

## FEATURES

- | Bilateral symmetrical.
- | Less decay at on/off state.
- | High capability to withstand repeated lightning strikes.
- | Low electrode capacitance( $\leq 1.0\text{pF}$ ) and high isolation ( $\geq 100\text{M}\Omega$ ).
- | Working temperature range:  $-45^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- | Storing temperature range:  $-45^{\circ}\text{C} \sim +85^{\circ}\text{C}$


 $\Phi 2.7 \times 5.0\text{mm}$ 

## APPLICATIONS

- | Power Supplies
- | Telephone/Fax/Modem
- | Alarm systems
- | Cathode ray tubes in Monitors/ Television Viewing Systems

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## ELECTRICAL CHARACTERISTICS

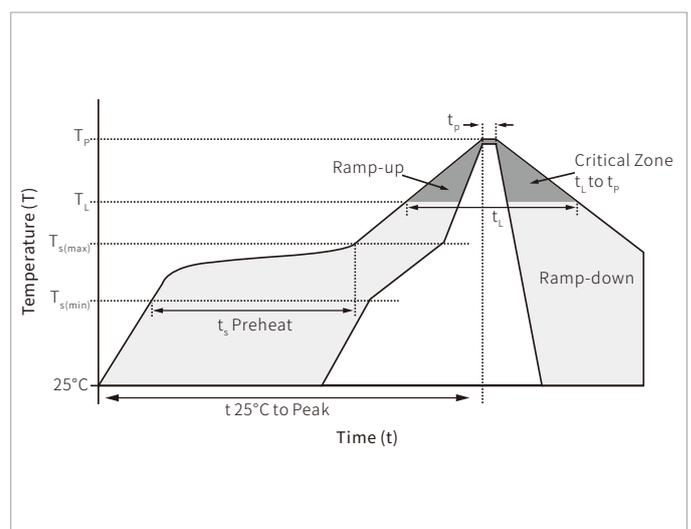
Part Number	DC Spark-Over Voltage	Min. Insulation Resistance		Max. Capacitance (1kHz-6Vmax.)	Surge Current Capacity	Surge Life Test @8/20 $\mu\text{s}$
	Vs	Test Voltage	IR	Cj	8/20 $\mu\text{s}$	
	V	V	M $\Omega$	pF	A	
SPG102-141N	126~210	50	100	1	1000	100A 10 times
SPG102-181N	126~234	50	100	1	1000	100A 10 times
SPG102-201M	160~240	100	100	1	1000	100A 10 times
SPG102-301M	240~360	100	100	1	1000	100A 10 times
SPG102-401M	320~480	250	100	1	1000	100A 10 times
SPG102-501M	400~600	250	100	1	1000	100A 10 times

## TEST METHODS AND RESULTS

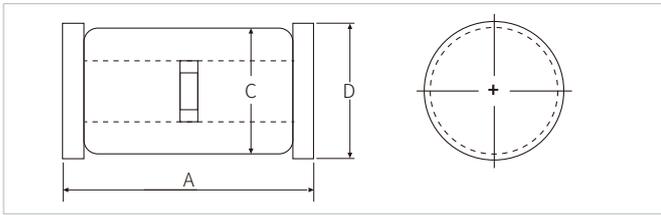
Test Item	Test Method	Specification
DC Spark-over Voltage Vs(V)	Add and measure the DC Voltage gradually Maxto get the discharge threshold voltage. The measuring current is 1mA/1 second max.	It depends on each spec.
Insulation Resistance	Measure the insulation resistance of two end of leadwire under the specified DC voltage.	100MΩ min.
Capacitance Cj(pF)	Measure the Electrostatic Capacitance under the test condition of 1KHz,DC 6V(max).	1pF max.
Life(JSE)	Apply a standard impulse voltage (8X20μsec)of 100A for 5 times with intervals of 30 sec., and then change the polarity of the surge and apply a impulse again. Then measure DC spark-over voltage, IR & Capacitance.	DC spark-over voltage JSE: $I \Delta V_s/V_s \leq 30\%$
Life(JSE)	Apply 10 KV voltage charged in 1500pF condenser and apply the current to the specimen,200 times at 10 seconds of intervals	Insulation Resistance & Capacitance to meet the specified value. Appearance: No cracks or failures.
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 90~9°C(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.	

## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_r$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C

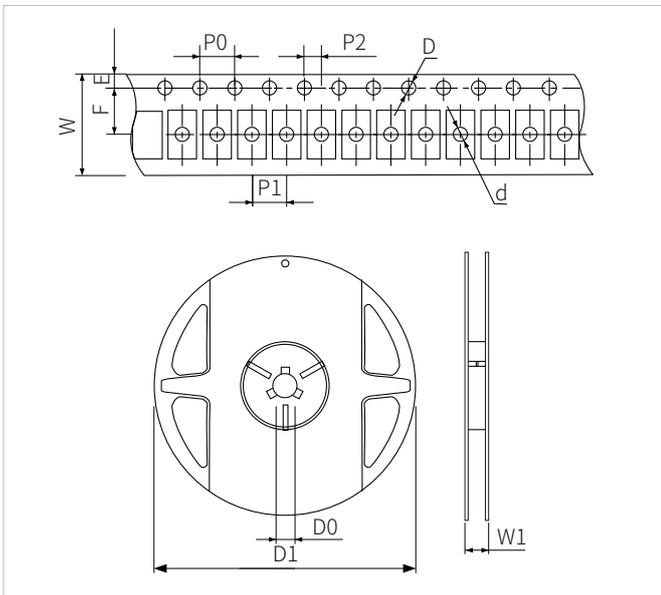


## DIMENSIONS



Ref.	Dimensions	
	Millimeters	Inches
A	5.0±0.5	0.197±0.02
C	Φ2.6±0.5	0.102±0.02
D	Φ2.7±0.5	0.106±0.02

## TAPING AND REEL SPECIFICATIONS



Ref.	Dimensions	
	Millimeters	Inches
W	12.0±0.2	0.472±0.008
P0	4.0±0.1	0.157±0.004
P1	4.0±0.1	0.157±0.004
P2	2.0±0.1	0.079±0.004
D	Φ1.5±0.1	0.059±0.004
d	Φ1.5±0.1	0.059±0.004
E	1.75±0.1	0.069±0.004
F	5.5±0.05	0.217±0.002
D1	178.0	7.007
D0	13.0	0.512
W1	15.0	0.591

Quantity:1500PCS / inner box

## ORDERING INFORMATION

Part Number	Size	QTY/Reel	Reel Size
SPG102-XXXX	Φ2.7*5.0mm	1500PCS	7"

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