

WPSPG Spark Gap Protectors – L Series

Part Numbering System

**WPSPG** - **20** **L** **200** **TA**  
(1) (2) (3) (4) (5)

- (1) World Products Spark Gap Protector
- (2) DC Spark-over Voltage  
Tolerance: (Example: 20=20% tolerance)

- (3) Series Type  
L= Low Current

- (4) DC Spark-over Voltage:  
(Example: 200 = 200V)

- (5) Packaging:  
Nil = Bulk  
TA = Taped/Ammo Box

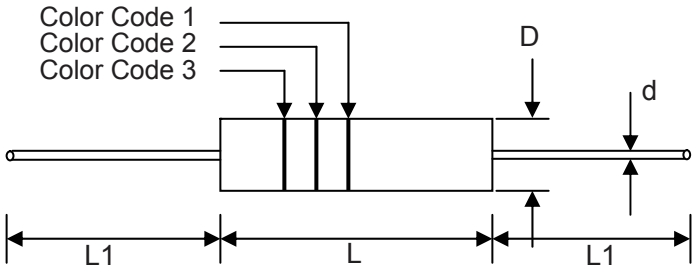


FEATURES:

- 1. RoHS Compliant and Halogen Free
- 2. UL497B – PENDING
- 3. Fast Responding
- 4. Low Capacitance
- 5. Zero leakage current
- 6. Stable electrical characteristics over time
- 7. Can withstand repeated surges
- 8. Symmetrical
- 9. Operate and storage temperature: -40°C to +85°C

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DIMENSIONS in mm.



Item	
L	4.0 ± 0.5
L1	28.0 ± 3.0
D	2.0 ± 0.5
d	0.5 ± 0.05

ELECTRICAL CHARACTERISTICS

Part Number	DC Spark-Over Voltage Vs (V)	Minimum Insulation Resistance		Maximum Capacitance (1KHz-6V <sub>MAX</sub> ) C (pf)	Surge current capacity (8/20µs)	Surge Life Test (8/20µs)
		Test Voltage (V)	IR OHM (MΩ)			
WPSPG-XXL 140	140	50	100	0.8	>500A	100A >150 times
WPSPG-XXL 200	200	100	100	0.8		
WPSPG-XXL 220	220	100	100	0.8		
WPSPG-XXL 300	300	100	100	0.8		
WPSPG-XXL 400	400	250	100	0.8		
WPSPG-XXL 500	500	250	100	0.8		
WPSPG-XXL 600	600	250	100	0.8		
WPSPG-XXL 700	700	250	100	0.8		
WPSPG-XXL 1000	1000	500	100	0.8		
WPSPG-XXL 1500	1500	500	100	0.8		

Note: Vs±XX% (DC Spark-over Voltage Tolerance 30% and 20%),140V device is only available in 30% tolerance.

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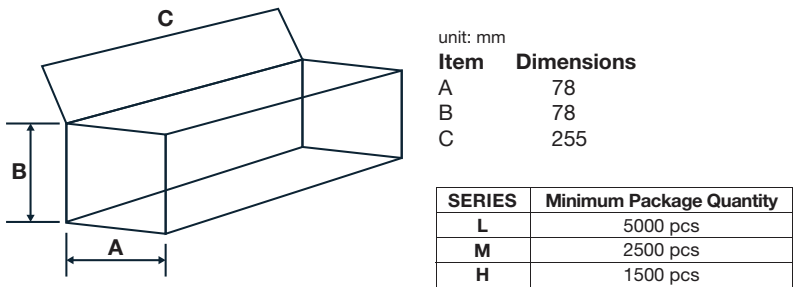
COLOR CODE

Part Number	Color Code 1	Color Code 2	Color Code 3
WPSPG-XXL140	Black	Yellow	—
WPSPG-XXL200	Red	—	—
WPSPG-XXL220	Red	Red	—
WPSPG-XXL300	Orange	—	—
WPSPG-XXL400	Yellow	—	—
WPSPG-XXL500	Green	—	—
WPSPG-XXL600	Blue	—	—
WPSPG-XXL700	White	Brown	—
WPSPG-XXL1000	Black	—	—
WPSPG-XXL1500	Brown	Green	Red

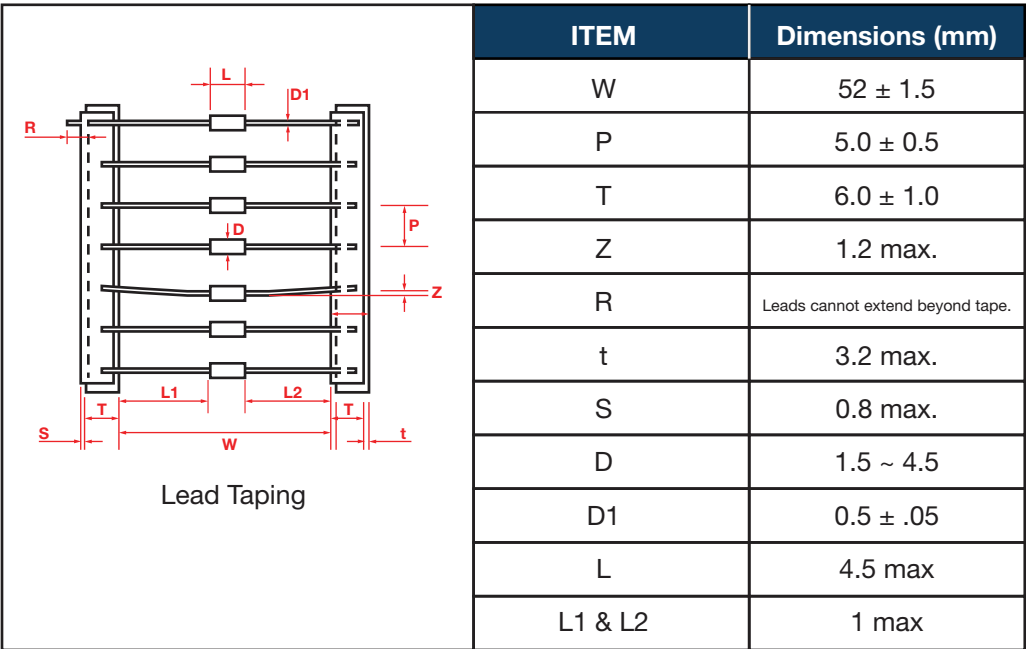
TEST METHODS AND RESULTS

ITEM	TEST METHOD	STANDARD						
DC Spark over Voltage(Vs)	Measure starting discharge voltage (Vs) by gradually increasing applied DC voltage. Test current is 0.5mA max. And the DC voltage ascends up within as follow condition. <table><tr><td>Vs &lt;1000V</td><td>100V/second</td></tr><tr><td>Vs &gt;1000V</td><td>500V/second</td></tr></table>	Vs <1000V	100V/second	Vs >1000V	500V/second	Meet specified value.		
Vs <1000V	100V/second							
Vs >1000V	500V/second							
Insulation Resistance(IR)	Measure the insulation resistance across the terminal at regular voltage. But the test voltage doesn't go beyond the DC spark-over voltage.							
Capacitance	Measure the electrostatic capacitance by applying a voltage of less than 6V (at 1KHZ) between terminals.							
Static Life	10KV with 1500pf condenser is discharged through 0Ω resistor. 200 times at an interval of 10sec.	Rate of change ≤30%. Characteristics of other items must meet the specified value.						
Surge Current Capacity	The following impulse current for specified current applied ±5 times at 60 seconds intervals. Thereafter, outer appearance shall be visually examined. <table><tr><td>Type</td><td>Impulse current</td></tr><tr><td>Vs &lt; 400V</td><td>1.2/50μs &amp; 8/20μs, 500A</td></tr><tr><td>Vs &gt; 400V</td><td>1.2/50μs &amp; 8/20μs, 500A, electrically connected with a resistor (1~2 Ω).</td></tr></table>	Type	Impulse current	Vs < 400V	1.2/50μs & 8/20μs, 500A	Vs > 400V	1.2/50μs & 8/20μs, 500A, electrically connected with a resistor (1~2 Ω).	No crack and no failures.
Type	Impulse current							
Vs < 400V	1.2/50μs & 8/20μs, 500A							
Vs > 400V	1.2/50μs & 8/20μs, 500A, electrically connected with a resistor (1~2 Ω).							
Cold Resistance	Measurement after -40°C/1000 HRS & normal temperature/2 HRS.	Features are conformed to rated spec.						
Heat Resistance	Measurement after 125°C/1000 HRS & normal temperature/2 HRS.							
Humidity Resistance	Measurement after humidity 90~95%(45°C) /1000 HRS & normal temperature/2 HRS.							
Temperature Cycle	10 times repetition of cycle -40°C/30min normal, temp/2 min 125°C/30min, measurement after normal temp/2 HRS.							
Solder Ability	Apply flux and immerse in molten solder 230±5°C for 3sec up to the point of 1.5mm from body. Check for solder adhesion.	Lead wire is evenly covered by solder.						
Solder Heat	Measurement after lead wire is dipped up to the point of 1.5mm from body into 260±5°C solder for 10sec.	Conformed to rated spec.						
Pull Strength	Apply 0.5kg load for 10sec.	Lead shall not pull out or snap.						
Flexural Strength	Bend lead wire at the point of 2mm from body under 0.25 load and back to its original point. Repeat 1 time.							

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INNER BOX DIMENSIONS



Flow/wave Soldering Recommendation Parameters

