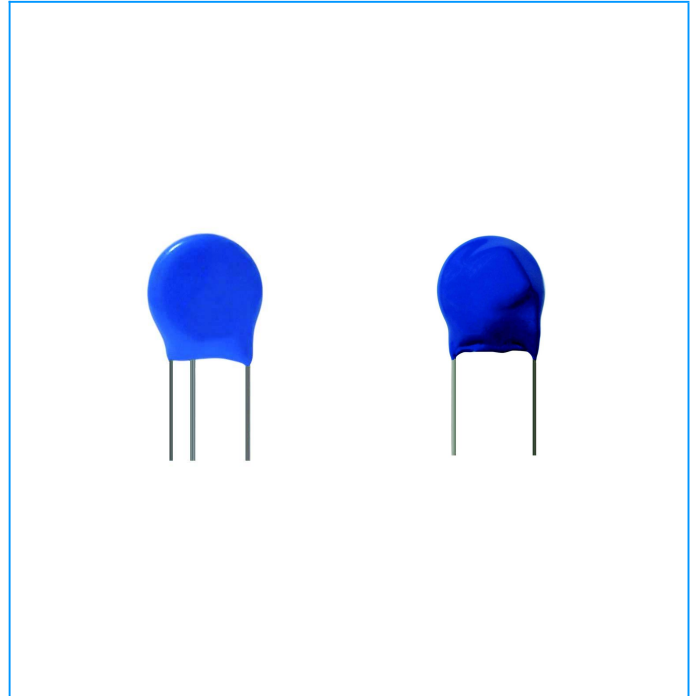


Thermal Fuse & MOV (TMOV)

TMOV-14 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-14 Series

Electrical Characteristics

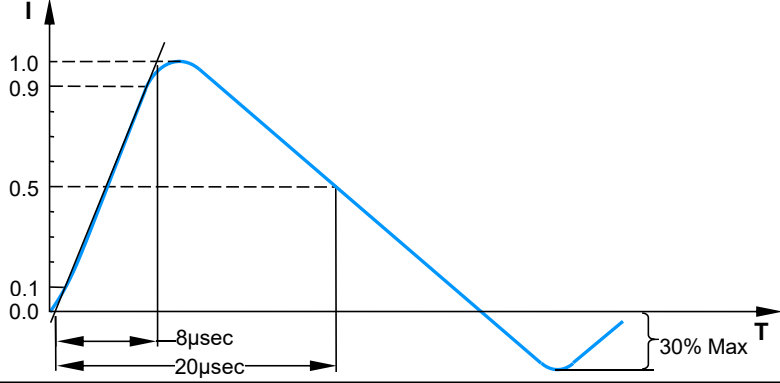
Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current	Maximum Energy (10/1000μs)	Rated Power
	V _{AC} (V)	V _{DC} (V)	V _{1mA} (V)	I _P (A)	V _C (V)	8/20μs (A)	(J)	(W)
TMOV-14D(E)181K	115	150	180(162~198)	50	300	6000	56	0.6
TMOV-14D(E)201K	130	170	200(180~220)	50	340	6000	70	0.6
TMOV-14D(E)221K	140	180	220(198~242)	50	360	6000	78	0.6
TMOV-14D(E)241K	150	200	240(216~264)	50	395	6000	84	0.6
TMOV-14D(E)271K	175	225	270(243~297)	50	455	6000	99	0.6
TMOV-14D(E)301K	190	250	300(270~330)	50	500	6000	108	0.6
TMOV-14D(E)331K	210	275	330(297~363)	50	550	6000	115	0.6
TMOV-14D(E)361K	230	300	360(324~396)	50	595	6000	130	0.6
TMOV-14D(E)391K	250	320	390(351~429)	50	650	6000	140	0.6
TMOV-14D(E)431K	275	350	430(387~473)	50	710	6000	155	0.6
TMOV-14D(E)471K	300	385	470(423~517)	50	775	6000	175	0.6
TMOV-14D(E)511K	320	415	510(459~561)	50	845	6000	180	0.6
TMOV-14D(E)561K	350	460	560(504~616)	50	925	6000	185	0.6
TMOV-14D(E)621K	385	505	620(558~682)	50	1025	6000	190	0.6
TMOV-14D(E)681K	420	560	680(612~748)	50	1120	6000	200	0.6
TMOV-14D(E)751K	460	615	750(675~825)	50	1240	6000	210	0.6
TMOV-14D(E)781K	485	640	780(702~858)	50	1290	6000	220	0.6
TMOV-14D(E)821K	510	670	820(738~902)	50	1355	6000	235	0.6
TMOV-14D(E)911K	550	745	910(819~1001)	50	1500	6000	255	0.6
TMOV-14D(E)102K	625	825	1000(900~1100)	50	1650	6000	280	0.6
TMOV-14D(E)112K	680	895	1100(990~1210)	50	1815	6000	310	0.6
TMOV-14D(E)122K	750	990	1200(1080~1320)	50	1980	6000	324	0.6

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

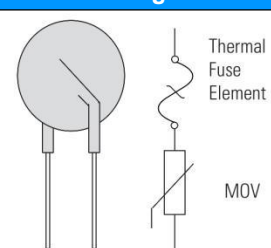
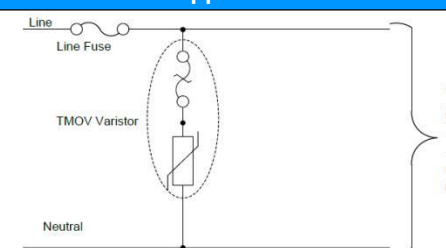
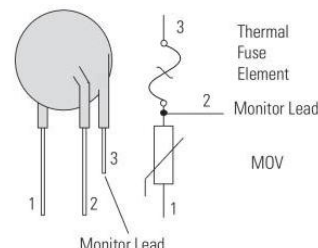
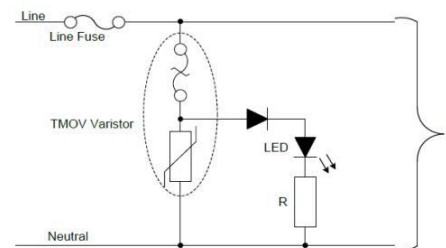
Thermal Fuse & MOV (TMOV)

TMOV-14 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 (8/20μsec.) 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-14 Series

Part Numbering

TMOV - 14 D XXX K

Tolerance:
K:±10%,L:±15%,M:±20%

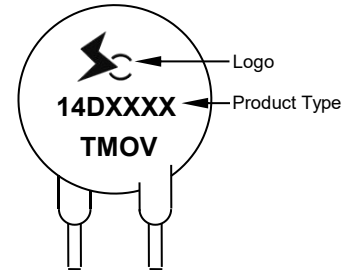
Varistor Voltage

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-14 Series	200 PCS	Plastic Bag	Bulk Pack

Package Dimensions (Unit: mm)

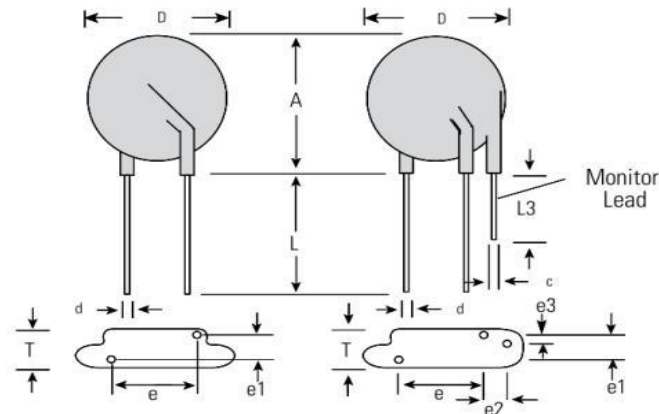


TABLE 1

Symbol	Dimensions	
	D Series	E Series
D(max.)	17	17
A(max.)	22	22
e(±1)	7.5	7.5
e2(±1)	n/a	5.0
e3(max.)	n/a	2.0
L(min.)	25.4	25.4
L3(min.)	n/a	6.0
d(±0.05)	0.8	0.8
c(±0.05)	n/a	0.8
T(max.)	TABLE 2	TABLE 2
e1	TABLE 2	TABLE 2

TABLE 2

Model	T(max.)	e1(max.)	Model	T(max.)	e1(max.)
181K	9.0	4.0	511K	11	5.5
201K	9.0	4.0	561K	11	5.5
221K	9.0	4.0	621K	11	5.5
241K	9.0	4.0	681K	11	5.5
271K	9.0	4.0	751K	11	8.0
301K	9.5	4.5	781K	12	8.0
331K	9.5	4.5	821K	12	8.0
361K	9.5	4.5	911K	12	8.0
391K	9.5	4.5	102K	13	8.0
431K	9.5	4.5	112K	13	10.0
471K	11	5.5	122K	13	10.0

Thermal Fuse & MOV (TMOV)

TMOV-14 Series

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