

Gas Discharge Tube SPA Series

Features

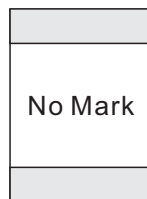
- Electronic stability
- Small volume, easy to placement machine operation
- Large flow capacity, impact resistant ability
- Static electricity capacity, good insulation
- Reaction speed is 50 ns - 150 ns



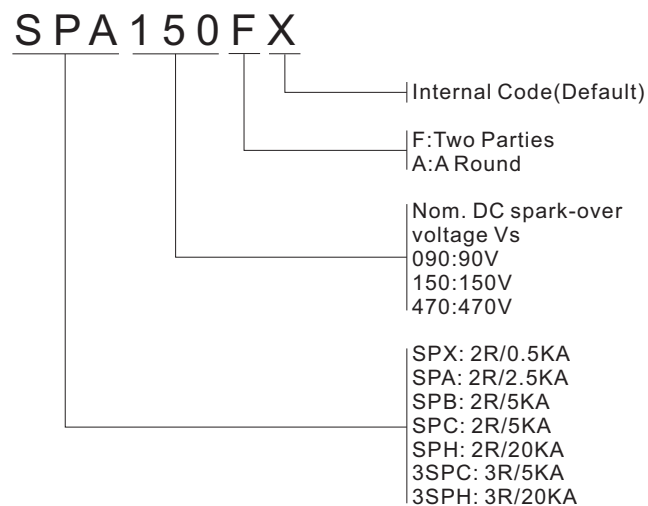
Applications

- ADSL MODEM、FAX、TELEPHONE
- RS485、RS232、CAN level of protection
- CATV
- Power supply prevents thunder common-mode protection

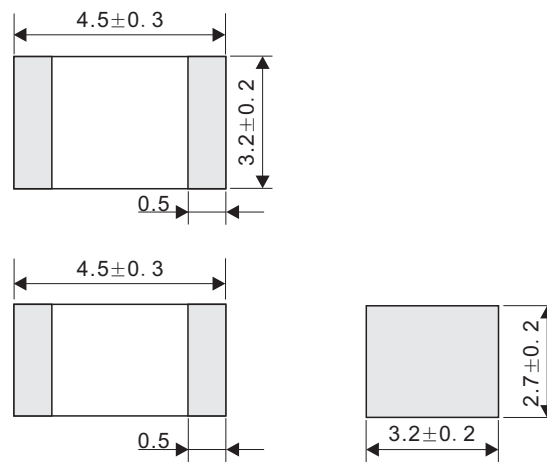
Marking Code



Product Name



Dimensions



Dimensions in millimeters

Electrical Characteristics

Part Number	DC Spark-over Voltage (@100V/s) (V)	Impulse Spark-over Voltage (@1KV/ μ s) (V)	Nom. Impulse Discharge Current (@8/20 μ s) (KA)	Nom. Alternating Discharge Current (@50HZ) (A)	Impulse Discharge Current One Operation (@8/20 μ s) (KA)	Insulation Resistance		Capacitance (pF)
						(G Ω)	(@DC) (V)	
SPA075F	75 \pm 30%	\cong 500	2.5	2	3	>1	25	<1
SPA090F	90 \pm 30%	\cong 500	2.5	2	3	>1	50	<1
SPA150F	150 \pm 30%	\cong 500	2.5	2	3	>1	50	<1
SPA230F	230 \pm 30%	\cong 500	2.5	2	3	>1	100	<1
SPA350F	350 \pm 30%	\cong 600	2.5	2	3	>1	100	<1
SPA470F	470 \pm 30%	\cong 650	2.5	2	3	>1	250	<1
SPA600F	600 \pm 30%	\cong 950	2.5	2	3	>1	250	<1

Packaging Specifications

- Packaging: 2000 pieces per reel

Initial Characteristics

Test Item	Test Method	Specification
DC-Spark-Over Voltage Vs	Add and measure the DC Voltage gradually Max to get the discharge threshold voltage. The measuring current is 1mA/1 second max. (1sec) .(1mA)	It depends on each spec.
Insulation Resistance	Measure the insulation resistance of two end of leadwire under the specified DC voltage.	100M Ω min.
Capacitance C(pF)	Electrostatic Capacitance under the test condition of 1KHz, DC 6V(max).	0.8pF max.

Surge Characteristics

Test Item	Test Method	Specification
Surge withstand capability	In the glass tube ends in 8/20 us surge tester, applying the model that corresponds to the impact resistance current, time interval for the 60 s of plus or minus the test 5 times. Test the dc voltage, insulation resistance, static capacitance and check the appearance.	DC spark-over voltage JSE: $\Delta V_s/V_s \leq 30\%$
Surge life test	Apply 10KV voltage charged in 1500pF condenser and apply the current to the specimen, 200 times at 10 seconds of intervals.	Within standard mentioned in Initial Characteristics.

Environmental Characteristics

Test Item	Test Method	Specification
Cold resistance	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	After $125 \pm 2^\circ\text{C}$ (1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	Within standard mentioned in Initial Characteristics.
Temperature resistance	After $85 \pm 2^\circ\text{C}$ RH85%(1000hrs) / room temp., normal humidity(4 hrs) cycle, measure the properties.	Within standard mentioned in Initial Characteristics.
Temperature period	25 times repetition of cycle $-40 \pm 3^\circ\text{C}$ (30 Min.), room temp., (4 Min.), $125 \pm 2^\circ\text{C}$ (30Min.), room temp., normal humidity(4hrs) .	Within standard mentioned in Initial Characteristics.
Tensile strength	Apply 2.5kgs load approximately 30 seconds, then check for pull-out and breaking of the lead wire.	Within standard mentioned in Initial Characteristics.
Bending strength	Bend the lead wire, with jig which radius is 0.75~0.8mm, at the point of 2mm from the body, under 0.25 kgs load applied at the right angle the direction of the axis and get the bent lead wire back to its original going after the procedure was repeated 2times.	Within standard mentioned in Initial Characteristics.
Resistance to soldering attachment (by solder dip)	Apply flux and immerse in molten solder, up to the point of 3mm from the body, for 5 sec. ($235^\circ\text{C} \pm 5^\circ\text{C}$). Wash the leadwire and check for soldering adhesion.	Lead wire is evenly covered by solder over 90%.
Resistance to soldering heat (by solder dip)	Apply flux and immerse in molten solder, up to the point of 3mm from the body, for 5 sec. ($235^\circ\text{C} \pm 5^\circ\text{C}$). Wash the leadwire and check for soldering adhesion.	Within standard mentioned in Initial Characteristics.