

Switching Gas Discharge Tubes

Gas Plasma Voltage Dependent Switches

RoHS VS Series

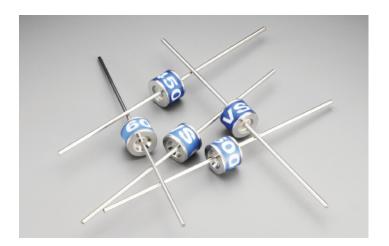
The VS Series is a 2-terminal bi-directional, voltage triggered switch designed for gas fuel ignition systems and similar circuits. Switching voltages for the devices are fixed depending on the part number selected. The gas plasma trigger technology offers very fast switching speeds, resulting in significantly 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.

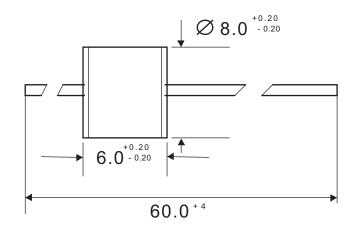
Features

- 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.

Applications

- For switching stored electrical energy (such as capacitive discharge) at predetermined voltages.
- Designed for in gas fuel ignition systems and similar circuits.





Mechanical Specifications:
Weight: 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



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Device Ratings and Specifications

Part Number	v _{BO} ⁽¹⁾ (v)	VT	I _{DRM} (2) (A)	I _{BO} ⁽³⁾ (mA)	Capacitance	V _{BO} to V _T (nS)
VS230	200 –255	15	1.0	50	2.0	25
VS450	350 – 550	15	1.0	50	2.0	25
VS600	400 – 750	15	1.0	50	2.0	25

Electrical Life:

Maximum Ratings:

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) Using 8/20µs double exponential pulse
- (6) Measured on recommended test circuit (fig 2.)

Definitions:

V_{BO} – Breakover Voltage

VT - Voltage when device is fully conduction - arc voltage

IDRM - Off-state Current

IBO – Nominal Breakover Current

 V_{BO} to V_{T} – Max switching time from V_{BO} to V_{T}

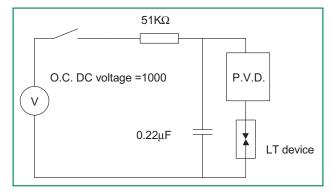


Fig 1. Recommended breakover voltage test circuit (Discharge current = 10-20mA; Sensitivity of peak voltage detect = 10-30mA)

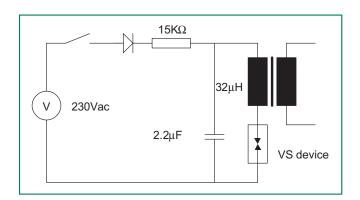


Fig 2. Recommended Life Test Circuit