



**THE DATASHEET OF  
MMSZ4699-TP**



### Features

- $V_Z$  – Tolerance  $\pm 5\%$
- High Reliability
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

**500 mW  
Zener Diode  
1.8 to 39 Volts**

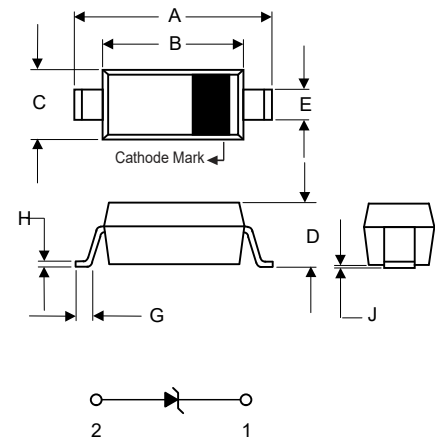
### Maximum Ratings

- Operating Junction Temperature Range:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Storage Temperature Range:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Thermal Resistance :  $340^{\circ}\text{C/W}$  Junction to Ambient

Parameter	Symbol	Rating	Conditions
Steady State Power Dissipation	$P_D$	500mW	$T_L < 75^{\circ}\text{C}$
Maximum Forward Voltage	$V_F$	0.95V	$I_F = 10\text{mA}$

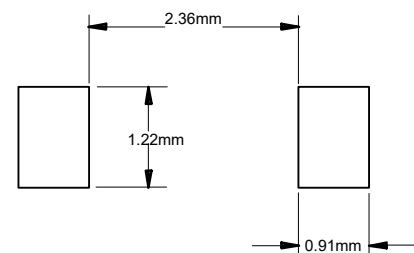
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

### SOD-123



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.140	0.152	3.55	3.85	
B	0.100	0.112	2.55	2.85	
C	0.055	0.071	1.40	1.80	
D	----	0.053	----	1.35	
E	0.018	0.026	0.45	0.65	
G	0.006	----	0.15	----	
H	----	0.010	----	0.25	
J	----	0.006	----	0.15	

### SUGGESTED SOLDER PAD LAYOUT



**Electrical Characteristics @ 25°C Unless Otherwise Specified**

MCC Part Number	Zener Voltage				Leakage Current $I_R @ V_R$		Marking Code
	$V_Z @ I_{ZT}$			$I_{ZT}$	$I_R$	$V_R$	
	Min.(V)	Nom(V)	Max.(V)	$\mu A$	$\mu A$	V	
MMSZ4678	1.71	1.8	1.89	50	7.5	1.0	CC
MMSZ4679	1.90	2.0	2.10	50	5.0	1.0	CD
MMSZ4680	2.09	2.2	2.31	50	4.0	1.0	CE
MMSZ4681	2.28	2.40	2.52	50	2.0	1.0	CF
MMSZ4682	2.565	2.7	2.835	50	1.0	1.0	CH
MMSZ4683	2.85	3.0	3.15	50	0.8	1.0	CJ
MMSZ4684	3.135	3.3	3.465	50	7.5	1.5	CK
MMSZ4685	3.42	3.6	3.78	50	7.5	2.0	CM
MMSZ4686	3.705	3.9	4.095	50	5.0	2.0	CN
MMSZ4687	4.085	4.3	4.515	50	4.0	2.0	CP
MMSZ4688	4.465	4.7	4.935	50	10	3.0	CT
MMSZ4689	4.845	5.1	5.355	50	10	3.0	CU
MMSZ4690	5.32	5.6	5.88	50	10	4.0	CV
MMSZ4691	5.89	6.2	6.51	50	10	5.0	CA
MMSZ4692	6.46	6.8	7.14	50	10	5.1	CX
MMSZ4693	7.125	7.5	7.875	50	10	5.7	CY
MMSZ4694	7.79	8.2	8.61	50	1	6.2	CZ
MMSZ4695	8.265	8.7	9.135	50	1	6.6	DC
MMSZ4696	8.645	9.1	9.555	50	1	6.9	DD
MMSZ4697	9.50	10	10.5	50	1	7.6	DE
MMSZ4698	10.45	11	11.55	50	0.05	8.4	DF
MMSZ4699	11.40	12	12.6	50	0.05	9.1	DH
MMSZ4700	12.35	13	13.65	50	0.05	9.8	DJ
MMSZ4701	13.30	14	14.7	50	0.05	10.6	DK
MMSZ4702	14.25	15	15.75	50	0.05	11.4	DM
MMSZ4703	15.20	16	16.8	50	0.05	12.1	DN
MMSZ4704	16.15	17	17.85	50	0.05	12.9	DP
MMSZ4705	17.10	18	18.9	50	0.05	13.6	DT
MMSZ4706	18.05	19	19.95	50	0.05	14.4	DU
MMSZ4707	19.00	20	21	50	0.01	15.2	DV
MMSZ4708	20.9	22	23.1	50	0.01	16.7	DA
MMSZ4709	22.8	24	25.2	50	0.01	18.2	DX
MMSZ4710	23.75	25	26.25	50	0.01	19.0	DY
MMSZ4711	25.65	27	28.35	50	0.01	20.4	EA
MMSZ4712	26.6	28	29.4	50	0.01	21.2	EC
MMSZ4713	28.5	30	31.5	50	0.01	22.8	ED
MMSZ4714	31.35	33	34.65	50	0.01	25.0	EE
MMSZ4715	34.2	36	37.8	50	0.01	27.3	EF
MMSZ4716	37.05	39	40.95	50	0.01	29.6	EH

## Curve Characteristics

Fig. 1 - Steady State Power Derating

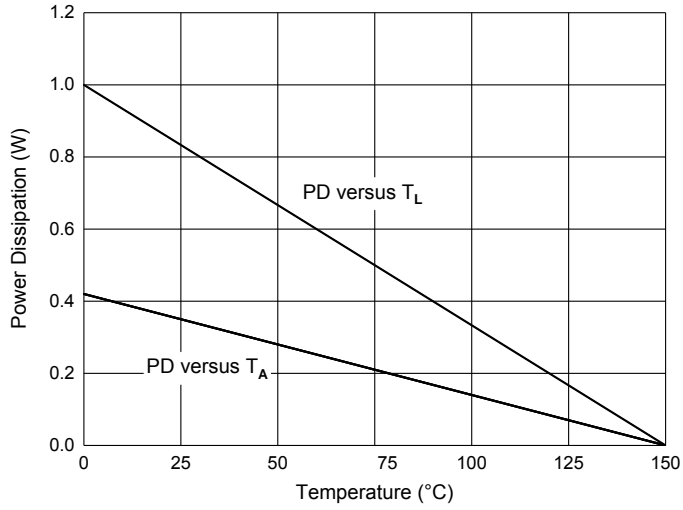


Fig. 2 - Typical Zener Breakdown Characteristics

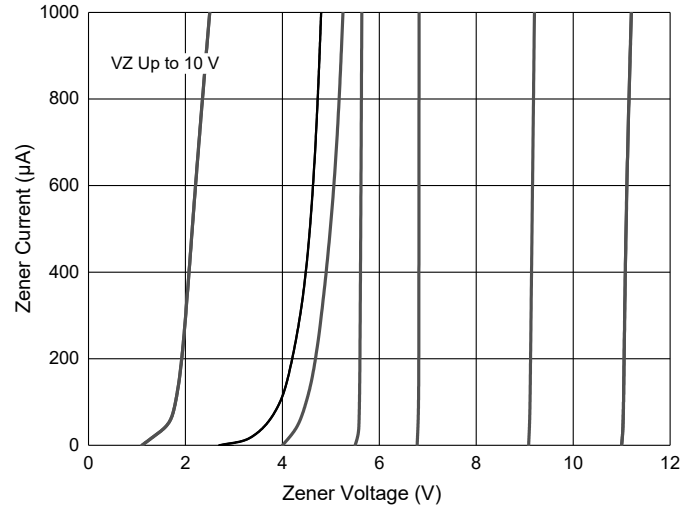
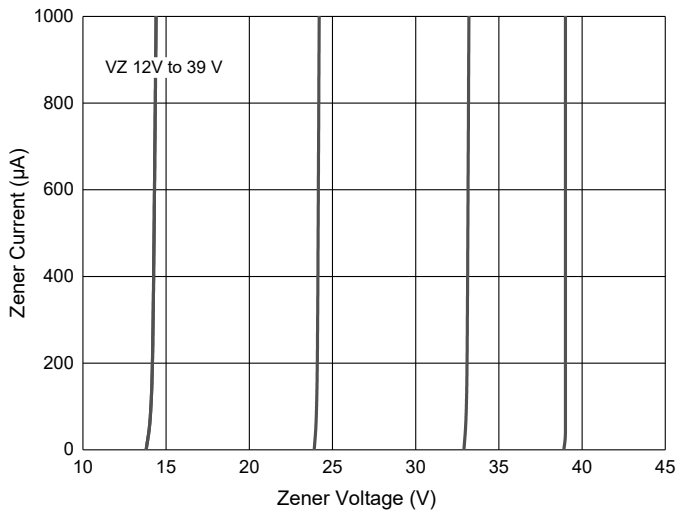


Fig. 3 - Typical Zener Breakdown Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel
Part Number-13P	Tape&Reel:10Kpcs/Reel

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