

Switching Gas Discharge Tubes

Gas Plasma Voltage Dependent Switches

RoHS LT Series

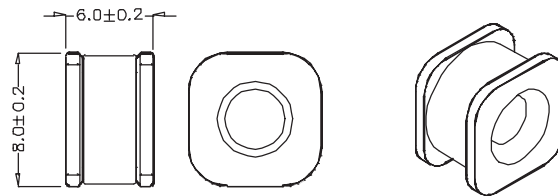
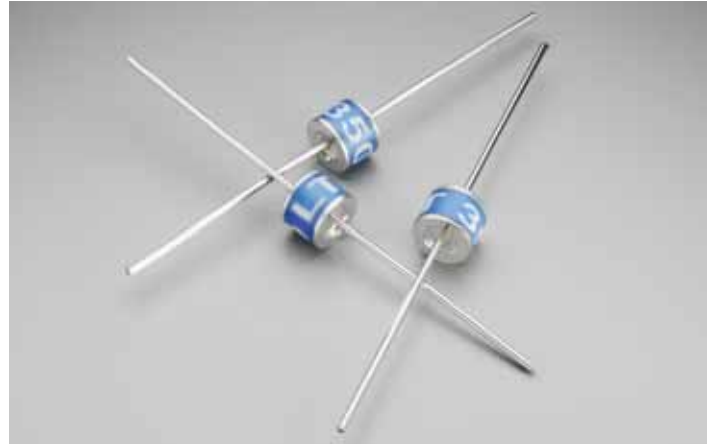
The LT Series is a 2-terminal bi-directional, voltage triggered switch is designed for ignition circuits used in high pressure HID lighting. Switching voltages for the devices are fixed depending on the part number selected. The gas plasma trigger technology offers very fast switching speeds, resulting in significantly better di/dt values when compared to silicon based SIDAC devices. Due to the high switching voltage of the devices, step-up transformer sizes and specifications can be reduced saving cost, size and weight.

Features

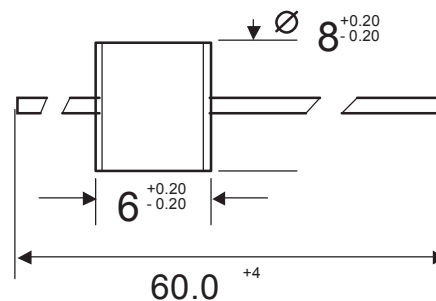
- RoHS compliant
- Ceramic chamber for ultimate reliability.
- Very high switching speed once switching voltage has been reached, resulting in high di/dt to be generated enabling the best performance to be extracted from ignition transformers.
- Tape and reel to EIA 481-1

Applications

- For switching stored electrical energy (such as capacitive discharge) at predetermined voltages.
- Designed for ignition circuits used in high pressure HID lighting.



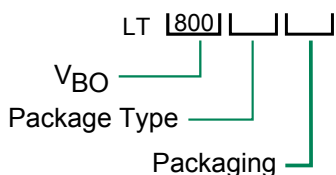
LT xxx SM



LTxxx A

Dimensions in mm

ORDERING INFORMATION



A= Axial lead, tape and Reel
SM= Surface Mount

Mechanical Specifications:

Weight (ballast circuit only): 1.42g (0.049oz.)

Materials: Electrode Base: Copper alloy
Electrode Plating material: Bright Sn
Body: Ceramic

Device Marking: Littelfuse 'LF' marking, voltage and product code (red print)

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Device Ratings and Specifications

| Part Number | $V_{BO}^{(1)}$ (V) | V_S (V) | $V_T @ 5A$ (V) | $I_{DRM}^{(2)}$ (A) | $I_{BO}^{(3)}$ (mA) | $C_O^{(4)}$ (pF) | V_{BO} to V_T (nS) |
|-------------|--------------------|-----------|----------------|---------------------|---------------------|------------------|------------------------|
| LT230 | 195 - 265 | 184 - 276 | 15 | 1.0 | 50 | 2.0 | 25 |
| LT800 | 680 - 920 | 640 - 960 | 15 | 1.0 | 50 | 2.0 | 25 |

Electrical Life:

Switching Cycles ⁽⁵⁾ 400,000
 Peak Discharge Current ⁽⁵⁾ 400 A

Maximum Ratings:

Max Switching Frequency 100 Hz
 Storage Temperature T_{STG} -40 - +150°C
 Operating Temperature -40 - +150°C

Notes:

- (1) Measured on recommended test circuit (fig 1.)
- (2) Measured @ 100 Volts DC
- (3) Current required for transition to on-state
- (4) Measured @ 1 MHz, zero Volt bias
- (5) Measured on recommended test circuit (fig 2.)

Definitions:

- V_{BO} – Breakover Voltage
- V_S – Switching Voltage
- $V_T @ 5A$ – Nominal Off-state Voltage at 5A
- I_{DRM} – Off-state Current
- I_{BO} – Nominal Breakover Current
- C_o - Max Capacitance
- V_{BO} to V_T – Max switching time from V_{BO} to V_T

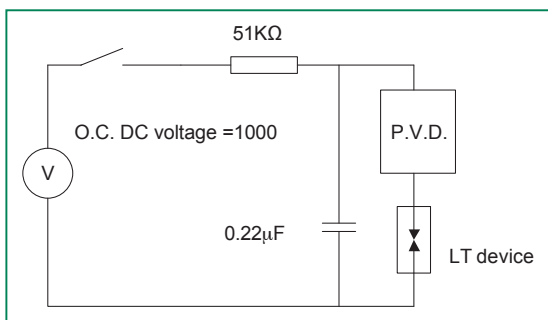


Fig 1. Recommended breakover voltage test circuit
 (Discharge current = 10-20mA, sensitivity of Peak Voltage Detect = 10-30mA)

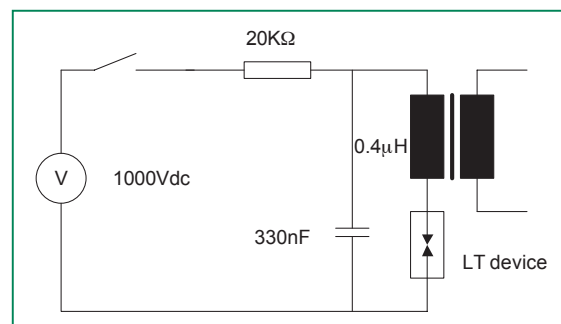


Fig 2. Recommended Life Circuit