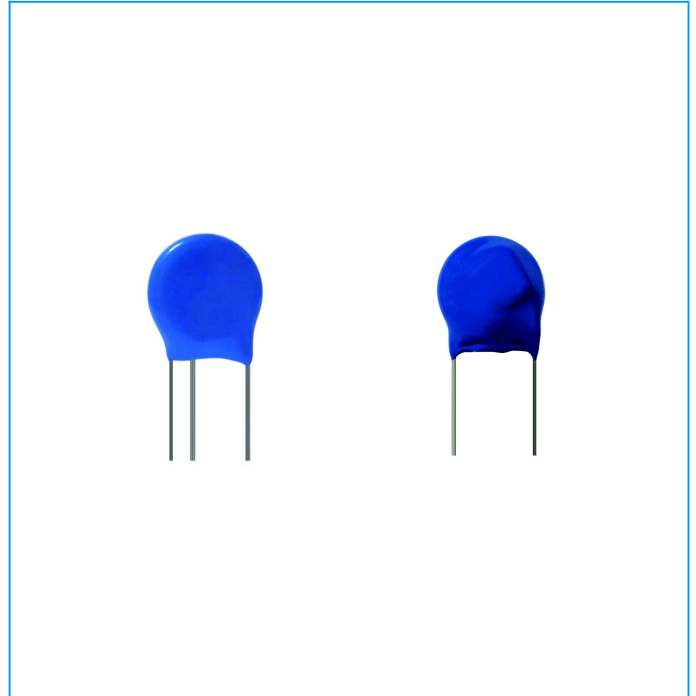


Thermal Fuse & MOV (TMOV)

TMOV-25 Series

Description

TMOV temperature tube type pressure sensitive resistor is a kind of insurance which has the function of overtemperature out (off) zno piezoresistor. It is in the ordinary course of MOV is sensitive to the temperature of the chip attached device. When power frequency current continue to increase, or MOV failure, because of the power frequency current or MOV leakage current increase, leading to MOV body temperature rises to the set of TMOV action temperature, temperature sensitive device will be disconnected. Thus cutting off the supply current of MOV, make MOV temperature no longer increases, thus prevent the caused due to the failure of MOV new ZnO piezoresistor on fire. It uses a standard lead as a terminal, very suitable for the PCB circuit board installation.



Features

- ◆ Fast responding to transient over-voltage
- ◆ Large absorbing transient energy capability
- ◆ Low clamping ratio and no follow-on current
- ◆ Meets MSL level 1, per J-STD-020
- ◆ Operating Temperature: -40℃ ~ +85℃
- ◆ Storage Temperature: -40℃ ~ +125℃

Applications

- ◆ Power supply, Telecommunication, Smart meter, or PLC protection
- ◆ Surge protection in consumer electronics
- ◆ Surge protection in industrial electronics
- ◆ Surge protection in electronic home appliances, gas and petroleum appliances
- ◆ Relay and electromagnetic valve surge absorption

Thermal Fuse & MOV (TMOV)

TMOV-25 Series

Electrical Characteristics

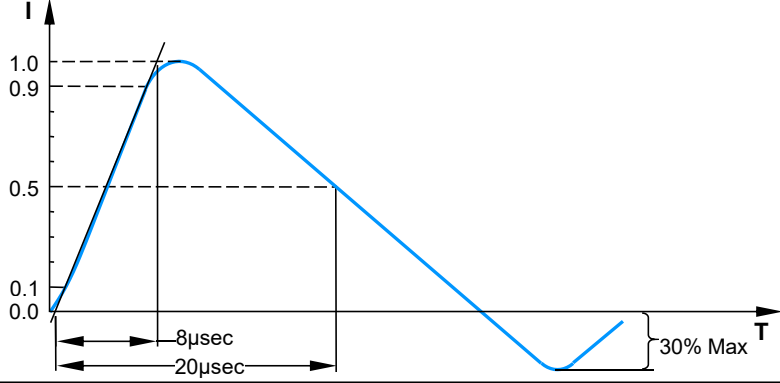
Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current	Maximum Energy (10/1000μs)	Rated Power
	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	I _P (A)	V _C (V)	8/20μs (A)	(J)	(W)
TMOV-25D(E)181K	115	150	180(162~198)	150	300	15000	175	1.2
TMOV-25D(E)201K	130	170	200(180~220)	150	340	15000	210	1.2
TMOV-25D(E)221K	140	180	220(198~242)	150	360	15000	230	1.2
TMOV-25D(E)241K	150	200	240(216~264)	150	395	15000	255	1.2
TMOV-25D(E)271K	175	225	270(243~297)	150	455	15000	285	1.2
TMOV-25D(E)301K	190	250	300(270~330)	150	500	15000	310	1.2
TMOV-25D(E)331K	210	275	330(297~363)	150	550	15000	325	1.2
TMOV-25D(E)361K	230	300	360(324~396)	150	595	15000	340	1.2
TMOV-25D(E)391K	250	320	390(351~429)	150	650	15000	360	1.2
TMOV-25D(E)431K	275	350	430(387~473)	150	710	15000	440	1.2
TMOV-25D(E)471K	300	385	470(423~517)	150	775	15000	490	1.2
TMOV-25D(E)511K	320	415	510(459~561)	150	845	15000	530	1.2
TMOV-25D(E)561K	350	460	560(504~616)	150	925	15000	560	1.2
TMOV-25D(E)621K	385	505	620(558~682)	150	1025	15000	590	1.2
TMOV-25D(E)681K	420	560	680(612~748)	150	1120	15000	620	1.2
TMOV-25D(E)751K	460	615	750(675~825)	150	1240	15000	630	1.2
TMOV-25D(E)781K	485	640	780(702~858)	150	1290	15000	675	1.2
TMOV-25D(E)821K	510	670	820(738~902)	150	1355	15000	690	1.2
TMOV-25D(E)911K	550	745	910(819~1001)	150	1500	15000	715	1.2
TMOV-25D(E)102K	625	825	1000(900~1100)	150	1650	15000	750	1.2
TMOV-25D(E)112K	680	895	1100(990~1210)	150	1815	15000	780	1.2
TMOV-25D(E)122K	750	990	1200(1080~1320)	150	1980	15000	840	1.2

Note: Leakage Current (@80% of V_{1mA}): I_R≤25μA.

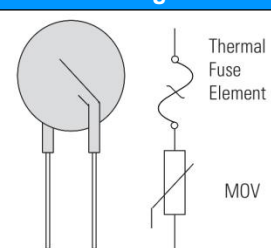
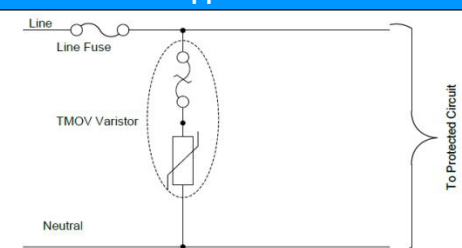
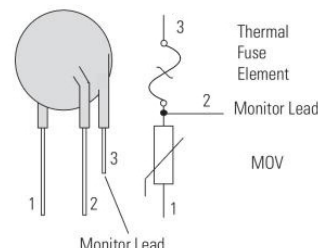
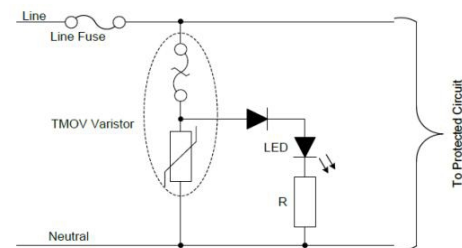
Thermal Fuse & MOV (TMOV)

TMOV-25 Series

Electrical Rating

Item	Test Condition / Description	Requirement
Maximum Allowable Voltage	The recommended maximum sine wave voltage (RMS) or the maximum DC voltage can be applied continuously.	To meet the specified value
Varistor Voltage	The voltage between two terminals with the specified measuring current 1mA.DC applied is call Vb.	
Maximum Clamping Voltage	The maximum voltage between two terminals with the specification standard impulse current. Applied waveform: 8/20μs 	
Rated Wattage	The maximum average power that can be applied within the specified ambient temperature.	
Energy	The maximum energy within the varistor voltage change of ±10% when one impulse of 10/1000μs. or 2 msec. is applied.	
Withstanding Surge Current	The maximum current within the varistor voltage change of ±10% with the standard impulse current (8/20μssec.) applied one time	
Varistor Voltage Temp. Coefficient	$\frac{V_b \text{ at } 20^{\circ}\text{C} - V_b \text{ at } 70^{\circ}\text{C}}{V_b \text{ at } 20^{\circ}\text{C}} \times \frac{1}{50} \times 100(\% / ^{\circ}\text{C})$	0.05% / °C max

Lead Configurations and Application Examples

Lead Configurations	Application
D Series 	
E Series 	

Thermal Fuse & MOV (TMOV)

TMOV-25 Series

Part Numbering

TMOV - 25 D XXX K

Tolerance:
K:±10%,L:±15%,M:±20%

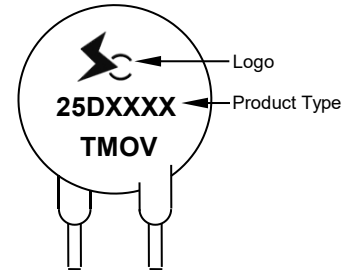
Varistor Voltage

Pin type: D-Two pins,E-Three pins

Element Diameter

Zone temperature insurance tube type

Part Marking



Packaging Information

Part Number	Quantity	Packaging Option	Packaging Specification
TMOV-25 Series	50 PCS	Plastic Bag	Bulk Pack

Package Dimensions (Unit: mm)

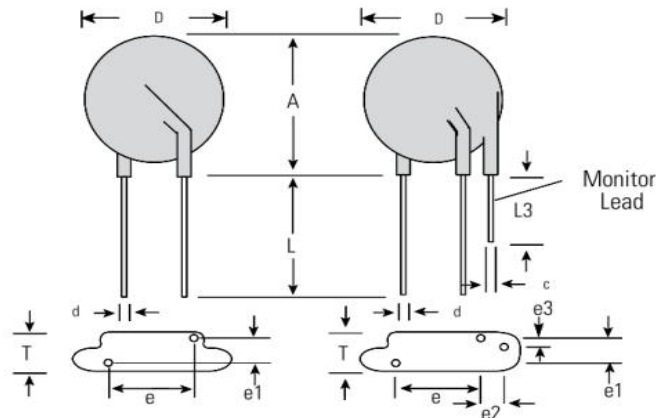


TABLE 1

Symbol	Dimensions	
	D Series	E Series
D(max.)	28.5	28.5
A(max.)	35.5	35.5
e(±1)	12.7	7.5
e2(±1)	n/a	5.0
e3(max.)	n/a	2.5
L(min.)	20	20
L3(min.)	n/a	6.0
d(±0.05)	1.0	1.0
c(±0.05)	n/a	1.0
T(max.)	TABLE 2	TABLE 2
e1	TABLE 2	TABLE 2

TABLE 2

Model	T(max.)	e1(max.)	Model	T(max.)	e1(max.)
181K	11.8	3.8	511K	13.5	5.5
201K	11.9	3.8	561K	13.5	5.5
221K	12.0	3.8	621K	13.5	5.5
241K	12.0	3.8	681K	15.8	7.8
271K	12.0	3.8	751K	15.8	7.8
301K	12.0	4.5	781K	15.8	7.8
331K	12.0	4.5	821K	15.8	7.8
361K	12.0	4.5	911K	15.8	7.8
391K	12.0	4.5	102K	18.0	10.0
431K	13.5	5.5	112K	18.0	10.0
471K	13.5	5.5	122K	18.0	10.0

Thermal Fuse & MOV (TMOV)

TMOV-25 Series

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