

# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

**INTERNAL  
USE ONLY**

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CHARACTERISTICS		LITTELFUSE SPD2 MOV 					PHOENIX Valvetrab-SEC-T2 MOV 				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	Unknown					
	No Cross					Unknown					
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	175 V	40 kA	850 V	240 V	240 V	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	Unknown					
	No Cross					Unknown					
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	350 V	40 kA	1500 V	415 V	457 V	
	No Cross					Unknown					
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	Unknown					
	550 V	50 kA	2500 V	697 V	915 V	Unknown					
601 V ac–1000 V ac	750 V	35 kA	3400 V	871 V	1143 V	Unknown					
	No Cross					Unknown					
1000 V dc–1300 V dc		40 kA	3800 V			Unknown					
1300 V dc–1500 V dc		30 kA	5000 V			Unknown					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA					
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					315 A gG / 200 A gG					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					25 kA / 50 kA					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	Unknown					
	No Cross					Unknown					
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	175 V	Unavailable	20 kA	Unavailable	1, 2, 3, 4	
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	Unknown					
	No Cross					350 V	1200 V	20 kA	50 kA		
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	Unknown					
	No Cross					Unknown					
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	440 V	Unknown	Unknown	Unknown	Unknown	
	550	2000 V	20 kA	200 kA	1, 2, 3, 4	Unknown					
601 V ac–1000 V ac	750	2500 V	20 kA	200 kA	1, 2, 3	Unknown					
	No Cross					Unknown					
1000 V dc–1300 V dc	1100	2500 V	20 kA	50 kA	3	Unknown					
1300 V dc–1500 V dc	1500	4000 V	20 kA	65 kA	3	Unknown					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Yes, Mechanical (Red/Green)					
Safety Reserve	No					No					
Thermal Protection	Y					Unknown					
Follow Current	No					No					
Leakage Free	No					No					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					Y					
UL 1449 4th Edition	Y					Y					



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## Type 2 Surge Protection Devices

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CHARACTERISTICS		LITTELFUSE SPD2 MOV 					CITEL DS40 MOV 				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	No Cross					
	No Cross					No Cross					
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	150 V	40 kA	900 V	180 V	230 V	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	255 V	40 kA	1250 V	335 V	440 V	
	No Cross					280 V	40 kA	1300 V	335 V	440 V	
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	320 V	40 kA	1500 V	335 V	440 V	
	No Cross					385 V	40 kA	1800 V	335 V	440 V	
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	440 V	40 kA	1800 V	580 V	770 V	
	550 V	50 kA	2500 V	697 V	915 V	530 V	40 kA	2500 V	700 V	920 V	
601 V ac–1000 V ac	750 V	35 kA	3400 V	871 V	1143 V	660 V	40 kA	3200 V	870 V	1150 V	
	No Cross					760 V	40 kA	3500 V	1000 V	1325 V	
1000 V dc–1300 V dc		40 kA	3800 V			No Cross					
1300 V dc–1500 V dc		30 kA	5000 V			No Cross					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA					
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					50 A gG					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					25 kA					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	No Cross					
	No Cross					No Cross					
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	150 V		Non-UL			
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	255 V		Non-UL			
	No Cross					280 V		Non-UL			
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	320 V		Non-UL			
	No Cross					385 V		Non-UL			
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	440 V	1500 V	20 kA	100 kA	1, 2, 3, 4	
	550	2000 V	20 kA	200 kA	1, 2, 3, 4	530 V	1800 V	20 kA	100 kA	1, 2, 3, 4	
601 V ac–1000 V ac	750	2500 V	20 kA	200 kA	1, 2, 3	660 V	Non-UL	Non-UL	Non-UL	Non-UL	
	No Cross					760 V	2500 V	20 kA	100 kA	1, 2, 3, 4	
1000 V dc–1300 V dc	1100	2500 V	20 kA	50 kA	3	Unknown					
1300 V dc–1500 V dc	1500	4000 V	20 kA	65 kA	3	Unknown					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Yes, Mechanical (Red/Green)					
Safety Reserve	N					N					
Thermal Protection	Y					Unknown					
Follow Current	N					N					
Leakage Free	N					N					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					Y					
UL 1449 4th Edition	Y					Y					


# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

**INTERNAL  
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CHARACTERISTICS		LITTELFUSE SPD2 MOV 					CITEL DS70R MOV 				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	No Cross					
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	150	70 kA	1000 V	180 V	230 V	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	255	70 kA	1400 V	335 V	440 V	
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	280	70 kA	1500 V	335 V	440 V	
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	320	70 kA	1600 V	335 V	440 V	
601 V ac–1000 V ac	480 V	50 kA	2300 V	581 V	762 V	440	70 kA	1.8 kV	580 V	770V	
1000 V dc–1300 V dc	550 V	50 kA	2500 V	697 V	915 V	No Cross					
1300 V dc–1500 V dc	750 V	35 kA	3400 V	871 V	1143 V	No Cross					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					30 kA					
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					100 A gG					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					25 kA					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	No Cross					
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	No Cross					
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	150		Non-UL			
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	255		Non-UL			
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	280		Non-UL			
601 V ac–1000 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	320		Non-UL			
1000 V dc–1300 V dc	550	2000 V	20 kA	200 kA	1, 2, 3, 4	No Cross					
1300 V dc–1500 V dc	750	2500 V	20 kA	200 kA	1, 2, 3	No Cross					
I <sub>nominal</sub> (UL, all voltages)	20 kA					20 kA					
SCCR (UL, all voltages)	50 kA					100 kA					
Poles (UL, all voltages)	3					3					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Yes, Mechanical (Red/Green)					
Safety Reserve	N					N					
Thermal Protection	Y					Unknown					
Follow Current	N					N					
Leakage Free	N					Y					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					Y					
UL 1449 4th Edition	Y					Y					

# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

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CHARACTERISTICS		LITTELFUSE SPD2 MOV					MERSEN Surge-Trap STP Series MOV				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	No Cross					
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	180	75 kA	Non-IEC	Non-IEC	Non-IEC	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	275	75 kA	Non-IEC	Non-IEC	Non-IEC	
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	320	75 kA	Non-IEC	Non-IEC	Non-IEC	
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	420	75 kA	Non-IEC	Non-IEC	Non-IEC	
601 V ac–1000 V ac	550 V	50 kA	2500 V	697 V	915 V	550	75 kA	Non-IEC	Non-IEC	Non-IEC	
1000 V dc–1300 V dc	750 V	35 kA	3400 V	871 V	1143 V	650	75 kA	Non-IEC	Non-IEC	Non-IEC	
1300 V dc–1500 V dc	No Cross					No Cross					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA (up to 400 V ac), 10 kA (600 - 1000 V ac)					
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					Non-IEC					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					Non-IEC					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	No Cross					
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	175	600 V	20 kA	200 kA	1, 2, 3, 4	
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	275	600 V	20 kA	200 kA	1, 2	
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	320	1000 V	20 kA	200 kA	1, 3, 4	
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	420	1500 V	10 kA	200 kA	1, 3, 4	
601 V ac–1000 V ac	550	2000 V	20 kA	200 kA	1, 2, 3, 4	550	1500 V	10 kA	200 kA	3, 4	
1000 V dc–1300 V dc	750	2500 V	20 kA	200 kA	1, 2, 3	No Cross					
1300 V dc–1500 V dc	No Cross					No Cross					
1100	1100	2500 V	20 kA	50 kA	3	No Cross					
1500	1500	4000 V	20 kA	65 kA	3	No Cross					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Yes, Mechanical (Red/Green)					
Safety Reserve	N					N					
Thermal Protection	Y					Y					
Follow Current	N					N					
Leakage Free	N					N					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					N					
UL 1449 4th Edition	Y					Y					

# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

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### CHARACTERISTICS

**LITTELFUSE  
SPD2  
MOV**



**ABB  
OVR T2 80-...  
S P TS QS  
MOV**



Lightning Impulse Current (10/350)	Not Rated	6.25 kA
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### IEC Characteristics

Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	Unknown				
	No Cross					Unknown				
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	Unknown				
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	275V	80 kA	1400 V	337 V	Unknown
	No Cross					Unknown				
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	350V	80 kA	1400 V	1200 V	Unknown
	No Cross					Unknown				
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	440V	80 kA	1800 V	581 V	Unknown
	550 V	50 kA	2500 V	697 V	915 V	Unknown				
601 V ac–1000 V ac	750 V	35 kA	3400 V	871 V	1143 V	Unknown				
	No Cross					Unknown				
1000 V dc–1300 V dc		40 kA	3800 V			Unknown				
1300 V dc–1500 V dc		30 kA	5000 V			Unknown				
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA				
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					125 A gG / 50 A gG				
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					100 kA				

### UL Characteristics

Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	Unknown				
	No Cross					Unknown				
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	Unknown				
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	275 V	Unavailable	Unavailable	Unavailable	Unavailable
	No Cross					Unknown				
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	350 V	Unavailable	Unavailable	Unavailable	Unavailable
	No Cross					Unknown				
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	440 V	Unavailable	Unavailable	Unavailable	Unavailable
	550	2000 V	20 kA	200 kA	1, 2, 3, 4	Unknown				
601 V ac–1000 V ac	750	2500 V	20 kA	200 kA	1, 2, 3	Unknown				
	No Cross					Unknown				
1000 V dc–1300 V dc	1100	2500 V	20 kA	50 kA	3	Unknown				
1300 V dc–1500 V dc	1500	4000 V	20 kA	65 kA	3	Unknown				

### Miscellaneous

Fault Indication	Yes, Mechanical (Red/Green)	Yes, Mechanical (Red/Yellow/Green)
Safety Reserve	N	Optional
Thermal Protection	Y	Unknown
Follow Current	N	N
Leakage Free	N	Y

### Standards & Certifications

IEC 61643-11	Y	N
UL 1449 4th Edition	Y	Y

# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

**INTERNAL  
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### CHARACTERISTICS

**LITTELFUSE  
SPD2  
MOV**



**ABB  
OVR T2 40-...  
S P TS QS  
MOV**



Lightning Impulse Current (10/350)	Not Rated	2 kA
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### IEC Characteristics

Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	Unknown				
	No Cross					Unknown				
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	Unknown				
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	275 V	40 kA	1400 V	337 V	Unknown
	No Cross					Unknown				
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	350 V	40 kA	1500 V	462 V	Unknown
	No Cross					Unknown				
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	440 V	40 kA	1800 V	581 V	Unknown
	550 V	50 kA	2500 V	697 V	915 V	Unknown				
601 V ac–1000 V ac	750 V	35 kA	3400 V	871 V	1143 V	600 V	40 kA	2300 V	792 V	Unknown
	No Cross					Unknown				
1000 V dc–1300 V dc		40 kA	3800 V			Unknown				
1300 V dc–1500 V dc		30 kA	5000 V			Unknown				
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA				
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					125 A gG / 50 A gG				
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					100 kA				

### UL Characteristics

Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	Unknown				
	No Cross					Unknown				
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	Unknown				
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	275 V	Unavailable	Unavailable	Unavailable	Unavailable
	No Cross					Unknown				
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	350 V	Unavailable	Unavailable	Unavailable	Unavailable
	No Cross					Unknown				
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	440 V	Unavailable	Unavailable	Unavailable	Unavailable
	550	2000 V	20 kA	200 kA	1, 2, 3, 4	Unknown				
601 V ac–1000 V ac	750	2500 V	20 kA	200 kA	1, 2, 3	600 V	Unavailable	Unavailable	Unavailable	Unavailable
	No Cross					Unknown				
1000 V dc–1300 V dc	1100	2500 V	20 kA	50 kA	3	Unknown				
1300 V dc–1500 V dc	1500	4000 V	20 kA	65 kA	3	Unknown				

### Miscellaneous

Fault Indication	Yes, Mechanical (Red/Green)	Yes, Mechanical (Red/Yellow/Green)
Safety Reserve	N	Optional
Thermal Protection	Y	Unknown
Follow Current	N	N
Leakage Free	N	Y

### Standards & Certifications

IEC 61643-11	Y	N
UL 1449 4th Edition	Y	Y

# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

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CHARACTERISTICS		LITTELFUSE SPD2 MOV 					BOURNS 1210 Series MOV 				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	No Cross					
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	150 V	100 kA	900 V	230 V	Unknown	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	275 V	100 kA	1250 V	440 V	Unknown	
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	No Cross					
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	420 V	100 kA	1800 V	770 V	Unknown	
601 V ac–1000 V ac	550 V	50 kA	2500 V	697 V	915 V	No Cross					
	750 V	35 kA	3400 V	871 V	1143 V	No Cross					
1000 V dc–1300 V dc		40 kA	3800 V			840 V	100 kA	4000 V	1117 V	Unknown	
1300 V dc–1500 V dc		30 kA	5000 V			No Cross					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA					
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					Unknown					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					Unknown					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	No Cross					
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	150	600 V	20 kA	100 kA	1, 2, 3, 4	
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	275	900 V	20 kA	100 kA	1, 2, 3, 4	
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	No Cross					
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	420	1200 V	20 kA	100 kA	1, 2, 3, 4	
	550	2000 V	20 kA	200 kA	1, 2, 3, 4	No Cross					
601 V ac–1000 V ac	750	2500 V	20 kA	200 kA	1, 2, 3	No Cross					
1000 V dc–1300 V dc	1100	2500 V	20 kA	50 kA	3	840	3000 V	20 kA	100 kA	1, 2, 3, 4	
1300 V dc–1500 V dc	1500	4000 V	20 kA	65 kA	3	No Cross					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Y					
Safety Reserve	N					Unknown					
Thermal Protection	Y					Unknown					
Follow Current	N					N					
Leakage Free	N					<1 mA					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					Y					
UL 1449 4th Edition	Y					Y					



# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

**INTERNAL  
USE ONLY**

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CHARACTERISTICS		LITTELFUSE SPD2 MOV 					BOURNS 1250 Series MOV 				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	No Cross					
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	150	50 kA	900 V	230 V	Unknown	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	275	50 kA	1250 V	440 V	Unknown	
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	No Cross					
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	420	50 kA	1800 V	440 V	Unknown	
601 V ac–1000 V ac	550 V	50 kA	2500 V	697 V	915 V	550	50 kA	2500 V	770 V	Unknown	
1000 V dc–1300 V dc	750 V	35 kA	3400 V	871 V	1143 V	No Cross					
1300 V dc–1500 V dc		40 kA	3800 V			No Cross					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA					
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					Unknown					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					Unknown					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	No Cross					
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	150	700 V	20 kA	100 kA	1, 2, 3, 4	
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	275	1000 V	20 kA	100 kA	1, 2, 3, 4	
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	No Cross					
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	420	1200 V	20 kA	100 kA	1, 2, 3, 4	
601 V ac–1000 V ac	550	2000 V	20 kA	200 kA	1, 2, 3, 4	550	1800 V	20 kA	100 kA	1, 2, 3, 4	
1000 V dc–1300 V dc	750	2500 V	20 kA	200 kA	1, 2, 3	No Cross					
1300 V dc–1500 V dc						No Cross					
1100	1100	2500 V	20 kA	50 kA	3	No Cross					
1500	1500	4000 V	20 kA	65 kA	3	No Cross					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Y					
Safety Reserve	N					Unknown					
Thermal Protection	Y					Unknown					
Follow Current	N					N					
Leakage Free	N					<1 mA					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					Y					
UL 1449 4th Edition	Y					Y					



# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

**INTERNAL  
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CHARACTERISTICS		LITTELFUSE SPD2 MOV					DEHN DEHNguard M MOV				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	No Cross					
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	150 V	40 kA	700 V	175 V	230 V	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	275 V	40 kA	1500 V	335 V	440 V	
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	385 V	40 kA	1750 V	335 V	440 V	
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	440 V	40 kA	2000 V	335 V	440 V	
601 V ac–1000 V ac	550 V	50 kA	2500 V	697 V	915 V	No Cross					
	750 V	35 kA	3400 V	871 V	1143 V	No Cross					
1000 V dc–1300 V dc		40 kA	3800 V			No Cross					
1300 V dc–1500 V dc		30 kA	5000 V			No Cross					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					20 kA (Under 200 V ac 15 kA)					
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					125 A gG (Version Uc 600 V 100 A gG and 25 kA <sub>rms</sub> )					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					50 kA					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	No Cross					
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	150 V	Unknown	20 kA	Unknown	2, 3, 4	
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	275 V	Unknown	20 kA	Unknown	2, 3, 4	
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	385 V	Unknown	20 kA	Unknown	2, 3, 4	
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	440 V	Unknown	10 kA	Unknown	2, 3, 4	
601 V ac–1000 V ac	550	2000 V	20 kA	200 kA	1, 2, 3, 4	No Cross					
	750	2500 V	20 kA	200 kA	1, 2, 3	No Cross					
1000 V dc–1300 V dc	1100	2500 V	20 kA	50 kA	3	No Cross					
1300 V dc–1500 V dc	1500	4000 V	20 kA	65 kA	3	No Cross					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Yes, Mechanical (Red/Green)					
Safety Reserve	N					N					
Thermal Protection	Y					Unknown					
Follow Current	N					N					
Leakage Free	N					N					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					Y					
UL 1449 4th Edition	Y					Y					



# SPD2 Series

## Type 2 Surge Protection Devices

# COMPETITIVE ADVANTAGES

**INTERNAL  
USE ONLY**

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CHARACTERISTICS		LITTELFUSE SPD2 MOV 					DEHN DEHNguard S MOV 				
Lightning Impulse Current (10/350)		Not Rated					Not Rated				
<b>IEC Characteristics</b>											
Voltage Range	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	Maximum Continuous Operating Voltage (U <sub>C</sub> )	I <sub>max</sub>	Voltage Protection Level (Up)	TOV U <sub>T</sub> Withstand (5 sec)	TOV U <sub>T</sub> Safe Failure (120 min)	
> 100 V ac	75 V	50 kA	800 V	114 V	229 V	48	25 kA	330 V	70 V	90 V	
	No Cross					75	40 kA	400 V	90 V	115 V	
101–200 V ac	150 V	50 kA	1250 V	229 V	229 V	150	40 kA	700 V	175 V	230 V	
201–300 V ac	300 V	50 kA	1500 V	337 V	442 V	275	40 kA	1500 V	335 V	440 V	
	No Cross					No Cross					
301–400 V ac	350 V	50 kA	1750 V	403 V	529 V	320	40 kA	1500 V	335 V	440 V	
	No Cross					385	40 kA	1750 V	385 V	440 V	
401 V–600 V ac	480 V	50 kA	2300 V	581 V	762 V	440	40 kA	2000 V	580 V	765 V	
	550 V	50 kA	2500 V	697 V	915 V	No Cross					
601 V ac–1000 V ac	750 V	35 kA	3400 V	871 V	1143 V	600	30 kA	2500 V	700 V	915 V	
	No Cross					No Cross					
1000 V dc–1300 V dc		40 kA	3800 V			No Cross					
1300 V dc–1500 V dc		30 kA	5000 V			No Cross					
I <sub>nominal</sub> (IEC, all voltages)	20 kA					7.5 kA (48 V ac and under) 15 kA (100 V ac–200 V ac and 500+ V ac)		10 kA (75 V ac–100 V ac), 20 kA (200 V ac–500 V ac)			
Back Up Fuse (IEC, all voltages)	315 A gG / 200 A gG					125 A gG (Version Uc 600 V 100 A gG and 25 kA <sub>rms</sub> )					
I <sub>SCCR</sub> (IEC, all voltages)	25 kA / 50 kA (except PV, 11 kA)					50 kA					
<b>UL Characteristics</b>											
Voltage Range	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	Max Continuous Voltage (MCOV)	Voltage Protection Rating (VPR)	I <sub>nominal</sub>	SCCR	Poles	
> 100 V ac	75	330 V	20 kA	100 kA	1, 2, 3, 4	48	Unknown	Unknown	Unknown	1	
	No Cross					75	Unknown	Unknown	Unknown	1	
101–200 V ac	150	600 V	20 kA	200 kA	1, 2, 3, 4	150	Unknown	Unknown	Unknown	1	
201–300 V ac	300	900 V	20 kA	150 kA	1, 2, 3, 4	275	Unknown	Unknown	Unknown	1	
	No Cross					No Cross					
301–400 V ac	350	1000 V	20 kA	200 kA	1, 2, 3, 4	320	Unknown	Unknown	Unknown	1	
	No Cross					385	Unknown	Unknown	Unknown	1	
401–600 V ac	480	1500 V	20 kA	200 kA	1, 2, 3, 4	440	Unknown	Unknown	Unknown	1	
	550	2000 V	20 kA	200 kA	1, 2, 3, 4	No Cross					
601 V ac–1000 V ac	750	2500 V	20 kA	200 kA	1, 2, 3	600	Unknown	Unknown	Unknown	1	
	No Cross					No Cross					
1000 V dc–1300 V dc	1100	2500 V	20 kA	50 kA	3	No Cross					
1300 V dc–1500 V dc	1500	4000 V	20 kA	65 kA	3	No Cross					
<b>Miscellaneous</b>											
Fault Indication	Yes, Mechanical (Red/Green)					Yes, Mechanical (Red/Green)					
Safety Reserve	N					N					
Thermal Protection	Y					Unknown					
Follow Current	N					N					
Leakage Free	N					N					
<b>Standards &amp; Certifications</b>											
IEC 61643-11	Y					Y					
UL 1449 4th Edition	Y					Y					