

LST Varistor Series



Description

The LST Varistor Series is constructed with Littelfuse's renowned thermally protected varistor technology (TMOV). The built-in thermal disconnecting function and electric arc shield provides additional protection to prevent catastrophic failure and fire hazard even under the extreme circumstances of varistor end-of-life or abnormal overvoltage conditions. It is specifically designed for Type 1 and Type 2 Surge Protective Devices (SPDs).

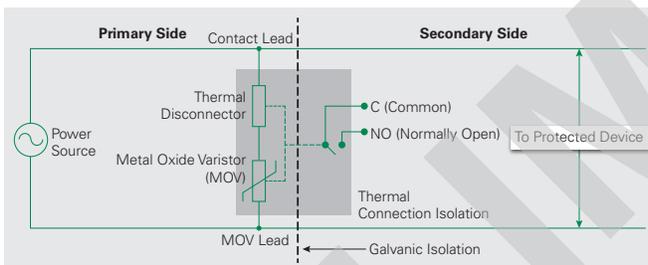
Features

- 200 kA SCCR, 20 kA I_n , UL1449 Type 4 recognized component assembly
- Same footprint and PCB layout for I_{max} 50 kA and 75 kA options
- Mechanically triggered AC and DC rated micro-switch with Normally Open or Normally Closed options for remote indication/monitoring circuit
- Visual tab option to display LST working status
- RoHS compliant, Lead-free, and Halogen-free

Agency Approvals

Agency	Standard	Agency File Number
	UL1449	E320116

Typical Circuit Diagram with Normally Open Switch



Note:
 This typical circuit shows how the switch pins (C and NO) can be used to indicate the connection status of thermal disconnector for remote indication. This denotes that the circuit will be no longer protected from surge currents by the MOV after the thermal disconnector forms open circuit.

Benefits

- Facilitate meeting UL1449 listed Type 1 or Type 2 standards
- Same PCB layout/design for 50 kA and 75 kA I_{max} rated SPDs
- More flexibilities/options for designing an isolated remote indication/monitoring circuit
- Clear indication for technician/engineer to replace EOL product to continue surge protection for the end product
- Environment-friendly

Applications

- Type 1 and Type 2 Surge Protective Devices (SPDs)

General Technical Specification

	Standard	Units
Climatic Category	IEC 60068-1	40/85/56
Operating Temperature	IEC 61051-1	-40° C ~ +85° C
Storage Temperature		-40° C ~ +85° C
Voltage Proof	IEC 61051-1	≥ 2.5 kVRMS
Insulation Resistance	IEC 61051-1	≥ 100 MΩ

Electrical Specifications

Part Number	Specifications (85° C)		Specifications (25° C)		
	Maximum Continuous Operating Voltage (MCOV)	Peak Surge Current (8/20 μ s, 1 Pulse)	Nominal Discharge Current (8/20 μ s, 15 Pulses)	Voltage Protection Rating	Maximum Short Circuit Current Rating
	V_{RMS} (V)	I_{max} (kA)	I_n (kA)	VPR (V)	SCCR (kA)
LST1505VL2NT1	150	50	20	600	200
LST1507VL2NT1	150	75	20	600	200
LST1805VL2NT1	180	50	20	800	200
LST1807VL2NT1	180	75	20	800	200
LST2755VL2NT1	275	50	20	900	200
LST2757VL2NT1	275	75	20	900	200
LST3205VL2NT1	320	50	20	1000	200
LST3207VL2NT1	320	75	20	1000	200
LST3855VL2NT1	385	50	20	1500	200
LST3857VL2NT1	385	75	20	1500	200
LST4205VL2NT1	420	50	20	1500	200
LST4207VL2NT1	420	75	20	1500	200
LST5105VL2NT1	510	50	20	1500	200
LST5107VL2NT1	510	75	20	1500	200
LST5505VL2NT1	550	50	20	1500	200
LST5507VL2NT1	550	75	20	1500	200
LST6905VL2NT1	690	50	20	2000	200

Note:

For LST***7 device with I_{max} 75 kA rating, thermal disconnecter may safely form open circuit without any damage to the device after I_{max} test.

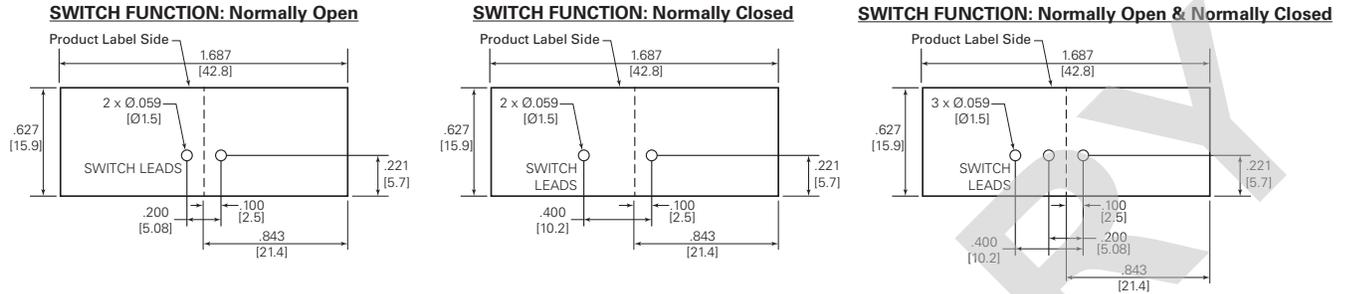
Switch Function Configuration



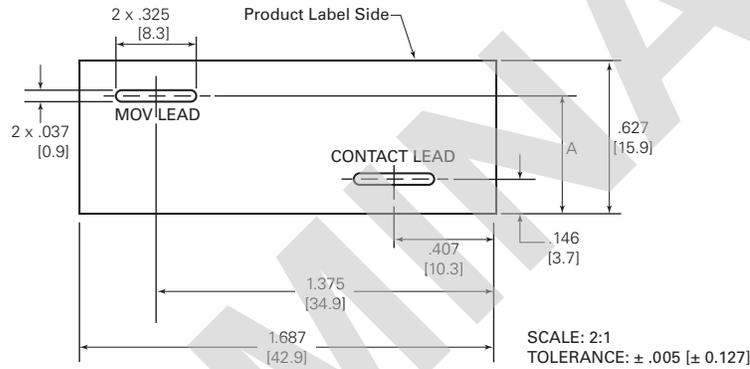
Switch Functions	Switch Pins Connected to Signal Circuit
Normally Open	C and NO
Normally Closed	C and NC
Normally Open & Normally Closed	C and NO: Normally Open monitoring circuit C and NC: Normally Closed monitoring circuit
No Function	No switch pin

- Normally-open and/or normally-closed switch functions are available for remote indication circuit to identify LST working status
- Switch pins of Common ("C") and Normally-Open ("NO") can be connected together for normally-open monitoring circuit
- Switch pins of Common ("C") and Normally-Closed ("NC") can be connected together for normally-closed monitoring circuit
- Electrical rating for switch pin: 60 Vdc/0.2 A, or 250 Vac/0.1 A
- "Visual Tab" within housing: LST is still functional
- "Visual Tab" shows up (Optional): LST has been activated and needs to be replaced

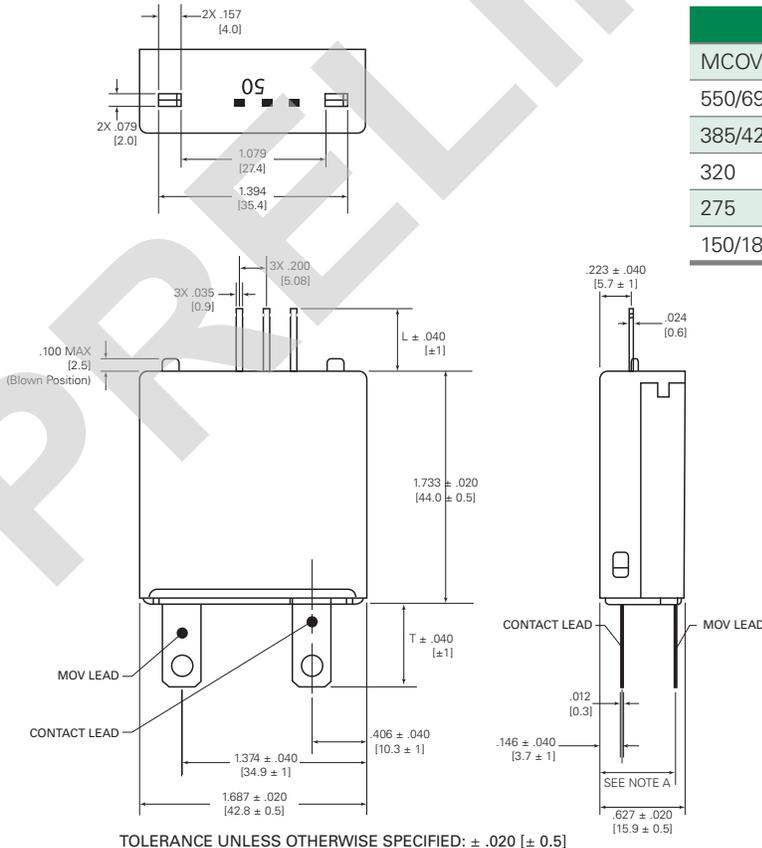
PCB Layout for Switch Pins (Unit: Inch [mm])



PCB Layout for LST Terminations (Unit: Inch [mm])



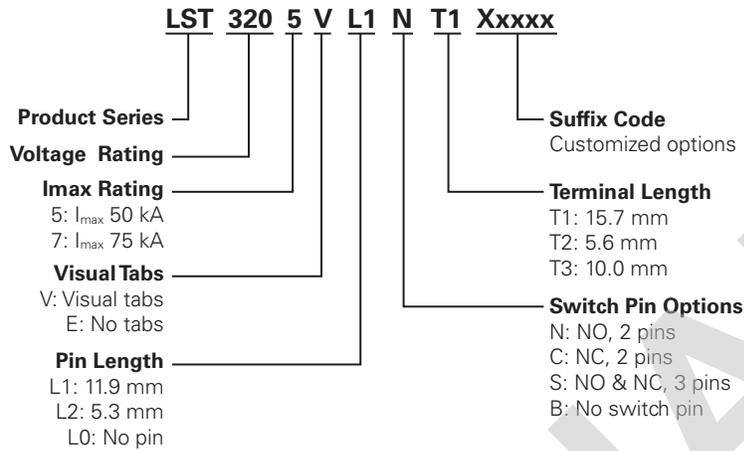
LST Mechanical Dimensions (Unit: Inch [mm])



NOTE A

MCOV	A Dimension (inch [mm])
550/690	.545 ± .04 [13.8 ± 1.0]
385/420/510	.54 ± .04 [13.7 ± 1.0]
320	.51 ± .04 [13.0 ± 1.0]
275	.495 ± .04 [12.6 ± 1.0]
150/180	.485 ± .04 [12.3 ± 1.0]

Part Numbering System



Packaging Method

Quantity	Other Specs	Carton size
24 pcs/tray Total 72pcs in three trays	One blank tray on the top for protection purpose	370 mm (L) x 370 mm (W) x 100 mm (H)

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