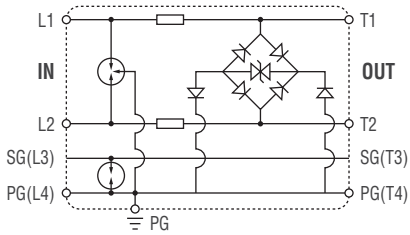
Circuit Type 1



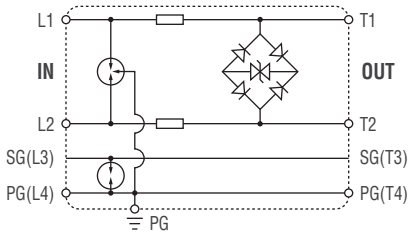
Circuit Type 2



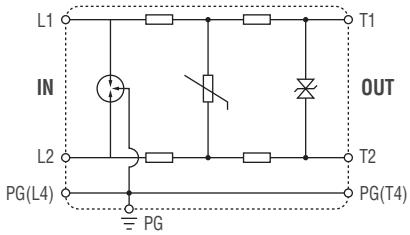
Circuit Type 3



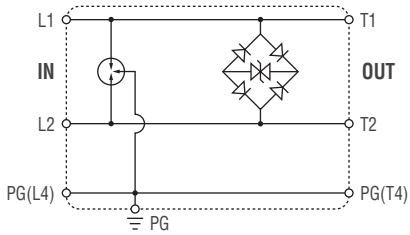
Circuit Type 4



Circuit Type 5



Circuit Type 6



PG: Protective Grounding
SG: Shield Grounding

REV. 06/25

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