

SURGING

紹 鑫 實 業



SurgeArresters

陶瓷气体放电管

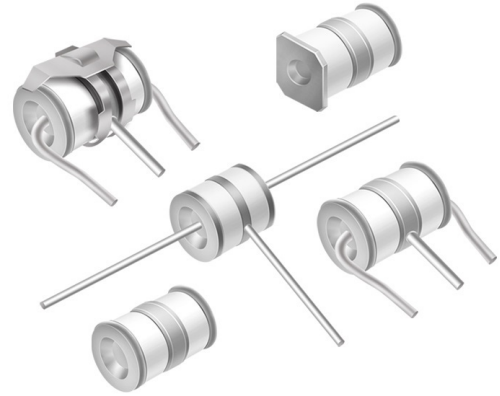
SG8 Series

Gas Discharge Tube - SG8 Series

Description

GDT is placed in front of, and in parallel with, sensitive telecom equipment such as power lines, communication lines, signal lines and data transmission lines to help protect them from damage caused by transient surge voltages that may result from lightning strikes and equipment switching operations. These devices do not influence the signal in normal operation. However, in the event of an overvoltage surge, such as a lightning strike, the GDT switches to a low impedance state and diverts the energy away from the sensitive equipment.

Our GDT offer a high level of surge protection, a broad voltage range, low capacitance, and many form factors including new surface mount devices, which makes them suitable for applications such as Main Distribution Frame (MDF) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Their low capacitance also results in less signal distortion. When used in a coordinated circuit protection solution with PolySwitch devices, they can help equipment manufacturers meet stringent safety regulatory standards.



Agency Approvals

Features

- | Excellent response to fast rising transients
- | Stable breakdown voltage
- | GHz working frequency
- | 8/20µs Impulse current capability: 20KA
- | Non-Radioactive
- | Ultra Low capacitance (<1.5pF)
- | High insulation resistance
- | Size: Φ8mm*10mm
- | Storage and operational temperature: -40~+90°C

Applications

- | Communication equipment
- | CATV equipment
- | Data lines
- | Power supplies
- | Telecom SLIC protection
- | Broadband equipment
- | ADSL equipment, including ADSL2+
- | XDSL equipment
- | Satellite and CATV equipment
- | Test equipment
- | Consumer electronics

Part Number Code

SG8 **3** - **230X** **F**

Series:
SG8系列: Φ 8*10
SE3系列: Φ 6*8

LeadType:
0=SMD
T=T shaped
3=Thrust

DCLineVoltage:
90X=90V
230X=230V
102X=1000V

Package:
F=With Fail-Short mechanism

Gas Discharge Tube - SG8 Series

Electrical Characteristics

Part Number			DC Spark-over Voltage ^{1) 2) 3)} @100V/S	Impulse Spark-over Voltage ³⁾		Insulation Resistance ⁴⁾	Capacitance @1MHz	Life Ratings			
				100V/μS	1KV/μS			Impulse Discharge Current @8/20μs ⁵⁾		Alternating Discharge Current @50Hz 1S ⁵⁾	Impulse Life @10/1000μS
				Max	Max			±5 times	1 time		
				V	V			GΩ	pF	KA	KA
SG83-75X	SG83-75XF	SG81-75X	75±20%	500	600	1	1.5	20	25	20	200
SG83-90X	SG83-90XF	SG81-90X	90±20%	500	600	1	1.5	20	25	20	200
SG83-150X	SG83-150XF	SG81-150X	150±20%	500	600	1	1.5	20	25	20	200
SG83-200X	SG83-200XF	SG81-200X	200±20%	600	700	1	1.5	20	25	20	200
SG83-230X	SG83-230XF	SG81-230X	230±20%	600	700	1	1.5	20	25	20	200
SG83-250X	SG83-250XF	SG81-250X	250±20%	600	700	1	1.5	20	25	20	200
SG83-350X	SG83-350XF	SG81-350X	350±20%	800	900	1	1.5	20	25	20	200
SG83-400X	SG83-400XF	SG81-400X	400±20%	850	950	1	1.5	20	25	20	200
SG83-420X	SG83-420XF	SG81-420X	420±20%	850	950	1	1.5	20	25	20	200
SG83-470X	SG83-470XF	SG81-470X	470±20%	900	1000	1	1.5	20	25	20	200
SG83-600X	SG83-600XF	SG81-600X	600±20%	1100	1200	1	1.5	20	25	20	200
SG83-800X	SG83-800XF	SG81-800X	800±20%	1400	1500	1	1.5	20	25	20	200
Glow Voltage at 10mA.....				~60V							
Arc Voltage at 1A.....				~10V							
Glow to Arc transition Current.....				~1A							
Operation and storage temperature.....				-40~+90°C							
Climatic category (IEC60068-1).....				40/90/21							
Marking, red negative.....				SURGING xxx xxx -Nominal voltage							
Weight.....				DIP ~2.10g DIP-F ~2.35g DIP-T ~2.15g							
Surface treatment.....				DIP -Nickel Plated							

¹⁾ At delivery AQL 0.65 level II, DIN ISO 2859

²⁾ In ionized mode

³⁾ Tip or ring electrode to center electrode

⁴⁾ Insulation Resistance Measuring Voltage:

75V~150V at DC 50V


Other at DC 100V

⁵⁾ Total current through center electrode, half value through tip respectively ring electrode.

Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T18802.311, GB/T 9043.

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Certifications table

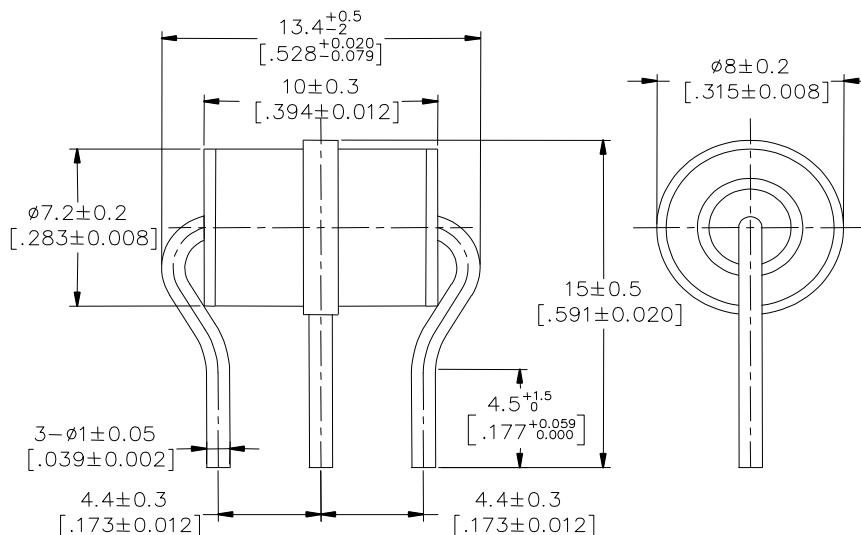
Part Number	 UL497B
SG83-75X	•
SG83-90X	•
SG83-150X	•
SG83-200X	--
SG83-230X	•
SG83-250X	--
SG83-350X	•
SG83-400X	•
SG83-420X	•
SG83-470X	•
SG83-600X	•
SG83-800X	--

Notes:

- indicates that the product has passed the certification.
- indicates that the product is not certified.

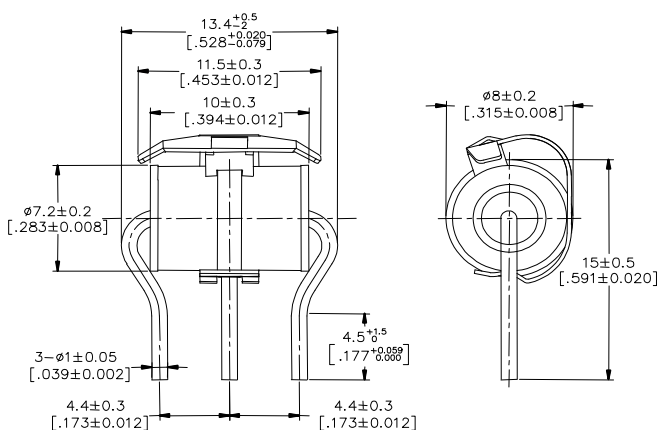
Dimensions (Unit: mm/inch)

DIP Series (SG83-xxxX)

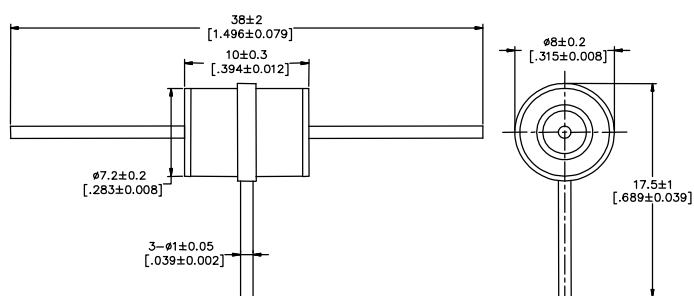


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DIP-F Series (SG83-xxxXF)



DIP-T Series (SG81-xxxX)




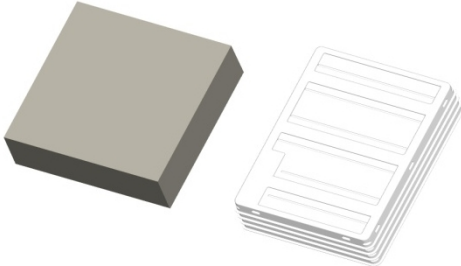
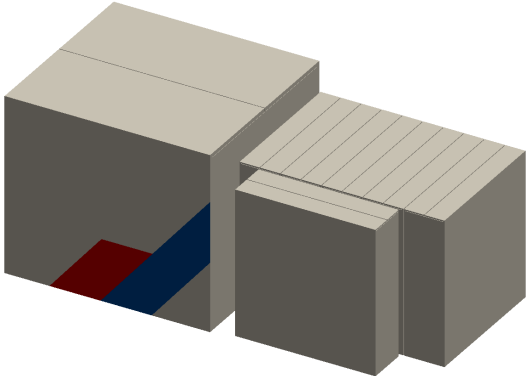
Packaging Information

“DIP Series” and “DIP-F Series” Packaging (Bulk)

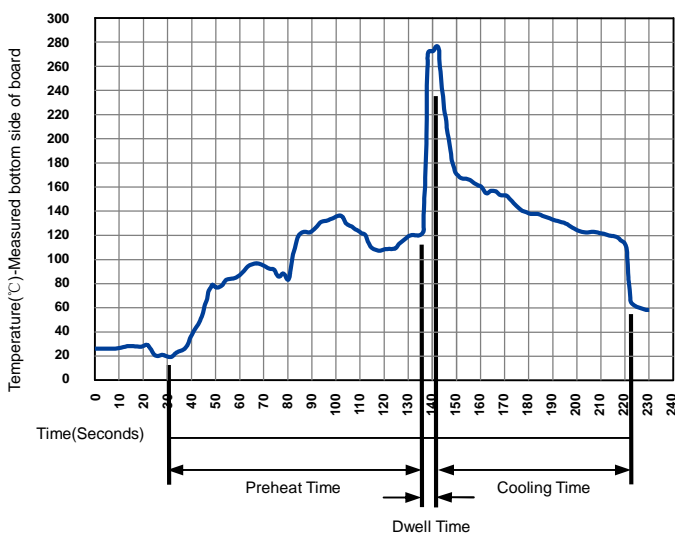
	PVC tray	Inner Box	Carton
Size	220×210×12mm	225×215×62mm	315×290×272mm
Quantity	MPQ: 1 tray=100pcs	MOQ: 1 Inner Box=5 trays=500pcs	1 Carton=6 Inner boxes=3,000pcs
Photos			

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“DIP-T Series” Packaging

	PVC tray	Inner Box	Carton
Size	258×205×16.2mm	225×215×62mm	315×290×272mm
Quantity	MPQ: 1 tray=50pcs	MOQ: 1 Inner Box=4 trays=200pcs	1 Carton=6 Inner boxes=2,000pcs
Photos			

Soldering Parameters - Wave soldering (Thru-Hole Devices)



Wave Soldering Condition		Pb-Free assembly
Preheat	Temperature Min	100°C
	Temperature Max	150°C
	Time (Min to Max)	60-180 Seconds
Solder Pot Temperature		280°C Max
Solder Dwell Time		2-5 Seconds

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Terms and definitions

NO.	Item	Definitions
1	Gas discharge tube(GDT)	A gap, or several gaps, in an enclosed discharge medium, other than air at atmospheric pressure, designed to protect apparatus or personnel, or both, from high transient voltages. Also referred to as "gas tube surge arrester".
2	DC Spark-over Voltage	The voltage at which the gas discharge tube sparks over with slowly increasing d.c. voltage.
3	Impulse Spark-over Voltage	The highest voltage which appears across the terminals of a gas discharge tube in the period between the application of an impulse of given wave-shape and the time when current begins to flow.
5	Arc voltage	Voltage drop across the GDT during arc current flow.
6	Glow voltage	Peak value of voltage drop across the GDT when a glow current is flowing.
7	Impulse discharge current 8/20μs	Current impulse with a nominal virtual front time of 8 μ s and a nominal time to half-value of 20 μ s.
8	Alternating Discharge Current	The rms value of an approximately sinusoidal alternating current passing through the gas discharge tube.
9	Insulation Resistance	Insulation resistance shall be measured from each terminal to every other terminal of the GDT. The test is performed with DC50V when normal spark-over Voltage 70~150V, others with DC100V.
10	Capacitance	The capacitance shall be measured once at 1 MHz between all terminals unless otherwise specified.

Cautions and warnings

- I Do not operate surge arresters in power supply networks, whose maximum operating voltage exceeds the minimum spark-over voltage of the surge arresters.
- I Surge arresters may become hot in the event of longer periods of current stress (burn risk). In the event of overload the connectors may fail or the component may be destroyed.
- I If the contacts of the surge arresters are defective, current load can cause sparks and loud noises.
- I Surge arresters must be handled with care and must not be dropped.
- I Do not continue to use damaged surge arresters.