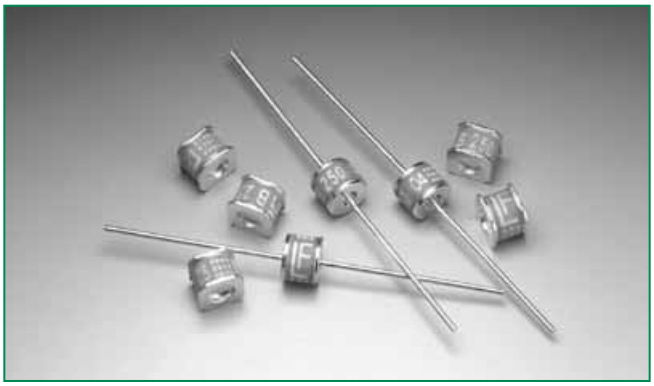
SL1411A Series Two-terminal Gas Plasma Arrester



Agency Approvals

AGENCY	AGENCY FILE NUMBER
®ℛ	E128662

2 Electrode GDT Graphical Symbol

Description

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

The Delta range provides high levels of protection against fast rising transients measuring 100V/µs to 1kV/µs and is usually caused by 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

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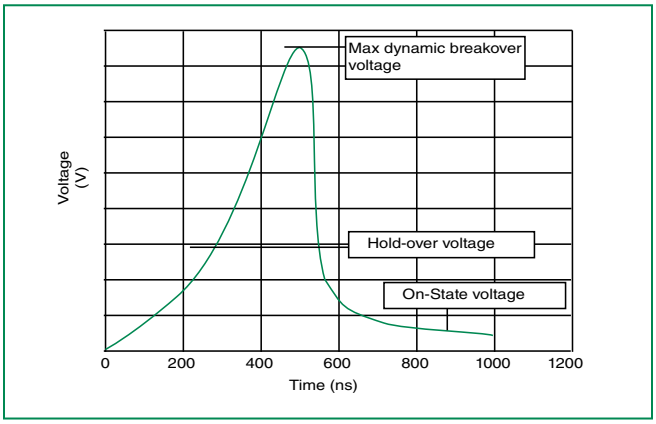
Electrical Characteristics

Part Number*	DC Breakover Voltage @100 V/s [1,2] Volts		MAX Dynamic Breakover Voltage		AC Discharge Current[4] Amps	Max Repetitive Impulse Current[3] kAmps	Max Single Impulse Current		Max Leakage Current [6] nAmps	Holdover Voltage[7,8] Volts	Nominal On-state Voltage @ 1A Volts
	MIN	MAX	100 V/µs Volts	1kV/µs Volts			8/20µs kAmps	10/350µs kAmps			
SL1411A075	60	90	500	700	10	10	20	3	50	50	20
SL1411A090	72	108	500	600	10	10	20	3	50	50	20
SL1411A150	120	180	500	600	10	10	20	3	50	50	20
SL1411A230	184	276	550	700	10	10	20	3	100	135	20
SL1411A250	200	300	600	800	10	10	20	3	100	135	20
SL1411A350	280	420	800	900	10	10	20	3	100	135	20
SL1411A470	400	540	1000	1100	10	10	20	3	100	135	20
SL1411A600	510	690	1250	1400	10	10	20	3	100	135	20
SL1411A800	680	920	1400	1600	10	10	20	3	100	135	20
SL1411A1000	850	1150	1600	1800	10	10	20	3	100	135	20

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

NOTES:
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, 1s 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

Physical Specifications

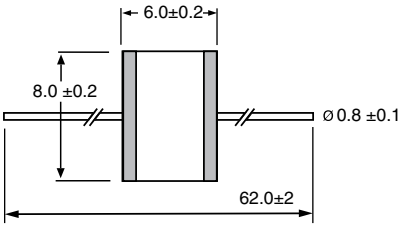
Weight:	1.5 g
Plating Materials:	"SM" and "C" surface mount devices: Dull tin base on nickel "A" axial leaded devices: Core: Nickel Lead wire: Hot dip tin
Part Marking:	Littelfuse 'LF' marking, Voltage and date code.

Environmental Specifications

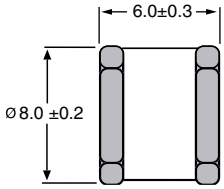
Component	Storage Temperature	Operating Temperature
Standard GDT	-40°C to +150°C	-40°C to +100°C
GDT with failsafe	-40°C to +70°C	-40°C to +70°C

Dimensions mm [inches]

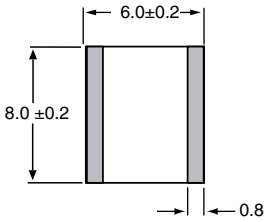
SL1411AxxxA



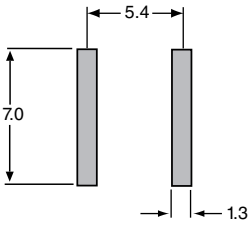
SL1411AxxxSM



SL1411AxxxC



RECOMMENDED PAD LAYOUT
FOR "SM" AND "C"
SURFACE MOUNT DEVICES



Part Numbering System

SL1411 A xxx xx

- Series
- Surge Capability
  - A= 5kA
- Voltage
- Configuration
  - SM= Surface Mount
  - C= Core
  - A= Axial Leaded