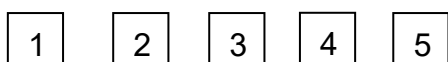


**Scope:** This specification covers the series products of the tube type of Surge Absorber.

**Part Number System :**

WSG----2L----201----M----3143



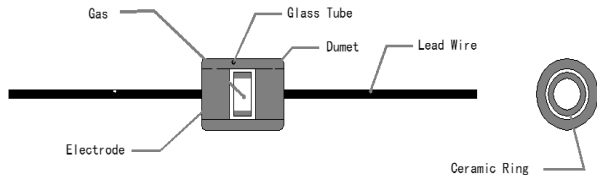
1. WPMtek Series Name.
2. Straight in 2 pins
3. DC Spark-Over Voltage The first two digits are a multiplicand.  
The third number is 101.example : 201 means  $20 \times 10^1 = 200$ . ( DC Spark-Over Voltage).
4. Tolerance of DC Spark-Over Voltage
 

L	M	N
±15%	±20%	±30%
5. Glass Tube Dimension Ø3.1\*4.3MM

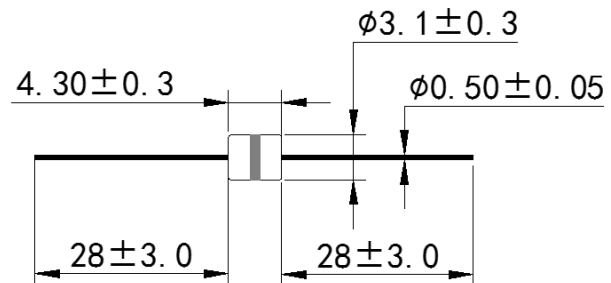
**Temperature range**

- (1) Working temperature range:  $-45^{\circ}\text{C}$ ----- $+125^{\circ}\text{C}$ .
- (2) Storing temperature range:  $-45^{\circ}\text{C}$ ----- $+125^{\circ}\text{C}$ .

## Structure



## Dimension



## Specification

Part Number	DC Spark-Over Voltage Vs(V)	Insulation Resistance IR(OHM)/DCV	Electrostatic Capacitance 1KHz-6Vmax C(pF)	Surge current capacity 8/20us	Surge Life Test
WSG2L141N-3143	140(126~210)	>100M/50V	<1.0	2000A	8x20us 100A 200time  8x20us 2000A 3Min 3 times
WSG2L181N-3143	180(126-234)	>100M/100V			
WSG2L201M-3143	200(160-240)				
WSG2L301M-3143	300(240-360)				
WSG2L401M-3143	400(320-480)	>100M/250V			
WSG2L501M-3143	500(400-600)				
WSG2L601M-3143	600(480-720)				
WSG2L701M-3143	700(560-840)				
WSG2L801M-3143	800(640-960)				
WSG2L102M-3143	1000(800-1200)	>100M/500V			
WSG2L122M-3143	1200(960-1440)				

Part Number	Color Code1
WSG2L141N-3143	Black + yellow
WSG2L181N-3143	Gray
WSG2L201M-3143	red
WSG2L301M-3143	Orange
WSG2L401M-3143	Yellow
WSG2L501M-3143	Green
WSG2L601M-3143	Bule
WSG2L701M-3143	Purple
WSG2L801M-3143	Gray
WSG2L102M-3143	Black
WSG2L122M-3143	Brown+Red

{Color order: Black (0), Brown (1), Red (2), Orange (3), Yellow (4), Green (5), Blue (6), Purple (7), Gray (8), White (9)}

Initial Characteristics.

Test Item	Test Method	Specification
DC Spark-Over VoltageVs(V)	Add and measure the DC Voltage gradually Maxto get the discharge threshold voltage. The measuring current is 1mA/1 second max.	It depends on each spec.
Insulation Resistance	Measure the insulation resistance of two end of leadwire under the specified DC voltage.	100MΩ min.
Capacitance C(pF)	Measure the Electrostatic Capacitance under the test condition of 1KHz,DC 6V(max)	1pF max.

Enviromental Characteristics.

Test Item	Test Method	Characteristics
Cold Resistance JIS C0020	After $-40\pm 3^{\circ}\text{C}$ (1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	Within standard mentioned in Initial Characteristics.
Heat Resistance JIS C0021	After $125\pm 2^{\circ}\text{C}$ (1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	Within standard mentioned in Initial Characteristics.
Humidity Resistance JIS C0020	After $85\pm 2^{\circ}\text{C}$ , 85% RH (1000hrs)/room temp, normal humidity(4hrs)cycle, measure the properties.	Within standard mentioned in Initial Characteristics.
Temperature Cycle Test (JIS C0025)	25 times repetition of cycle $-40\pm 3^{\circ}\text{C}$ (30 Min.),room temp, (4 Min.), $125\pm 2^{\circ}\text{C}$ (30 Min.),room temp., normal humidity(4hrs) .	Within standard mentioned in Initial Characteristics.

### Mechanical Characteristics.

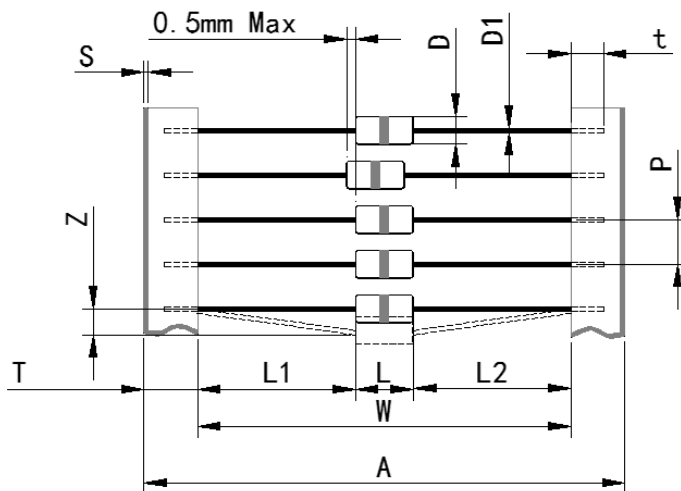
Test Item	Test Method	Characteristics
Pull Strength (JIS C0051)	Apply 2.5 kg load approximately 30 seconds, then check for pull-out and breaking of the lead wire.	Within standard mentioned in Initial Characteristics.
Flexure Strength (JIS C0051)	Bend the lead wire, with jig which radius is 0.75~0.8mm, at the point of 2mm from the body, under 0.25 kg load applied at the right angle the direction of the aims and get the bent lead wire back to its original poing after the procedure was repeated 2 times.	Within standard mentioned in Initial Characteristics.

### Solder Characteristics.

Test Item	Test Method	Specification
Solder ability (JIS C0050,4.6)	Apply flux and immerse in molten solder, up to the point of 3mm from the body, for 5 sec. (265°C±5°C). Wash the lead wire and check for soldering adhesion.	Lead wire is evenly covered by solder over 90%.
Solder Heat (JIS C0051)	Lead wire is dipped up to the point of 2mm from the body, into 265°C±5°C solder for 10±1 sec. And measure the properties.)	Within standard mentioned in Initial Characteristics.

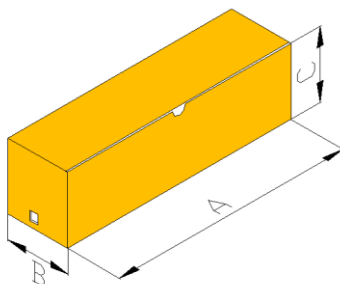
### Surge Characteristics

Test Item	Test Method	Specification
Life	Apply a standard impulse voltage 10X700 $\mu$ sec of 4 KV for 5 times with intervals of 60 sec., and then change the polarity of the surge and apply a impulse again. And similarly, apply a impulse voltage 8X20 $\mu$ sec of 100A . Total apply 200 times. Then measure DC spark-over voltage, IR & Capacitance.	DC spark-over voltage: $\Delta V_s / V_s \leq 30\%$
Surge Current Capacity	1.2/50_s & 8/20_s, 3000A, electrically connected with a resistor (4~6 $\Omega$ ), $\pm 5$ times, each time interval 60 seconds. Thereafter, outer appearance shall be visually examined.	No crack and no failures



MARK	Dimension
A	65.5 max
W	52+0.5, -0.00
P	5.0 $\pm$ 0.5
T	6.0 $\pm$ 1.0
Z	1.2 max
L1-L2	0.5 max
S	0.8 max
t	5.0 max
L	4.3 $\pm$ 1.0
D1	$\Phi$ 0.5 $\pm$ 0.05
D	$\Phi$ 3.1 $\pm$ 0.50

**PACKAGE**  
Inner box



MARK	Dimension
A (Length)	255mm
B (Width)	75mm
C (Height)	68mm
Q'ty	1500pcs

**Carton:**



MARK	Dimension
A (Length)	390mm
B (Width)	270mm
C (Height)	290mm
Q'ty	30000pcs

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