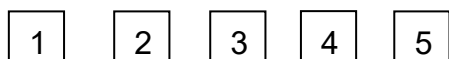


**Scope:** This specification covers the series products of the tube type of Surge Absorber.

**Part Number System :**

WSG----2L----201----M----2040



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%

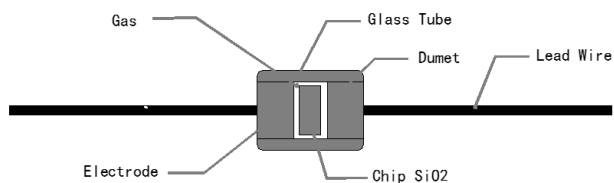
5. Glass Tube Dimension Ø2.0\*4.0MM

**Temperature range**

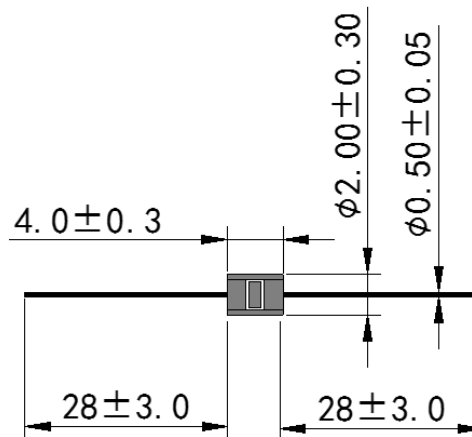
(1) Working temperature range:  $-45^{\circ}\text{C}$ ----- $+125^{\circ}\text{C}$ .

(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
WSG2L141M-2040	140 (126~210)	>100M/50V	≤ 0.80	500A	1. 1kHz-10KV Max 2. 8/20μs 100A 150 times 3. 8/20μs 500A ±5 times )
WSG2L201M-2040	200(160-240)	>100M/100V			
WSG2L301M-2040	300(240-360)				
WSG2L401M-2040	400(320-480)				
WSG2L501M-2040	500(400-600)	>100M/250V			
WSG2L601M-2040	600 (480-720)				
WSG2L102M-2040	1000 (800-1200)	>100M/500V			

Color code	Color Code 1 + Color Code 2
WSG2L141M-2040	yellow + black
WSG2L201M-2040	Red
WSG2L301M-2040	Orange
WSG2L401M-2040	Yellow
WSG2L501M-2040	Green
WSG2L601M-2040	Bule
WSG2L102M-2040	Black
{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.

### Environmental Characteristics.

Test Item	Test Method	Characteristics
Cold Resistance JIS C0020	After $-40\pm3^{\circ}\text{C}$ (1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	Within standard mentioned in Initial Characteristics.
Heat Resistance JIS C0021	After $125\pm2^{\circ}\text{C}$ (1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	Within standard mentioned in Initial Characteristics.
Humidity Resistance JIS C0020	After $85\pm2^{\circ}\text{C}$ , 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 $-40\pm3^{\circ}\text{C}$ (30 Min.),room temp., (4 Min.), $125\pm2^{\circ}\text{C}$ (30 Min.),room temp., normal humidity(4hrs) .	Within standard mentioned in Initial Characteristics.

### Mechanical Characteristics.

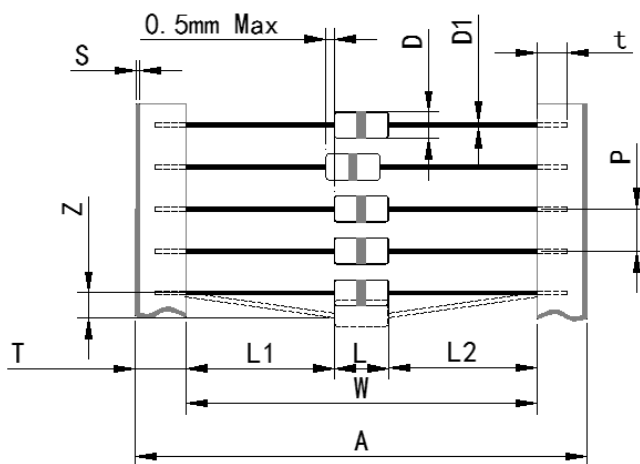
Test Item	Test Method	Characteristics
Pull Strength (JIS C0051)	Apply 2.5 kg load approximately 30 seconds, then check for pull-out and breaking of the lead wire.	Within standard mentioned in Initial Characteristics.
Flexure Strength (JIS C0051)	Bend the lead wire, with jig which radius is 0.75~0.8mm, 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 ping 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

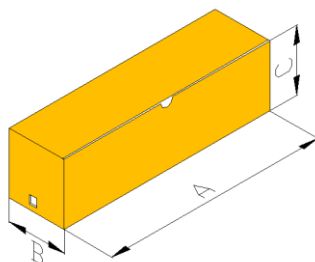
Test Item	Test Method	Specification
Life	Apply a standard impulse voltage 8X20 μsec of 1KV 500A for 5 times with intervals of 60 sec., and then change the polarity of the surge and apply a impulse again. And similarly, apply a impulse voltage 8 X20 μsec of 100A. Total apply 150 times. Then measure DC spark-over voltage, IR & Capacitance.	$\Delta V_s/V_s \leq 30\%$ (DC spark-over voltage : $\Delta V_s/V_s \leq 30\%$ )
Life	Apply 10 KV voltage charged in 1500pF condenser and apply the current to the specimen, 200 times at 10 seconds of intervals.)	VS: $\Delta V_s/V_s \leq 30\%$ IR: 100MΩ min. C: 1 Pf max



MARK	Dimension
A	65.5 max
W	52+0.5,-0.00
P	5.0 ± 0.5
T	6.0 ± 1.0
Z	1.2 max
L1-L2	0.5 max
S	0.8 max
t	5.0 max
L	4.0±1.0
D1	Φ 0.5±0.05
D	Φ 2.0±0.50

## PACKAGE

Inner box



MARK	(Dimension)
A (Length)	255mm
B (Width)	75mm
C (Height)	68mm
Q'ty	3000pcs

Carton



MARK	(Dimension)
A (Length)	390mm
B (Width)	270mm
C (Height)	290mm
Q'ty	60000pcs

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