

## DATA SHEET

### WPSPG Spark Gap Protectors – L Series

#### Part Numbering System

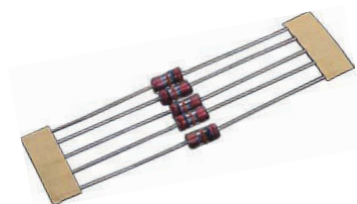
WPSPG - 20 L 200  
(1) (2) (3) (4)

(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)



#### FEATURES:

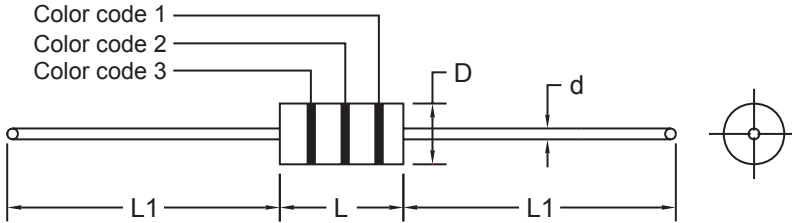
1. RoHS Compliant and Halogen Free
2. UL497B – PENDING
3. Fast Responding
4. Low Capacitance
5. Zero leakage current
6. Stable electrical characteristics over time
7. Can withstand repeated surges
8. Symmetrical
9. Operate and storage temperature: -40°C to +85°C



## DATA SHEET

### WPSPG Spark Gap Protectors – L Series

**DIMENSIONS in mm.**



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

### ELECTRICAL CHARACTERISTICS

Part Number <small>(For "XX" designation see note below in red.)</small>	DC Spark-Over Voltage $V_s$ (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	250	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:  $V_s \pm XX\%$  (DC Spark-over Voltage Tolerance 30% and 20%), 140V device is only available in 30% tolerance.  
EXAMPLE: XX = 20 for 20% and XX = 30 for 30%.**

**COLOR CODE**

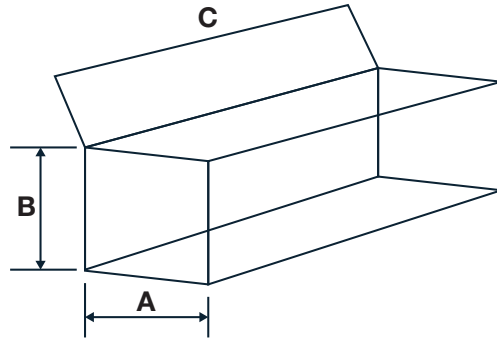
Part Number	Color Code 1	Color Code 2	Color Code 3
WPSPG-XXL140	Brown	Yellow	—
WPSPG-XXL200	Red	—	—
WPSPG-XXL220	Red	Red	—
WPSPG-XXL300	Orange	—	—
WPSPG-XXL400	Yellow	—	—
WPSPG-XXL500	Green	—	—
WPSPG-XXL600	Blue	—	—
WPSPG-XXL700	White	Brown	—
WPSPG-XXL1000	Black	—	—
WPSPG-XXL1500	Brown	Green	Red

**TEST METHODS AND RESULTS**

ITEM	TEST METHOD	STANDARD
Static Life	10KV with 1500pf condenser is discharged through 2KΩ resistor. 200 times at an interval of 10sec.	Rate-of-change, within± 30% insulation resistance & capacitance, conformed to rated spec.
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.	



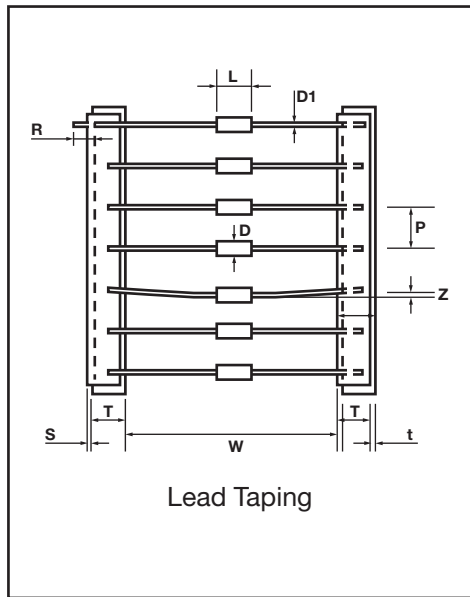
- 1. SPQ = 5000 pcs
- 2. Ammo Box



unit: mm

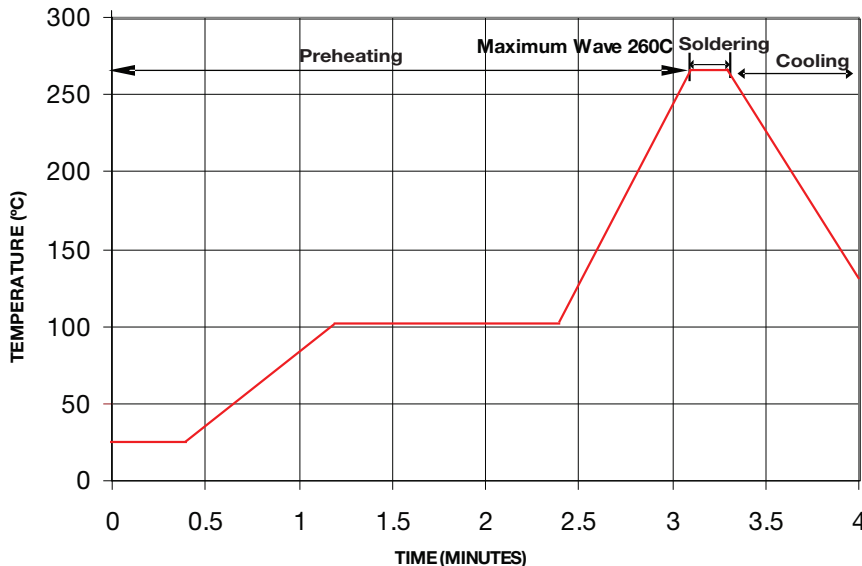
Item	Dimensions
A	78
B	78
C	255

**TEST METHODS AND RESULTS**



ITEM	Dimensions (mm)
W	52 ± 1.5
P	5.0 ± 0.5
T	6.0 ± 1.0
Z	1.2 max.
R	Leads cannot extend beyond tape.
t	3.2 max.
S	0.8 max.
D	1.5mm ~ 2.5mm
D1	0.5 ± .05
L	3.0mm

**Flow/wave Soldering Recommendation Parameters**



Item	Conditions
Peak Temperature	265 °C
Dipping Time	10 seconds
Soldering	1 time