

# 500mW SOD-123 SURFACE MOUNT

## Flat Lead Surface Mount Plastic Package

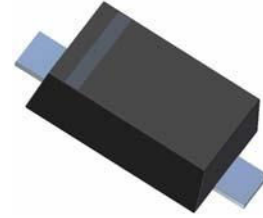
### Zener Voltage Regulators

# Formosa MS

#### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	500	mW
$T_{STG}$	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
$T_{OPR}$	Operating Temperature Range	-65 to +150	$^\circ\text{C}$

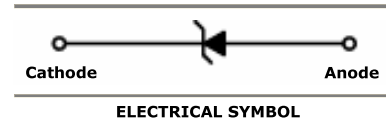
These ratings are limiting values above which the serviceability of the diode may be impaired.



SOD-123 Flat Lead

#### Specification Features:

- Wide Zener Voltage Range Selection, 2.0V to 75V
- VZ Tolerance Selection of  $\pm 2\%$  (B Series)
- Flat Lead SOD-123 Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode



#### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	Device Marking	$V_Z @ I_{ZT}$ (Volts)			$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$I_{ZK}$ (mA)	$Z_{ZK} @ I_{ZK}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
		Min	Nom	Max						
MMSZ2V0BW	2V0B	1.95	2.0	2.05	5	100	1	564	120	0.5
MMSZ2V2BW	2V2B	2.14	2.2	2.26	5	100	1	564	120	0.7
MMSZ2V4BW	2V4B	2.35	2.4	2.45	5	100	1	564	45	1
MMSZ2V7BW	2V7B	2.65	2.7	2.75	5	100	1	564	18	1
MMSZ3V0BW	3V0B	2.94	3.0	3.06	5	100	1	564	9	1
MMSZ3V3BW	3V3B	3.23	3.3	3.37	5	95	1	564	4.5	1
MMSZ3V6BW	3V6B	3.53	3.6	3.67	5	90	1	564	4.5	1
MMSZ3V9BW	3V9B	3.82	3.9	3.98	5	90	1	564	2.7	1
MMSZ4V3BW	4V3B	4.21	4.3	4.39	5	90	1	564	2.7	1
MMSZ4V7BW	4V7B	4.61	4.7	4.79	5	80	1	470	2.7	2
MMSZ5V1BW	5V1B	5.00	5.1	5.20	5	60	1	451	1.8	2
MMSZ5V6BW	5V6B	5.49	5.6	5.71	5	40	1	376	0.9	2
MMSZ6V2BW	6V2B	6.08	6.2	6.32	5	10	1	141	2.7	4
MMSZ6V8BW	6V8B	6.66	6.8	6.94	5	15	1	75	1.8	4
MMSZ7V5BW	7V5B	7.35	7.5	7.65	5	15	1	75	0.9	5
MMSZ8V2BW	8V2B	8.04	8.2	8.36	5	15	1	75	0.63	5
MMSZ9V1BW	9V1B	8.92	9.1	9.28	5	15	1	94	0.45	6
MMSZ10VBW	10VB	9.80	10	10.20	5	20	1	141	0.18	7
MMSZ11VBW	11VB	10.78	11	11.22	5	20	1	141	0.09	8
MMSZ12VBW	12VB	11.76	12	12.24	5	25	1	141	0.09	8
MMSZ13VBW	13VB	12.74	13	13.26	5	30	1	160	0.09	8
MMSZ15VBW	15VB	14.70	15	15.30	5	30	1	188	0.045	10.5

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Device Type	Device Marking	V <sub>Z</sub> @ I <sub>ZT</sub> (Volts)			I <sub>ZT</sub> (mA)	Z <sub>ZT</sub> @ I <sub>ZT</sub> (Ω) Max	I <sub>ZK</sub> (mA)	Z <sub>ZK</sub> @ I <sub>ZK</sub> (Ω) Max	I <sub>R</sub> @ V <sub>R</sub> (μA) Max	V <sub>R</sub> (Volts)
		Min	Nom	Max						
MMSZ16VBW	16VB	15.68	16	16.32	5	40	1	188	0.045	11.2
MMSZ18VBW	18VB	17.64	18	18.36	5	45	1	212	0.045	12.6
MMSZ20VBW	20VB	19.60	20	20.40	5	55	1	212	0.045	14.0
MMSZ22VBW	22VB	21.56	22	22.44	5	55	1	235	0.045	15.4
MMSZ24VBW	24VB	23.52	24	24.48	5	70	1	235	0.045	16.8
MMSZ27VBW	27VB	26.46	27	27.54	2	80	0.5	282	0.045	18.9
MMSZ30VBW	30VB	29.40	30	30.60	2	80	0.5	282	0.045	21.0
MMSZ33VBW	33VB	32.34	33	33.66	2	80	0.5	306	0.045	23.0
MMSZ36VBW	36VB	35.28	36	36.72	2	90	0.5	329	0.045	25.2
MMSZ39VBW	39VB	38.22	39	39.78	2	130	0.5	329	0.045	27.3
MMSZ43VBW	43VB	42.14	43	43.86	2	150	0.5	353	0.045	30.1
MMSZ47VBW	47VB	46.06	47	47.94	2	170	0.5	353	0.045	33.0
MMSZ51VBW	51VB	49.98	51	52.02	2	180	0.5	376	0.045	35.7
MMSZ56VBW	56VB	54.88	56	57.12	2	200	0.5	400	0.045	39.2
MMSZ62VBW	62VB	60.76	62	63.24	2	215	0.5	423	0.045	43.4
MMSZ68VBW	68VB	66.64	68	69.36	2	240	0.5	447	0.045	47.6
MMSZ75VBW	75VB	73.50	75	76.50	2	255	0.5	470	0.045	52.5

V<sub>F</sub> Forward Voltage = 900mV Maximum @ I<sub>F</sub> = 10 mA for all types

#### Notes:

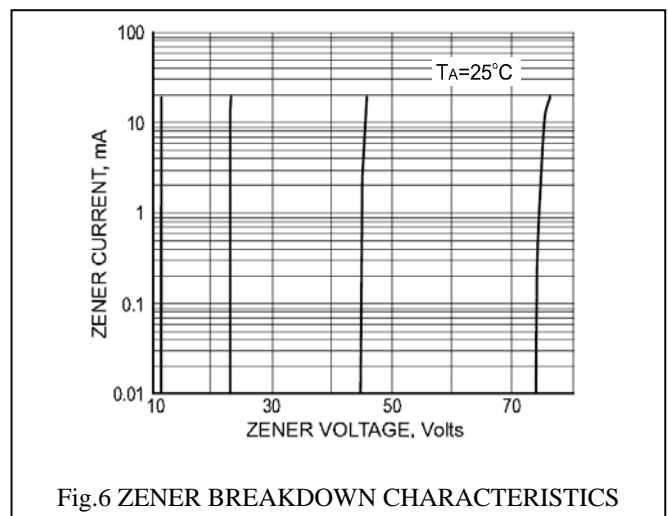
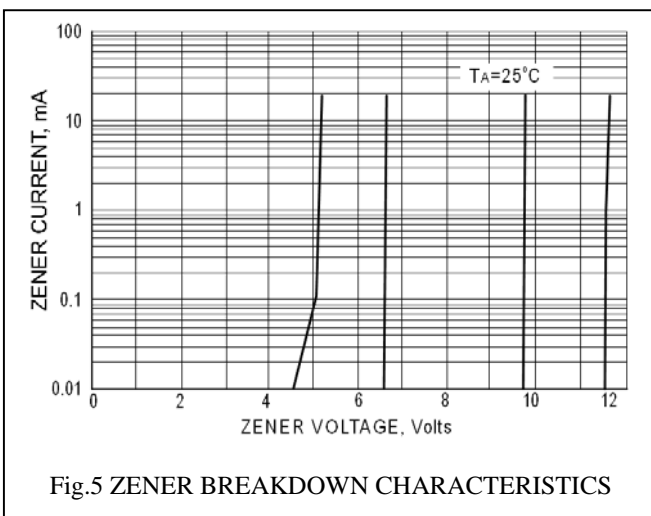
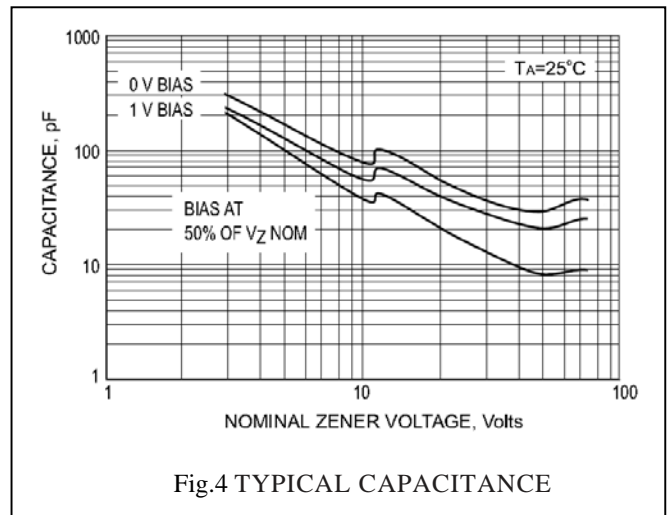
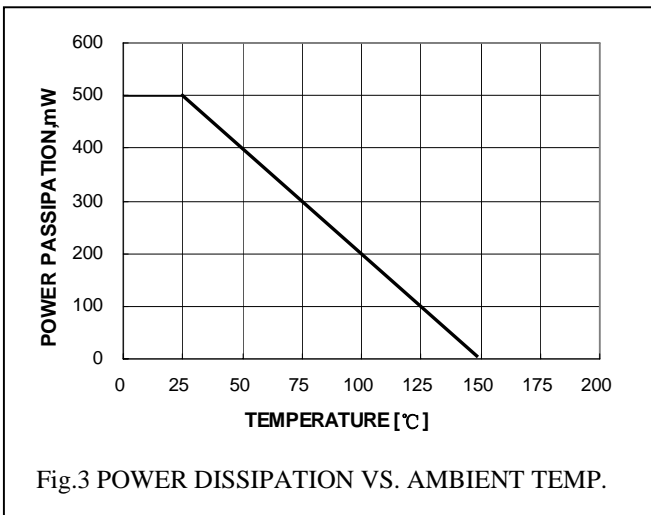
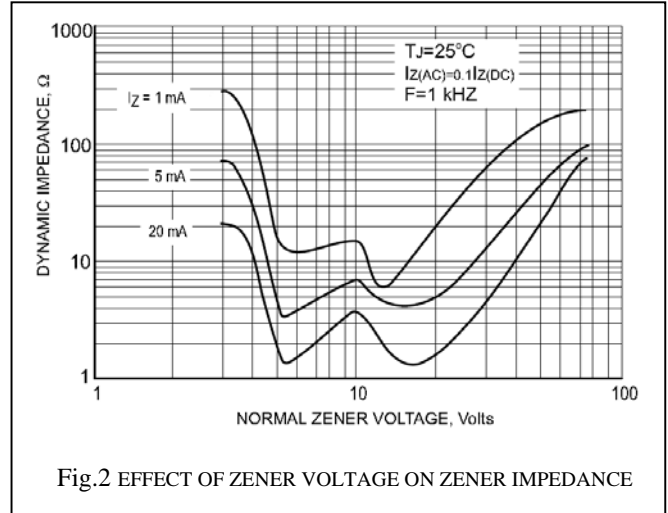
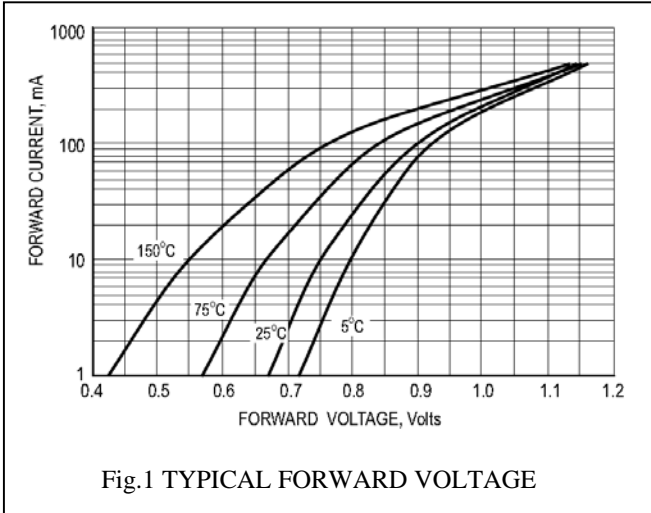
1. The Zener Voltage (V<sub>Z</sub>) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of ±2%.
3. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed to I<sub>ZT</sub> or I<sub>ZK</sub>.



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**Zener Voltage Regulators**

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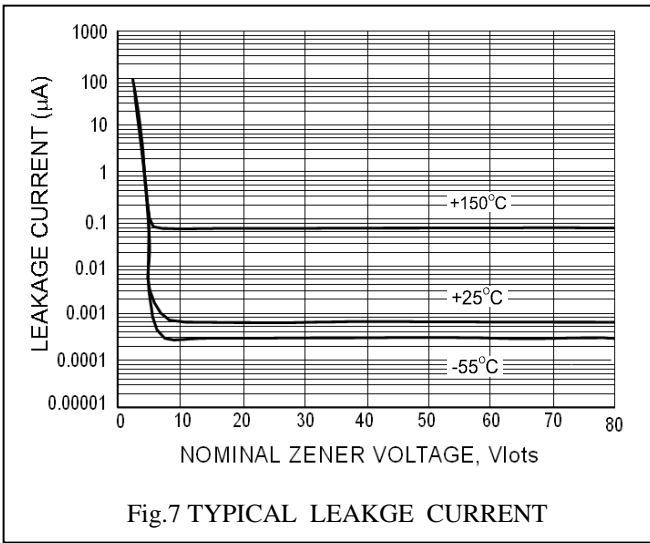
**RATING AND CHARACTERISTIC CURVES**



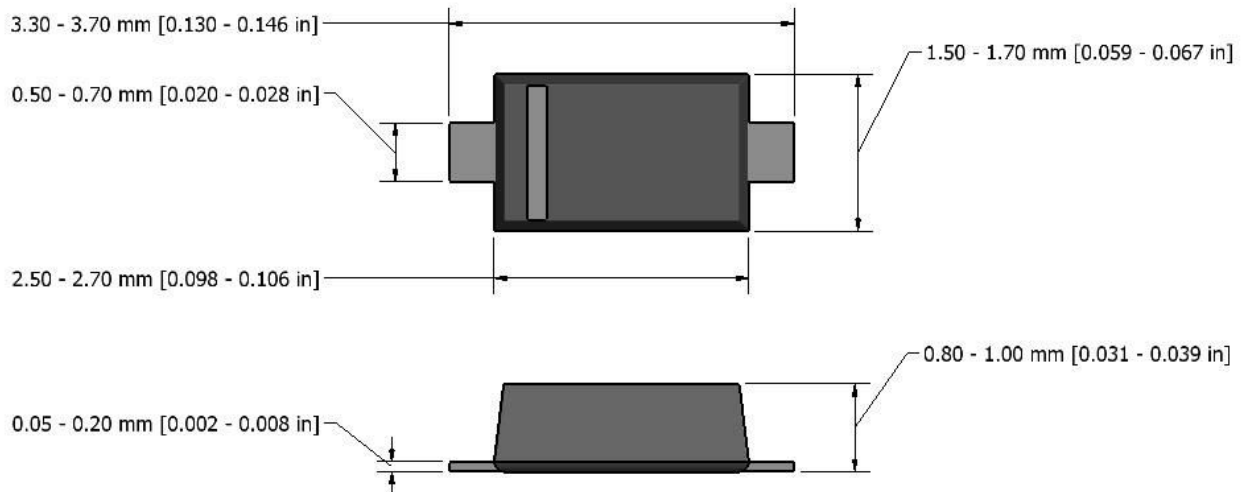
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**Flat Lead SOD-123 Package Outline**



**Note:** Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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