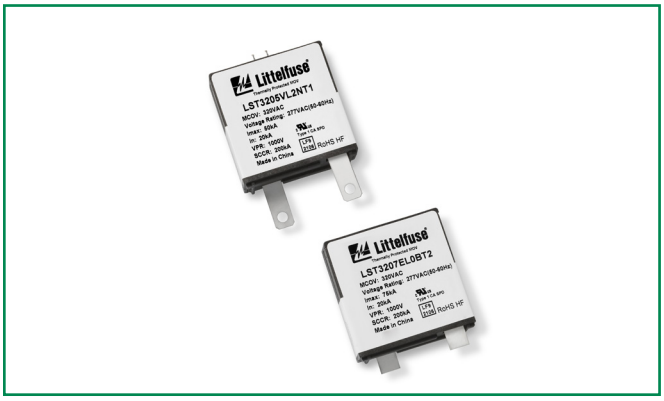
Metal Oxide Varistors (MOVs)

LST Varistor Series > SPD Thermally Protected Varistor

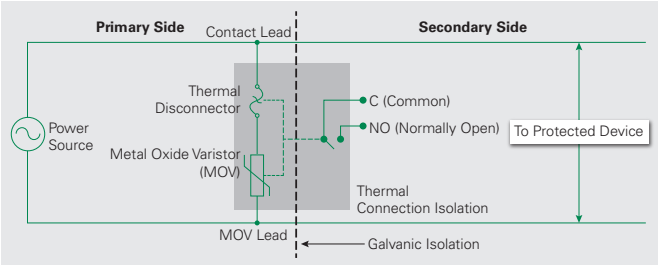
LST Varistor Series



Agency Approvals

Agency	Standard	Agency File Number
c UL us	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.

Applications

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

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 prevent catastrophic failure and fire hazard even under the extreme circumstances of varistor end-of-life or abnormal overvoltage conditions. It is specifically designed as a Type 1 Component Assembly Surge Protective Device (SPD) and is suitable for Type 1 and Type 2 SPDs.

Features

- Short Circuit Current Rating (SCCR) of 200 kA and Nominal Discharge Current Rating (I_n) of 20 kA
- Available in both Maximum Discharge Current (I_{max}) ratings of 50 kA and 75 kA. Both ratings utilize the same footprint and PCB layout
- Mechanically triggered AC and DC rated micro-switch with Normally Open or Normally Closed options for remote indication and/or monitoring circuit
- Visual tab option to display LST working status
- RoHS compliant, Lead-free, and Halogen-free
- UL Recognized to UL 1449 and CSA C22.2 No. 269.4 as a Type 1 Component Assembly (Type 1CA)

Benefits

- Suitably rated for Type 1 and 2 SPD applications
- 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
- Facilitate meeting UL 1449 or CSA C22.2 No. 269.1 and 269.2 for Type 1 or Type 2 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

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Electrical Specifications

Part Number	Specifications (85° C)	Specifications (25° C)			
	Maximum Continuous Operating Voltage (MCOV)	Peak Surge Current (8/20 µs, 1 Pulse)	Nominal Discharge Current (8/20 µs, 15 Pulses)	Voltage Protection Rating	Maximum Short Circuit Current Rating
	V_{RMS}	I_{max}	I_n	VPR	SCCR
	(V)	(kA)	(kA)	(V)	(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 disconnector may safely 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

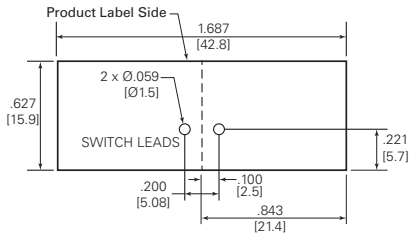
- Normally-open and/or normally-closed switch functions are available for remote indication circuit to identify LST working status
- Switch pins of Common ("C") and Normally-Open ("NO") can be connected together for normally-open monitoring circuit
- Switch pins of Common ("C") and Normally-Closed ("NC") 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

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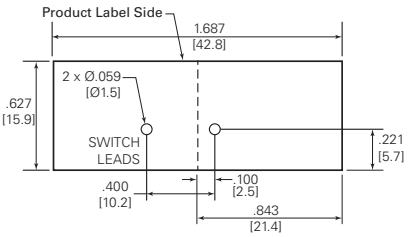
Metal Oxide Varistors (MOVs)
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PCB Layout for Switch Pins (Unit: Inch [mm])

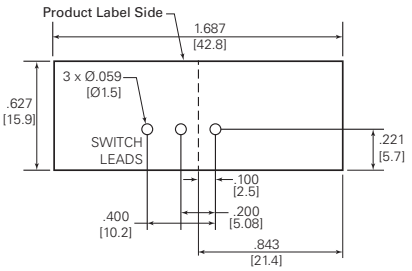
SWITCH FUNCTION: Normally Open



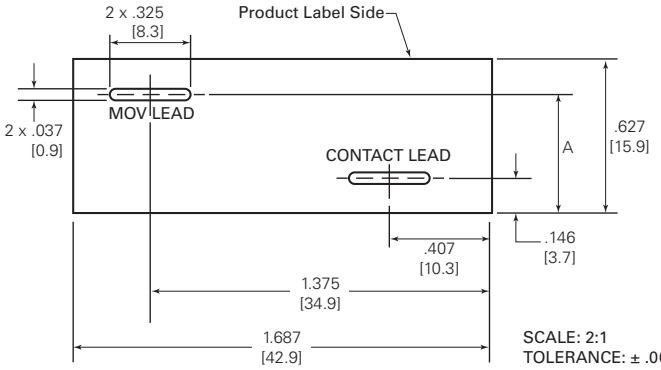
SWITCH FUNCTION: Normally Closed



SWITCH FUNCTION: Normally Open & Normally Closed

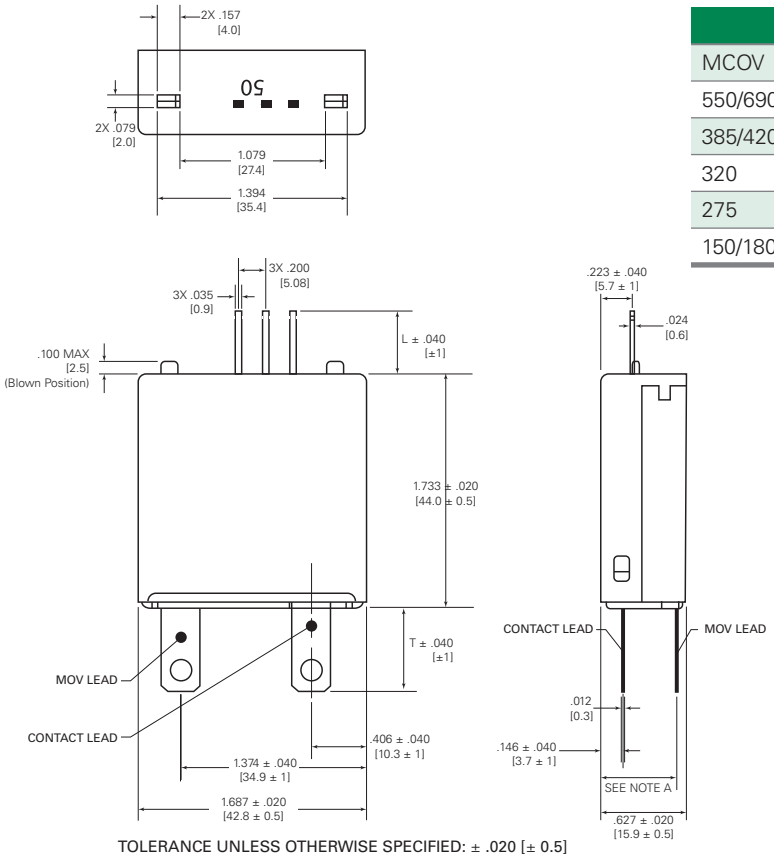


PCB Layout for LST Terminations (Unit: Inch [mm])



SCALE: 2:1
TOLERANCE: ± .005 [± 0.127]

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]

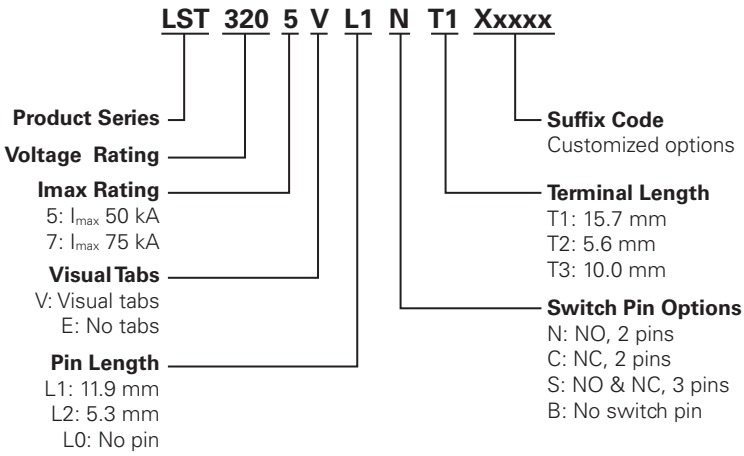
TOLERANCE UNLESS OTHERWISE SPECIFIED: ± .020 [± 0.5]

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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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