

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.

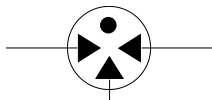
Agency Approvals

| Agency | Agency File Number |
|--------|--------------------|
| | E128662 |

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

3 Electrode GDT Graphical Symbol



Applications

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

Additional Information



Datasheet



Resources



Samples

Electrical Characteristics

| Part Number | Device Specifications (at 25°C) | | | | | | | | | |
|-------------|--|-----|-----|--|---|-----------------------|-----------------------------|--|---|--|
| | 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 | Nominal Impulse Discharge Current (x10 @8/20μs) | Nominal Impulse Discharge Current (x1 @10/350μs) |
| | MIN | TYP | MAX | MAX | | MIN | MAX | | | |
| SL1010A075 | 60 | 75 | 90 | 450 | 600 | >1GΩ (at 50VDC) | <1.5 pF | ~10 V | 5kA | 1kA |
| SL1010A090 | 72 | 90 | 108 | 550 | 700 | | | | | |
| SL1010A170 | 136 | 170 | 204 | | | | | | | |
| SL1010A230 | 184 | 230 | 276 | 580 | 750 | | | | | |
| SL1010A350 | 280 | 350 | 420 | 850 | 1000 | | | | | |
| SL1010A420 | 335 | 420 | 504 | 650 | 850 | | | | | |
| SL1010A470 | 376 | 470 | 564 | 800 | 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)
4. Total current through center electrode at 10kA, through side electrode respectively at 5kA

Product Characteristics

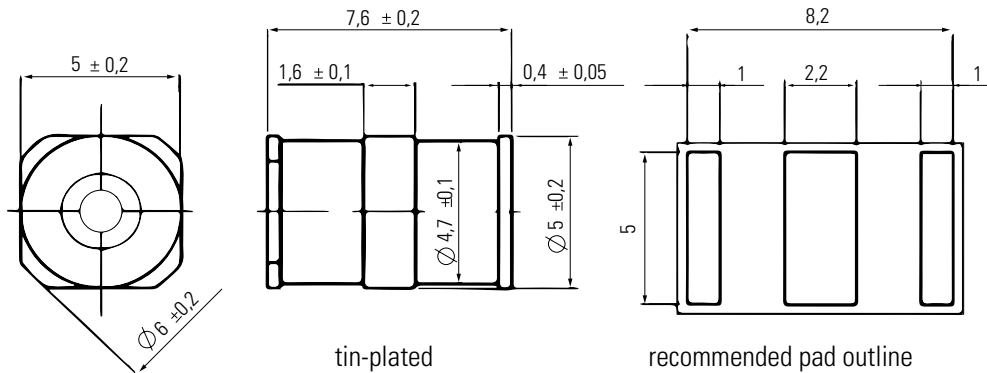
| | |
|------------------------|--|
| Materials | Construction: Ceramic Insulator |
| | Device Finish: Dull Tin-plated 17.5 +/- 12.5 microns |
| Product Marking | Littelfuse 'LF' Mark, voltage and date code |

| | |
|--|--------------|
| Glow to Arc Transition Current | ~1 Amp |
| Glow Voltage | ~60 Volts |
| Storage and Operational Temperature | -40 to +90°C |

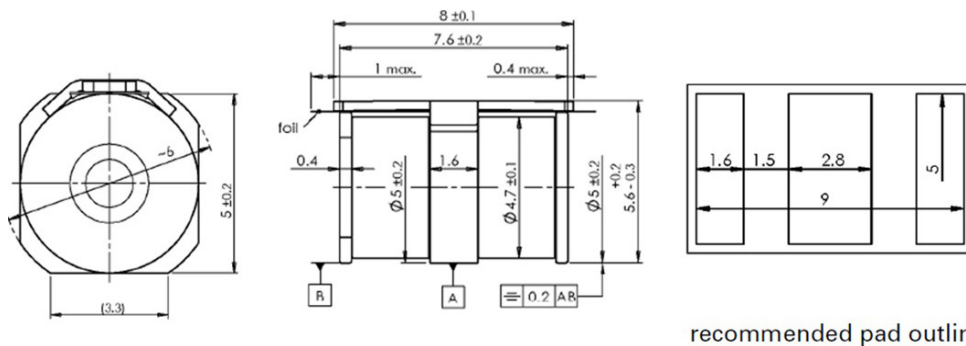
Device Dimensions

For SL1010A series:

Dimensions are in millimeters [and inches]

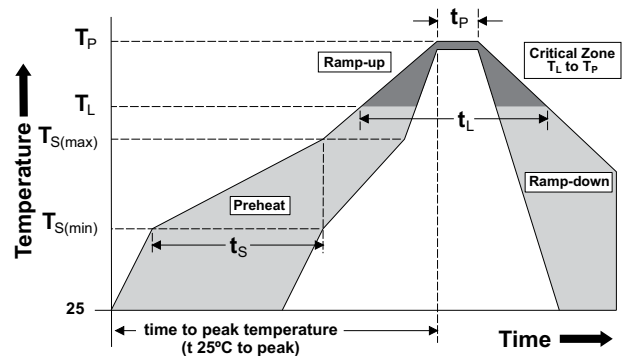


For SL1010A series failsafe version:



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_t) | 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 |

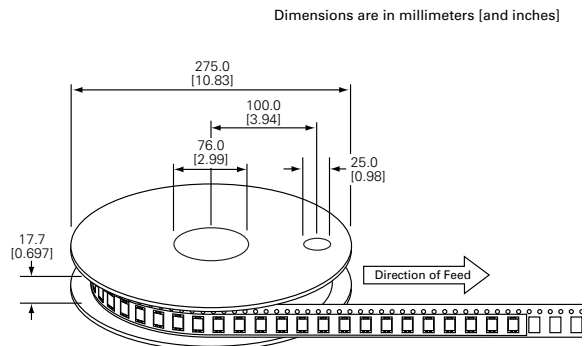
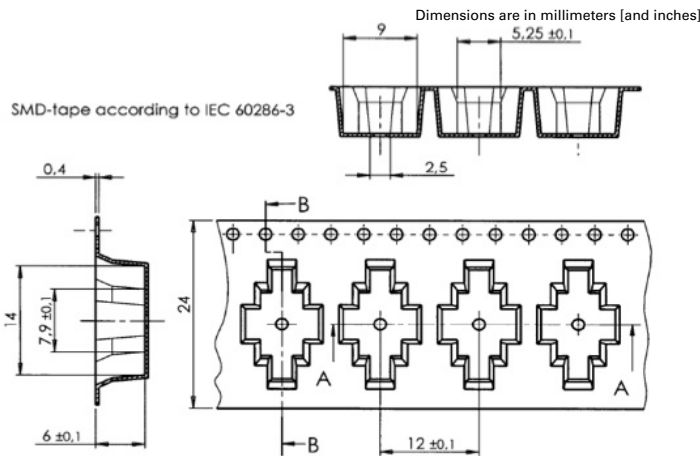


Soldering Parameters - Hand Soldering

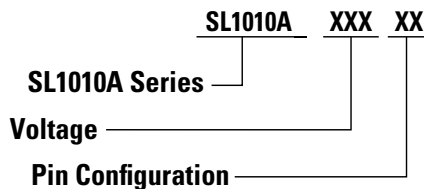
Solder Iron Temperature: 350° C +/- 5°C
Heating Time: 5 seconds max.

Packaging

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



Part Numbering System and Ordering Information



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

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