

SL1010A Series



Description

The SL1010A Series Gas Discharge Tube (GDT) offers a compact, three-terminal, surface mount component that's just 5mm in diameter. It is rated for 10 hits (± 5 repetitions) of a 5kA 8/20 μ s surge event with a low off-state capacitance of 1.5pF. Its low arc voltage parameter of 10V reduces thermal accumulation during long-term power fault events.

Agency Approvals

AGENCY	AGENCY FILE NUMBER
	E128662

3 Electrode GDT Graphical Symbol



Features

- 5mm diameter size
- Low insertion loss
- Fast response time
- Single component balanced protector (T-grd & R-grd)
- High current rating
- Stable performance over lifetime
- Lead-free and RoHS compliant
- UL Recognized

Applications

- Data lines
- Broadband interfaces such as ADSL2/VDSL2
- xDSL equipment
- Satellite and CATV equipment
- General telecom equipment
- Industrial automation
- Home gateway

Electrical Characteristics

Part Number	Device Specifications (at 25°C)								Nominal Impulse Discharge Current (x1@10/350μs)	
	DC Breakdown in Volts ^{1,2,3} (@100V/s)			Impulse Breakdown in Volts ^{2,3} (@100V/μs)	Impulse Breakdown In Volts ^{2,3} (@1kV/μs)	Insulation Resistance	Capacitance (@1MHz 0V Bias)	Arc Voltage (on state Voltage) @1Amp Min		
	MIN	TYP	MAX	MAX		MIN	MAX			
SL1010A090	72	90	108	550	700	>1GΩ (at 50VDC)	<1.5 pF	~10 V	5kA	1kA
SL1010A170	136	170	204		700					
SL1010A230	184	230	276		750					
SL1010A350	280	350	420		1000					
SL1010A470	376	470	564		950					

Notes:

1. At delivery AQL 0.65 level II, DIN ISO 2859
2. In ionized mode, tested according to ITU-T Rec. K.12
3. Comparable to the silicon measurement Switching Voltage (Vs)

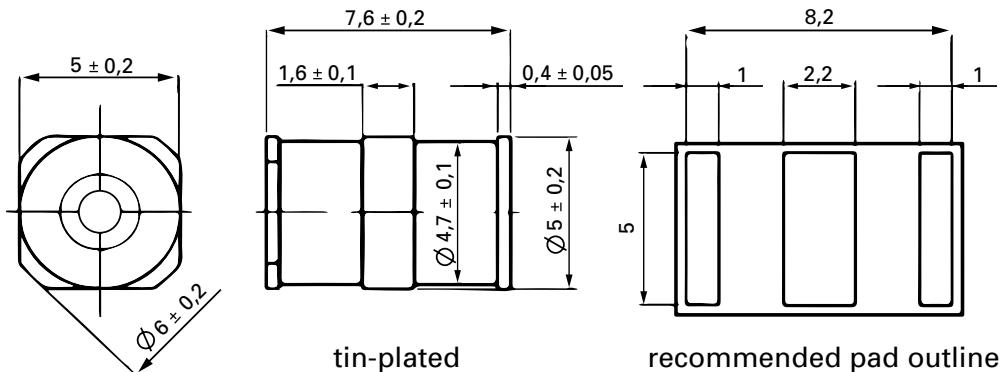
Product Characteristics

Materials	Construction: Ceramic Insulator Device Finish: Dull Tin-plated 17.5 +/- 12.5 microns	Glow to Arc Transition Current	~1 Amp
Product Marking	Littelfuse 'LF' Mark, voltage and date code	Glow Voltage	~60 Volts
		Storage and Operational Temperature	-40 to +90°C

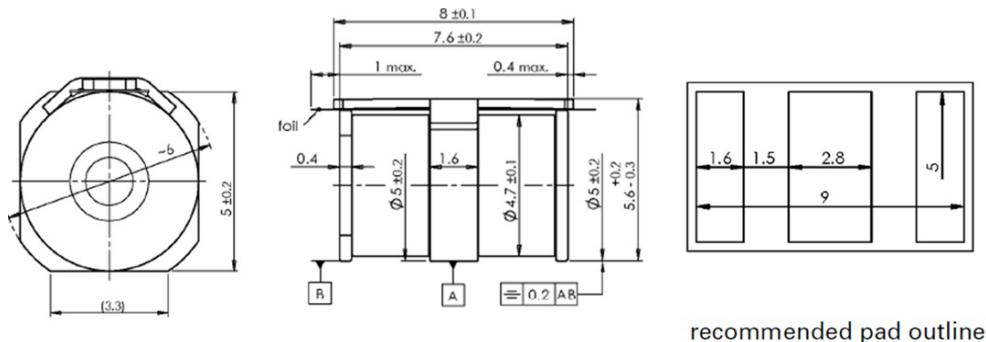
Device Dimensions

For SL1010A series:

Dimensions are in millimeters [and inches]



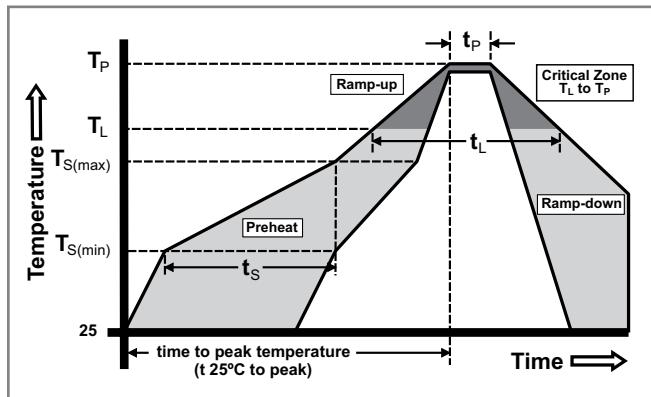
For SL1010A series failsafe version:



recommended pad outline

Soldering Parameters - Reflow Soldering (Surface Mount Devices)

Reflow Condition		Pb-free assembly
Pre Heat	-Temperature Min ($T_{s(\min)}$)	150°C
	-Temperature Max ($T_{s(\max)}$)	200°C
	-Time (Min to Max) (t_s)	60 – 180 seconds
Average Ramp-up Rate (Liquidus Temp (T_L) to peak)		3°C/second max.
$T_{S(\max)}$ to T_L - Ramp-up Rate		5°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 ^{+0/-5} °C
Time within 5°C of Actual Peak Temperature (t_p)		10 – 30 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C



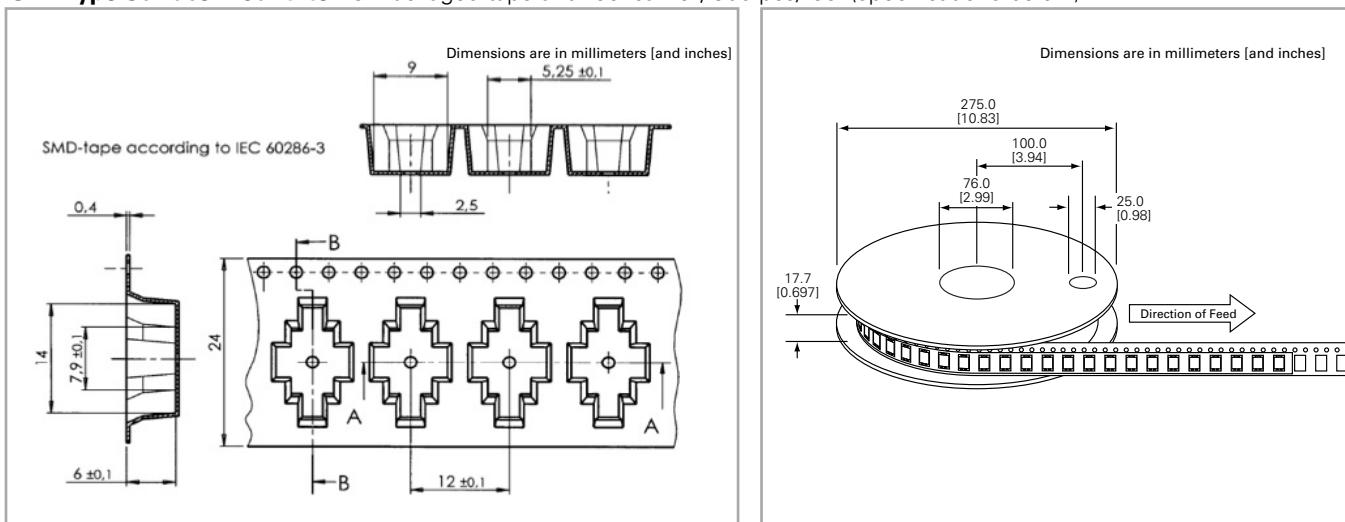
Soldering Parameters - Hand Soldering

Solder Iron Temperature: 350° C +/- 5°C

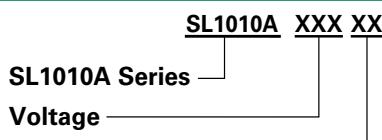
Heating Time: 5 seconds max.

Packaging

'SM' Type Surface Mount Items: Packaged tape and reel carrier, 900 pcs/reel (specifications below)



Part Numbering System and Ordering Information



Pin Configuration

SM = Surface Mount (Packed in carrier and tape, 900pcs/reel)
SMF = Surface Mount with Failsafe (Packed in carrier and tape, 900pcs)