

SL1021A/B Series









Agency Approvals

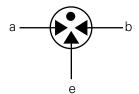
AGENCY

AGENCY FILE NUMBER

Al:

E128662

3 Electrode GDT Graphical Symbol



a = TIP b = RING e = GROUND (center electrode)

Features

- RoHS compliant
- Low insertion loss
- Excellent response to fast rising transients
- Ultra low capacitance
- 10KA (A suffix devices) / 20KA (B suffix devices) surge capability tested with 8/20µs pulse as defined by IEC 61000-4-5
- Available with thermal failsafe option (add 'F' suffix to part number)

Applications

SL1021:

- Broadband equipment
- ADSL equipment
- XDSL equipment
- Satellite and CATV equipment
- Splitters
- General telecom equipment

- Telecom network interfaces
- Telephone line cards
- Repeaters
- Modems
- Line test equipment

Description

GDT circuit protection devices dissipate electrical surge energy safely within a contained plasma gas. Commonly used to help protect sensitive telecom and networking equipment and lines, GDTs protect from damage that may result from lightning strikes and equipment switching operations.

The Littelfuse GDT series described in this document are available in a variety of leaded and surface mount forms and offered with and without optional fail-safe clip. Please refer to the electrical specifications, dimension and packaging options section of this document for additional information.

SL1021A/B Series:

SL1021A/B series GDTs are designed to offer high levels of performance on fast rising transients in the range of 100V/µS to 1KV/µS, which are those most likely created by induced lightning disturbances.

These devices feature ultra low capacitance (typically 1.5pF or less) and are extremely robust with SL1021A devices able to divert a 10,000 Amp pulse without destruction, and SL1021B suffix devices able to divert a 20,000 Amp pulse without destruction.

These series offer optimized internal geometry which provide low insertion loss at high frequencies, ideal for the protection of broadband and other high speed transmission equipment.

Product Characteristics

Materials	Dull Tin Plate 17.5 ± 12.5 Microns. with ceramic insulator
Product Marking	'LF' mark, voltage& date code: SL1021A - Red /White text SL1021B - Blue /White text
Glow to arc transition current	~ 1Amp
Glow Voltage	~60-200 Volts
Storage and Operation Temperature	-40 to +90°C
Transverse Voltage (Delay Time)	< 0.2μSec (Tested to ITU-T Rec. K.12)
Arc Voltage	~10 to 35 Volts
Holdover Voltage	<150mS (Tested to ITU-T Rec. K.12)



Electrical Characteristics

Device Specifications (at 25°C)					Life Ratings										
Part Number	DC Voltage 100V/Sec.		DC Voltage 100 V/	DC Voltage 1kV/	Capaci- tance	Insulation Resistance	AC Current 50Hz	Surge Current 8/20µSec	Max Single Surge	Max Single Surge	Surge Life 10/1000				
	MIN	TYP	MAX	μSec.	μSec.	(@1Mhz)	MIN	1Sec.x10 ¹	x10 ¹	8/20µSec ¹	10/350µSec¹	μSecx300¹			
SL1021B075	60	75	90		650		>10 ¹⁰ Ω (at 50V)	10Amps 10k			4kA² 5kA³	200Amps			
SL1021A090 SL1021B090	72	90	108		030										
SL1021A145 SL1021B145	116	145	174	500 600	600										
SL1021A150 SL1021B150	120	150	180												
SL1021A200	150	200	250			700 <1.5pF 850 900 950									
SL1021A230 SL1021B230	184	230	276	450	650				10kA² 20kA³	15kA² 25kA³					
SL1021A250 SL1021B250	200	250	300	500											
SL1021A260 SL1021B260	210	260	310	550	700										
SL1021A300 SL1021B300	240	300	360	650	850				850	>10 ¹⁰ Ω (at 100V)		2010 (2010 (2.5kA² 5kA³	
SL1021A350 SL1021B350	280	350	420	700	900										
SL1021A400 SL1021B400	320	400	480	850	950										
SL1021A420 SL1021B420	345	420	500												
SL1021A450 SL1021B450	360	450	540	900	1000										
SL1021A500 SL1021B500	400	500	600	950	1100										
SL1021A600	480	600	720	1000	1200										

NOTES

- 1. Total current through centre electrode, tested in accordance with ITU-T Rec K.12
- 2. SL1021A series
- 3. SL1021B series

Additional Information



Datasheet SL1021A



Datasheet SL1021B



Resources SL1021A



Resources SL1021B

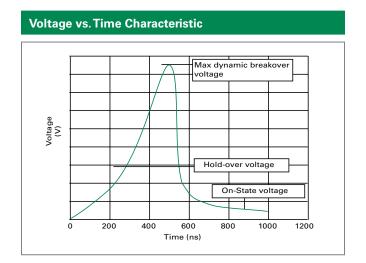


Samples SL1021A



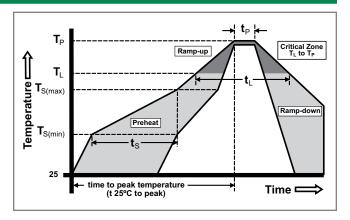
Samples SL1021B





Soldering Parameters - Reflow Soldering (Surface Mount Devices)

Reflow Co	ndition	Pb – Free assembly	
	-Temperature Min (T _{s(min)})	150°C	
Pre Heat	-Temperature Max (T _{s(max)})	200°C	
	-Time (Min to Max) (t _s)	60 – 180 secs	
Average ra	amp up rate (Liquidus Temp k	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	
PeakTemp	erature (T _P)	260 ^{+0/-5} °C	
Time with	in 5°C of actual peak ure (t _p)	10 – 30 seconds	
Ramp-dov	vn Rate	6°C/second max	
Time 25°C	to peakTemperature (T _P)	8 minutes Max.	
Do not exc	ceed	260°C	

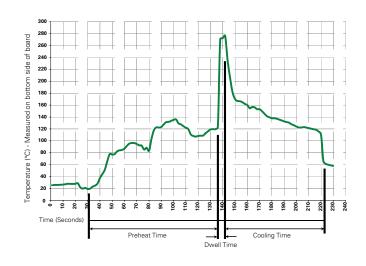


Soldering Parameters - Hand Soldering

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

Heating Time: 5 seconds max.

Soldering Parameters - Wave Soldering (Thru-Hole Devices)



Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation		
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)		
Temperature Minimum:	100° C		
Temperature Maximum:	150° C		
Preheat Time:	60-180 seconds		
Solder Pot Temperature:	280° C Maximum		
Solder DwellTime:	2-5 seconds		

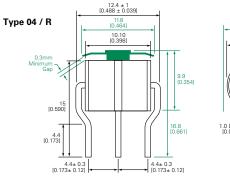
Note: Surge Arrestors with a Failsafe mechanism should be individually examined after soldering



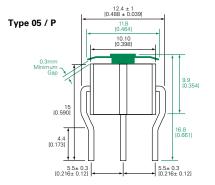
Device Dimensions

NOTE: Failsafe option dimensions shown in green.

Shaped Radial Leaded Devices:

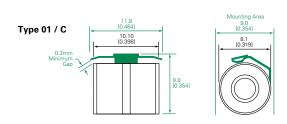




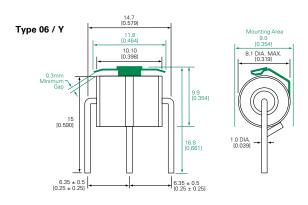




Core Devices:



Straight Radial Leaded Devices:



Straight "T" Leaded Devices:

Type 14 / X

50 ± 3
[1.566 ± 0.118]

11.8
[0.464]
10.10
[0.398]

10.10
[0.398]

10.10
10.10
10.398]

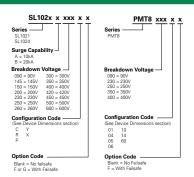
23.8
[0.937]

10.01A.
10.01A.
10.01A.
10.01A.
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10.038|

Type "R" is available for SL1021B075 device only.

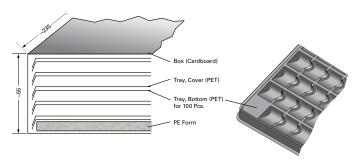


Part Numbering System and Ordering Information

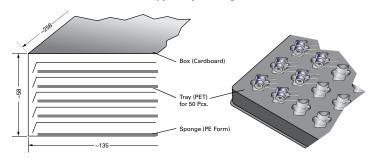


Packaging

For 'SL1021A/B' device type C, R, P, Y packing



For 'SL1021A/B' device type X packing



Device Type	Description	Quantity
Type C	100pcs/tray x 5 trays per carton	500
Type R	100pcs/tray x 5 trays per carton	500
Type P	100pcs/tray x 5 trays per carton	500
Type Y	100pcs/tray x 5 trays per carton	500
Type X	50pcs/tray x 5 trays per carton	250

^{*} Please contact the factory for further packaging information.