

1 Introduction

Metal Oxide Varistors (MOVs) are rated for specific AC line operating voltages, and exceeding these limits through the application of a sustained abnormal over-voltage condition could result in overheating and damage to the MOV. The TMOV P25S Varistor Series incorporate an integrated thermally responsive element within the body of the device which will open-circuit the varistor in case of overheating due to the abnormal over-voltage events.

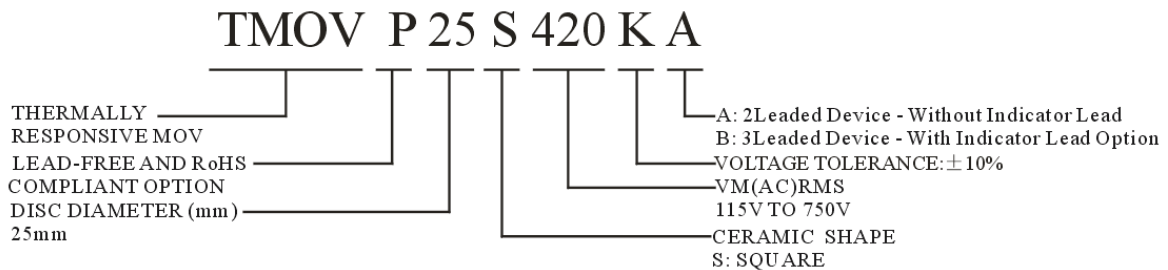
1) Features

- RoHS Compliant and Lead-free
- Wave solderable
- -40 °C to +85 °C Operating temperature range
- -40 °C to +125 °C Storage temperature range
- Standard Operating Voltage Range Compatible with Common AC Line Voltages (115VAC to 750VAC)
- High peak surge current rating up to 20kA at single 8/20 μs impulse

2) Applications

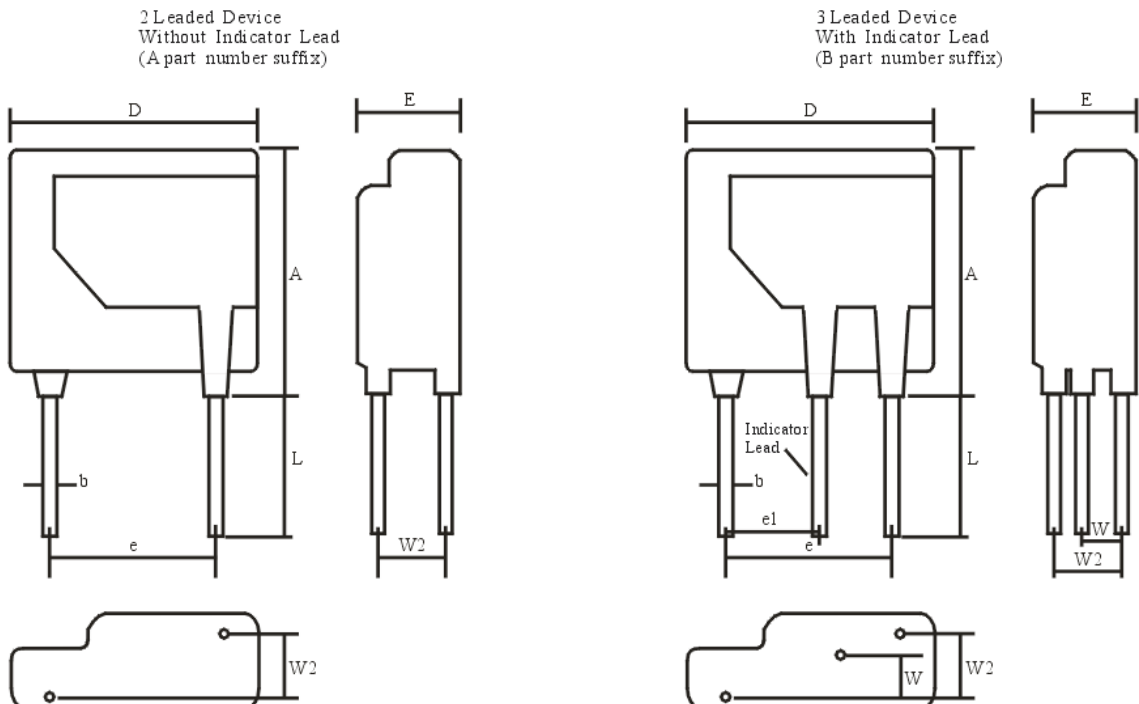
- AC/DC power supplies
- AC Panel Protection Modules
- UPS (Uninterruptible Power Supply)
- SPD Products

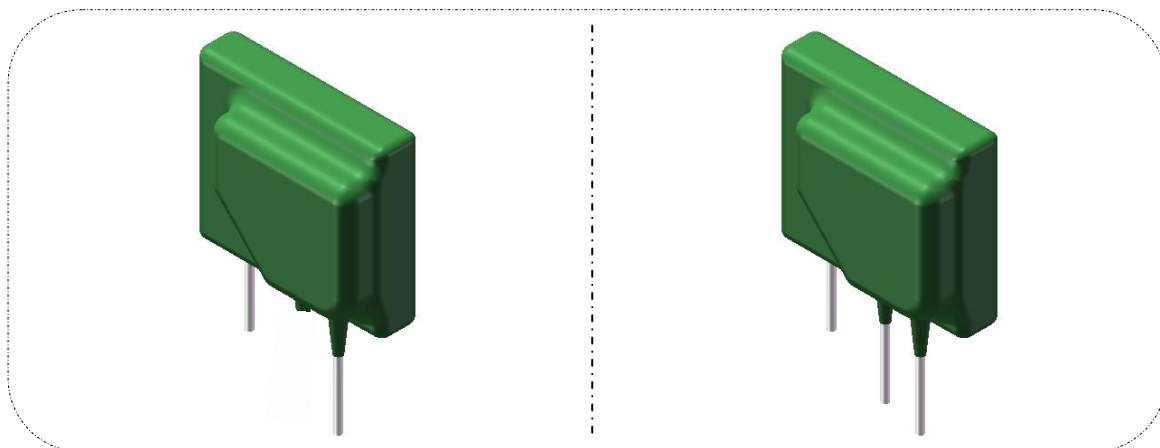
2 Part Numbering System



3 Dimensions

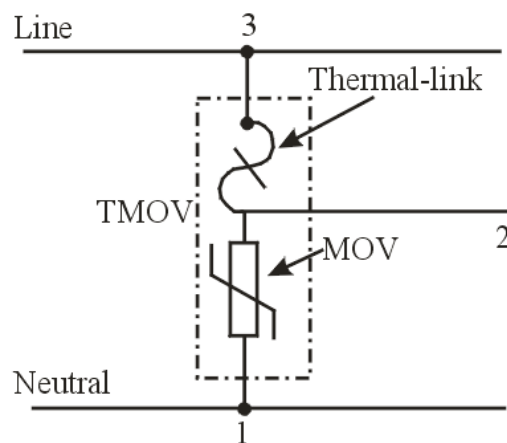
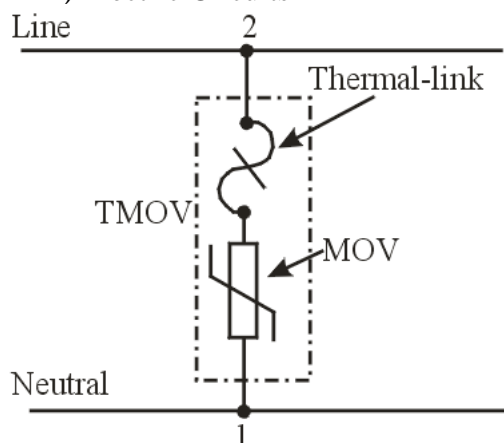
1) Figuration dimensions





Part Number	Part Number	W _{MIN}	W _{MAX}	W2	E _{MAX}	A _{MAX}	b _{MIN}	b _{MAX}	D _{MAX}	e	e1	L _{MIN}
TMOV25S115KA	TMOV25S115KB	1.5	2.7	3.6±1	11.7	28.5	0.95	1.05	28	19.2±1	12.7±1	25
TMOV25S130KA	TMOV25S130KB	1.6	2.9	3.7±1	11.9							
TMOV25S140KA	TMOV25S140KB	1.7	3.0	3.8±1	12.0							
TMOV25S150KA	TMOV25S150KB	1.8	3.1	3.9±1	12.1							
TMOV25S175KA	TMOV25S175KB	1.9	3.3	4.1±1	12.3							
TMOV25S200KA	TMOV25S200KB	1.9	3.3	4.1±1	12.3							
TMOV25S230KA	TMOV25S230KB	2.0	3.4	4.2±1	12.4							
TMOV25S250KA	TMOV25S250KB	2.1	3.5	4.3±1	12.5							
TMOV25S275KA	TMOV25S275KB	2.3	3.7	4.5±1	12.7							
TMOV25S300KA	TMOV25S300KB	2.4	3.9	4.6±1	12.9							
TMOV25S320KA	TMOV25S320KB	2.6	4.1	4.8±1	13.1							
TMOV25S385KA	TMOV25S385KB	3.0	4.7	5.3±1	13.7							
TMOV25S420KA	TMOV25S420KB	3.3	5.0	5.6±1	14.0							
TMOV25S440KA	TMOV25S440KB	3.4	5.2	5.8±1	14.2							
TMOV25S460KA	TMOV25S460KB	3.6	5.4	6.0±1	14.4							
TMOV25S510KA	TMOV25S510KB	3.9	5.7	6.3±1	14.7							
TMOV25S550KA	TMOV25S550KB	4.2	6.2	6.7±1	15.2							
TMOV25S625KA	TMOV25S625KB	4.6	6.6	7.1±1	15.6							
TMOV25S750KA	TMOV25S750KB	5.4	7.7	8.0±1	16.7							

2) Electric Circuits

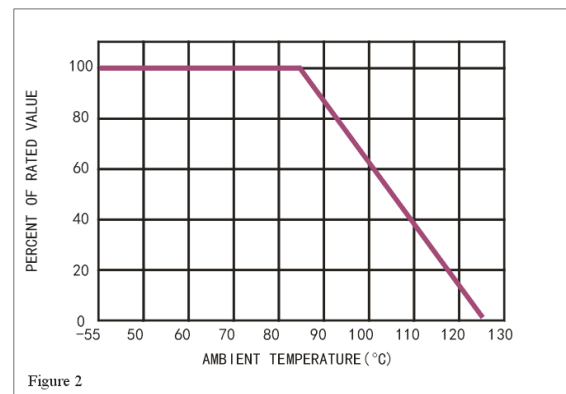
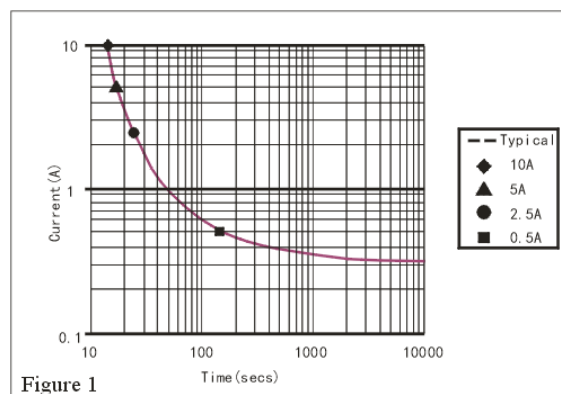


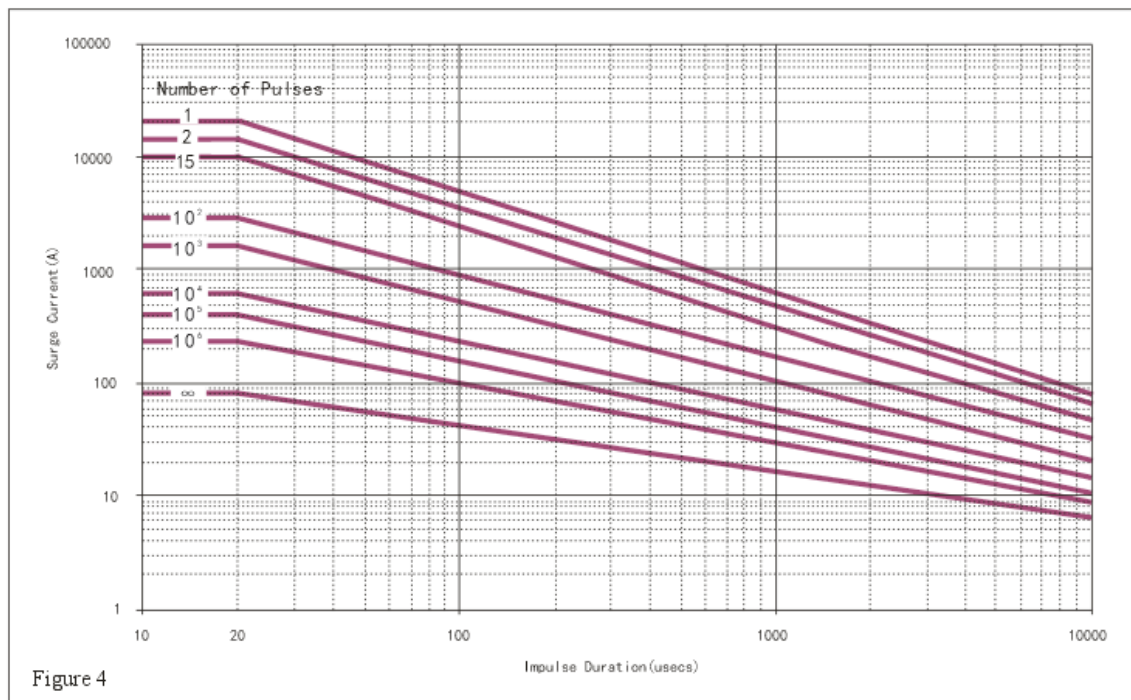
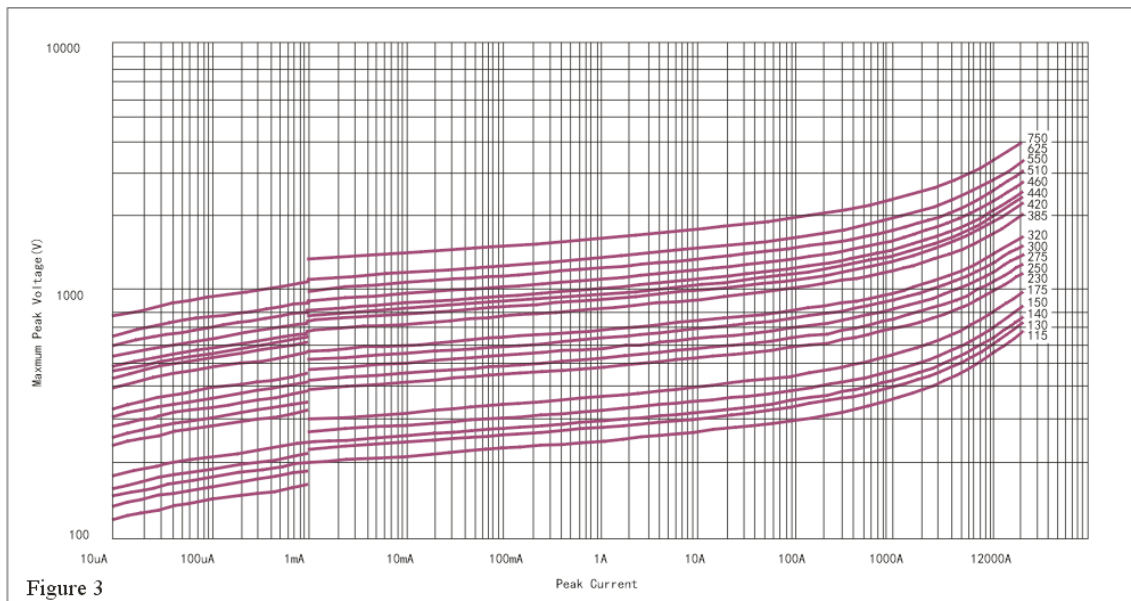
4 Technical data

2 Leaded Device - Without Indicator Lead	3 Leaded Device - With Indicator Lead	Model Size Disc Diameter (mm)	Maximum Rating (85°C)				Specifications (25 °C)			
			Continuous		Transient		Varistor Voltage at 1mA Test Current		Clamping Voltage at 100A Current 8/20µs	Typical Capacitance (f=1MHz)
			AC Volts	DC Volts	Energy 2ms	Peak Current 8/20µs				
			V _{M(AC)RMS}	V _{M(DC)}	W _{TM}	I _{TM} 1×Pulse	V _{N(DC)} Min	V _{N(DC)} Max	V _C	C
Part Number	Part Number		(V)	(V)	(J)	(A)	(V)		(V)	(pF)
TMOVP25S115KA	TMOVP25S115KB	25	115	150	170	20000	162	198	295	3200
TMOVP25S130KA	TMOVP25S130KB	25	130	170	190	20000	184.5	225.5	335	2800
TMOVP25S140KA	TMOVP25S140KB	25	140	180	210	20000	198	242	355	2500
TMOVP25S150KA	TMOVP25S150KB	25	150	200	220	20000	216	264	390	2300
TMOVP25S175KA	TMOVP25S175KB	25	175	225	250	20000	243	297	450	1900
TMOVP25S200KA	TMOVP25S200KB	25	200	265	270	20000	283	345	530	1700
TMOVP25S230KA	TMOVP25S230KB	25	230	300	300	20000	324	396	585	1500
TMOVP25S250KA	TMOVP25S250KB	25	250	320	330	20000	351	429	640	1400
TMOVP25S275KA	TMOVP25S275KB	25	275	350	350	20000	387	473	700	1250
TMOVP25S300KA	TMOVP25S300KB	25	300	385	370	20000	423	517	765	1150
TMOVP25S320KA	TMOVP25S320KB	25	320	420	390	20000	459	561	825	1080
TMOVP25S385KA	TMOVP25S385KB	25	385	505	430	20000	558	682	1010	900
TMOVP25S420KA	TMOVP25S420KB	25	420	560	460	20000	612	748	1100	820
TMOVP25S440KA	TMOVP25S440KB	25	440	585	470	20000	643.5	786.5	1160	790
TMOVP25S460KA	TMOVP25S460KB	25	460	615	490	20000	675	825	1220	750
TMOVP25S510KA	TMOVP25S510KB	25	510	670	520	20000	738	902	1335	680
TMOVP25S550KA	TMOVP25S550KB	25	550	745	550	20000	819	1001	1475	630
TMOVP25S625KA	TMOVP25S625KB	25	625	825	600	20000	900	1100	1625	550
TMOVP25S750KA	TMOVP25S750KB	25	750	970	670	20000	1080	1320	1950	460

Notes: Average power dissipation of transients should not exceed 1.5 watts.

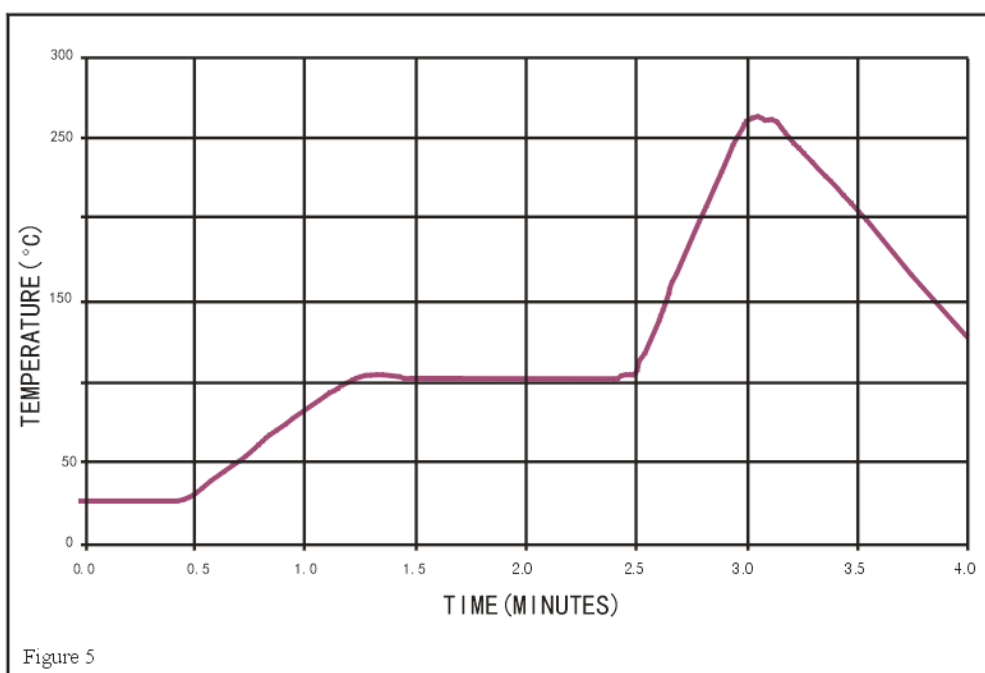
5 Device Ratings and Specifications chart





Because the TMOVP25S***KB Varistor Series contains a thermally responsive device, care must be taken when soldering the device into place. Two soldering methods are possible. Firstly, hand soldering: We recommend the use of pliers to heat-sink the leads of the device. Secondly, wave-soldering: This is a strenuous process requiring pre-heat stages to reduce the stresses on devices.

It is critically important that all preheat stage and the solder bath temperatures are rigidly controlled. The recommended solder for the TMOV Varistor Series is a 62/36/2 (Sn/Pb/Ag), 60/40 (Sn/Pb) or 63/37 (Sn/Pb).SAC solders (SnAgCu) are recommended for Lead-free applications.



6 Notes

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