

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: $-45^{\circ}\text{C} \sim +85^{\circ}\text{C}$


 $\Phi 1.40 \times 3.45\text{mm}$

APPLICATIONS

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

APPROVALS

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

ELECTRICAL CHARACTERISTICS

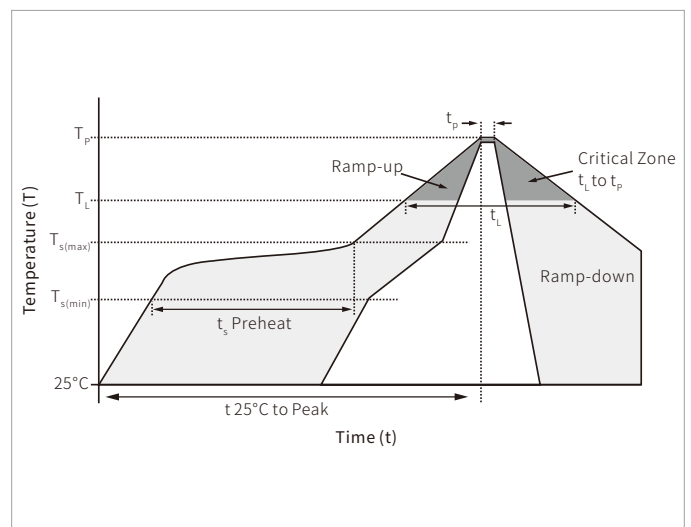
Part Number	DC Spark-Over Voltage	Min. Insulation Resistance		Max. Capacitance (1kHz-6Vmax.)	Surge Current Capacity	Nom Impulse Discharge Current
	Vs	Test Voltage	IR	Cj	8/20 μs	10x700 μs
	V	V	M Ω	pF	A	KV
SPG501-141N	140 \pm 30%	50	100	0.5	500	1.0
SPG501-201M	200 \pm 20%	100	100	0.5	500	1.0
SPG501-251M	250 \pm 20%	100	100	0.5	500	1.0
SPG501-301M	300 \pm 20%	100	100	0.5	500	1.0
SPG501-401M	400 \pm 20%	100	100	0.5	500	1.0
SPG501-501M	500 \pm 20%	100	100	0.5	500	1.0

TEST METHODS AND RESULTS

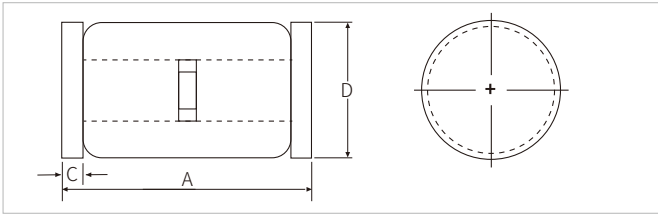
Test Item	Test Method	Specification
DC Spark-over Voltage Vs(V)	Measure starting discharge voltage (Vs) by gradually increasing applied DC voltage. Test current is 0.5mA max. And the DC voltage ascends up within 500V/second.	It depends on each spec.
Insulation Resistance	Measure the insulation resistance across the terminal at regular voltage. But the test voltage doesn't over the DC spark-over voltage.	100MΩ min.
Capacitance Cj(pF)	Measure the electrostatic capacitance by applying a voltage of less than 6V (at 1KHz) between terminals.	1pF max.
Life	10KV with 1500pf condenser is discharged through 0Ω resistor. 200 times at an interval of 10sec.	$ \Delta V_s/V_s \leq 30\%$ Characteristics of other items must meet the specified value.
Surge Current Capacity	1.2/50μs & 8/20μs, 3000A, electrically connected with a resistor (4~6 Ω), ±5 times, each time interval 60 seconds. Thereafter, outer appearance shall be visually examined.	No crack and no 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

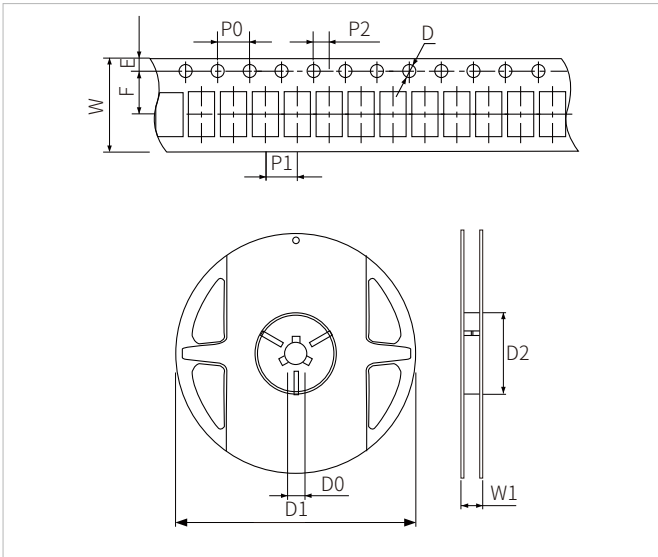


DIMENSIONS



Ref.	Dimensions
	Millimeters
A	3.45±0.2
C	0.4±0.1
D	Φ1.4±0.2

TAPING AND REEL SPECIFICATIONS



Ref.	Dimensions	
	Millimeters	Inches
W	8.0±0.3	0.315±0.012
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
E	1.75±0.1	0.069±0.004
F	3.4±0.1	0.295±0.004
D1	178±2	7.007±0.079
D0	16.7±0.15	0.657±0.006
W1	9.3±0.2	0.366±0.008
D2	59.6+1/2	2.346+0.039/-0.079

ORDERING INFORMATION

Part Number	Size	QTY/Reel	Reel Size
SPG501-XXXX	Φ1.40*3.45mm	2500PCS	7"

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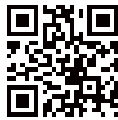
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