

Gas Discharge Tubes

Heavy Duty Delta Range

SL1411A Series Two-terminal Gas Plasma Arrester

The Greentube™ SL1411A (Delta) Series Gas Plasma Arrester (improved gas discharge tube (GDT)) features is a highperformance transient voltage suppressor designed for heavyduty protection of telecom and industrial equipment.

The Delta range offers high levels of performance and durability on fast-rising transients in the domain of 100 V/µS to 1 kV/µS, which are those most likely from induced lightning disturbances. The high surge rating of these devices makes them ideal for arduous service conditions and Outside Plant locations.

The Delta range also features ultra low capacitance (typically 1 pF or less) and optimized internal geometry which provides low insertion loss at high frequencies, so are ideal for the protection of broadband equipment.

FEATURES

- RoHS compliant and Lead-free
- Can be used to meet the requirements of GR-1361, RUS PE-80, ITU K.12 and YD/T940, 950, 1082, 993, 694
- Excellent response to fast rising transients
- Up to 1.5 gHz working frequency
- 10 kA surge capability tested with 8/20µS pulse as defined by IEC 61000-4-5 (20 kA for 90 V)
- 20,000 A single shot surge capability tested with 8/20µs pulse as defined by IEC 61000-4-5
- Excellent service life characteristics

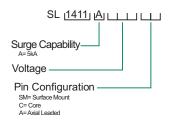
Applications:

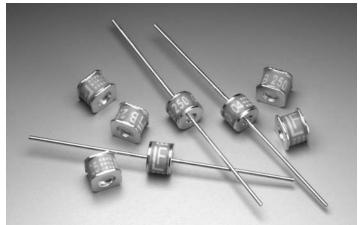
- Outside Plant and MDF protector modules.
- ADSL equipment.
- XDSL equipment (including ADSL2, VDSL, VDSL2).
- Satellite and CATV equipment.
- · General telecom equipment.
- Cell phone base stations.

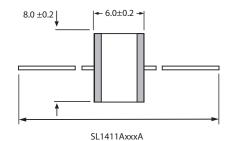


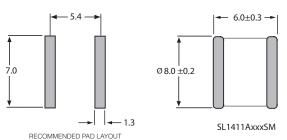
2 ELECTRODE GDT

ORDERING INFORMATION

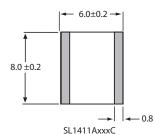












All dimensions in mm

Mechanical Specifications:

Weight: 2.7g (0.095 oz.)

Materials: Electrode Base: Nickel Iron Alloy

Electrode Plating: Bright Sn

Body: Ceramic

Device Marking: Littelfuse 'LF' marking, Voltage and

date code.



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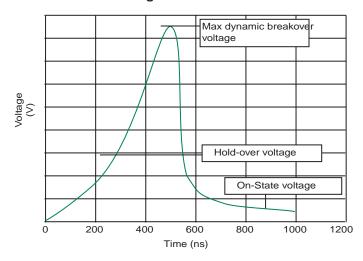
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Part Number*	DC Breakover Voltage @100 V/s ^{1,2} Volts		MAX Dynamic Breakover Voltage³		AC Discharge	Max Repetitive Impulse	MAX Single Impulse Current		Max Leakage	Holdover	Nominal On-state Voltage
	MIN	MAX	100 V/µs Volts	1kV/µs Volts	Current ⁴ Amps	Current ³ kAmps	8/20 µs kAmps	10/350 µs kAmps	Current ⁶ nAmps	Voltage ^{7,8} Volts	@1A Volts
SL1411A075	60	90	450	700	10	10	20	3	50	50	20
SL1411A090	72	108	450	700	10	10	20	3	50	50	20
SL1411A230	184	276	450	650	10	10	20	3	100	135	20
SL1411A250	200	300	475	700	10	10	20	3	100	135	20
SL1411A350	280	420	600	800	10	10	20	3	100	135	20
SL1411A470	400	540	700	1000	10	10	20	3	100	135	20
SL1411A600	510	690	850	1100	10	10	20	3	100	135	20
SL1411A800	680	920	1100	1300	10	10	20	3	100	135	20
SL1411A1000	850	1150	1300	1500	10	10	20	3	100	135	20

^{*}Max capacitance is 1.5 pF, measured at 1 MHz.

- 1. At delivery AQL 0.65 level II, DIN ISO 2859
- 2. In ionized mode
- 3. Comparable to the silicon measurement Switching Voltage (V_S)
- 4. 10 shots, AC 60 Hz, 1µs duration
- 5. 10 shots, 8/20 µs waveform
- 6. Measured at 100 V, except for devices 90 VDC which are measured at 50 V
- 7. With network applied, 52V for 75 VDC and 90VDC ratings
- 8. Tested according to ITU-T Rec. K 12

Voltage vs Time Characteristic



Service Life Rating

10A, 10/1000µs, 1500 operations 100A, 10/1000µs, 100 operations 300A, 10/1000µs, 50 operations