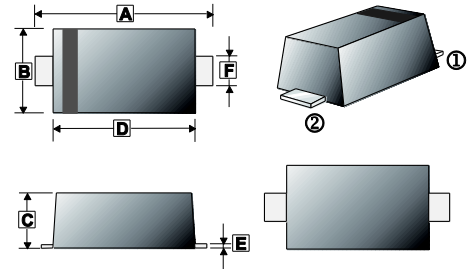


RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## FEATURES

- Wide Zener Voltage Range Selection, 2.4V~75V
- $V_Z$  Tolerance Selection of  $\pm 2\%$  (B-Series)
- Flat Lead SOD-123LH Plastic Package
- Surface Device Type Mounting
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode

## SOD-123LH



## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-123LH	3K	7 inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	3.30	3.70	D	2.50	2.70
B	1.50	1.70	E	0.05	0.20
C	0.80	1.00	F	0.50	0.70

## ORDER INFORMATION

Part Number	Type
MMSZxxxBW-C Series	Lead (Pb)-free and Halogen-free



## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Power Dissipation	$P_D$	500	mW
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65~150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise specified,  $V_F=900\text{mV}$  Maximum @  $I_F=10\text{mA}$ )

Type Number	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Leakage Current	
		$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$	
		Min. (V)	Nom. (V)	Max. (V)	mA	$\Omega$	mA	$\mu\text{A}$	V	
MMSZ2V4BW-C	2V4B	2.35	2.4	2.45	5	100	564	1	45	1
MMSZ2V7BW-C	2V7B	2.65	2.7	2.75	5	100	564	1	18	1
MMSZ3V0BW-C	3V0B	2.94	3	3.06	5	100	564	1	9	1
MMSZ3V3BW-C	3V3B	3.23	3.3	3.37	5	95	564	1	4.5	1
MMSZ3V6BW-C	3V6B	3.53	3.6	3.67	5	90	564	1	4.5	1
MMSZ3V9BW-C	3V9B	3.82	3.9	3.98	5	90	564	1	2.7	1
MMSZ4V3BW-C	4V3B	4.21	4.3	4.39	5	90	564	1	2.7	1
MMSZ4V7BW-C	4V7B	4.61	4.7	4.79	5	80	470	1	2.7	2
MMSZ5V1BW-C	5V1B	5	5.1	5.2	5	60	451	1	1.8	2
MMSZ5V6BW-C	5V6B	5.49	5.6	5.71	5	40	376	1	0.9	2
MMSZ6V2BW-C	6V2B	6.08	6.2	6.32	5	10	141	1	2.7	4
MMSZ6V8BW-C	6V8B	6.66	6.8	6.94	5	15	75	1	1.8	4
MMSZ7V5BW-C	7V5B	7.35	7.5	7.65	5	15	75	1	0.9	5
MMSZ8V2BW-C	8V2B	8.04	8.2	8.36	5	15	75	1	0.63	5
MMSZ9V1BW-C	9V1B	8.92	9.1	9.28	5	15	94	1	0.45	6
MMSZ10VBW-C	10VB	9.8	10	10.2	5	20	141	1	0.18	7
MMSZ11VBW-C	11VB	10.78	11	11.22	5	20	141	1	0.09	8
MMSZ12VBW-C	12VB	11.76	12	12.24	5	25	141	1	0.09	8
MMSZ13VBW-C	13VB	12.74	13	13.26	5	30	160	1	0.09	8
MMSZ15VBW-C	15VB	14.7	15	15.3	5	30	188	1	0.045	10.5
MMSZ16VBW-C	16VB	15.68	16	16.32	5	40	188	1	0.045	11.2
MMSZ18VBW-C	18VB	17.64	18	18.36	5	45	212	1	0.045	12.6
MMSZ20VBW-C	20VB	19.6	20	20.4	5	55	212	1	0.045	14
MMSZ22VBW-C	22VB	21.56	22	22.44	5	55	235	1	0.045	15.4
MMSZ24VBW-C	24VB	23.52	24	24.48	5	70	235	1	0.045	16.8
MMSZ27VBW-C	27VB	26.46	27	27.54	2	80	282	0.5	0.045	18.9
MMSZ30VBW-C	30VB	29.4	30	30.6	2	80	282	0.5	0.045	21
MMSZ33VBW-C	33VB	32.34	33	33.66	2	80	306	0.5	0.045	23
MMSZ36VBW-C	36VB	35.28	36	36.72	2	90	329	0.5	0.045	25.2
MMSZ39VBW-C	39VB	38.22	39	39.78	2	130	329	0.5	0.045	27.3

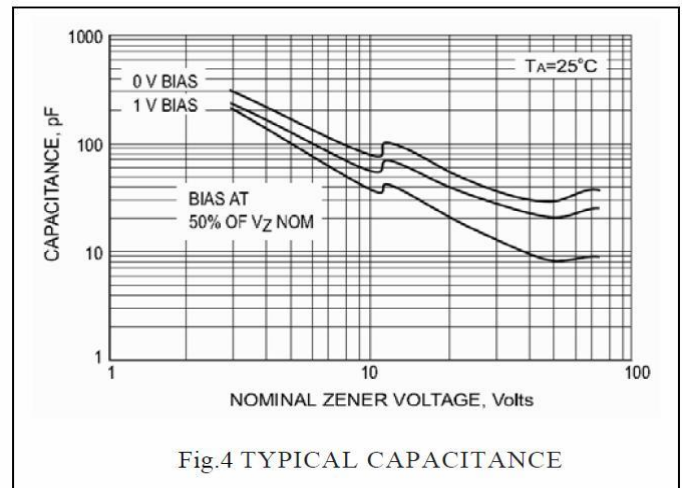
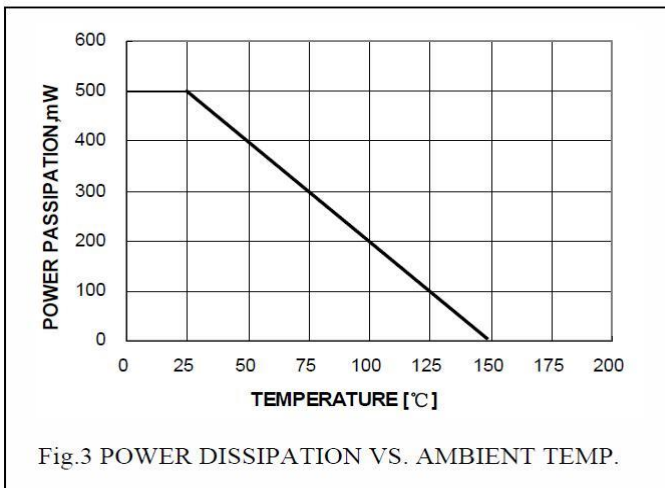
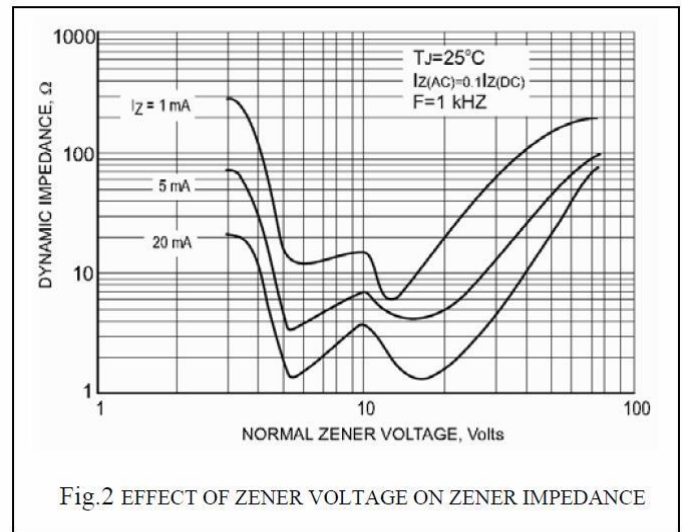
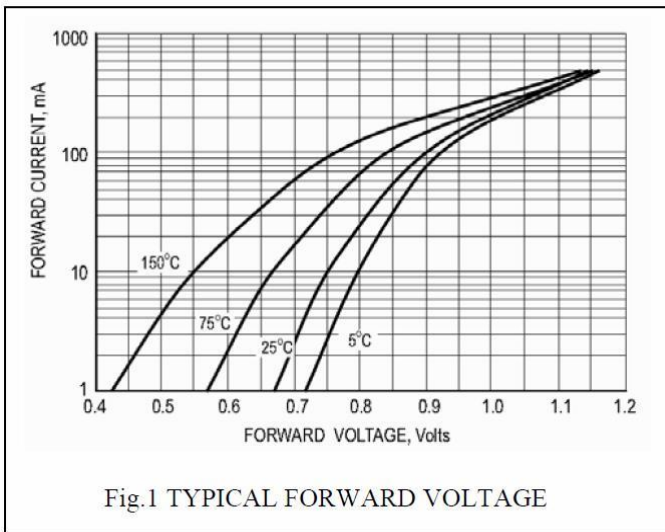
**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise specified,  $V_F=900\text{mV}$  Maximum @  $I_F=10\text{mA}$ )

Type Number	Marking	Zener Voltage Range			Maximum Zener Impedance			Maximum Reverse Leakage Current		
		$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$	
		Min. (V)	Nom. (V)	Max. (V)	mA	$\Omega$	mA	$\mu\text{A}$	V	
MMSZ43VBW-C	43VB	42.14	43	43.86	2	150	353	0.5	0.045	30.1
MMSZ47VBW-C	47VB	46.06	47	47.94	2	170	353	0.5	0.045	33
MMSZ51VBW-C	51VB	49.98	51	52.02	2	180	376	0.5	0.045	35.7
MMSZ56VBW-C	56VB	54.88	56	57.12	2	200	400	0.5	0.045	39.2
MMSZ62VBW-C	62VB	60.76	62	63.24	2	215	423	0.5	0.045	43.4
MMSZ68VBW-C	68VB	66.64	68	69.36	2	240	447	0.5	0.045	47.6
MMSZ75VBW-C	75VB	73.5	75	76.50	2	255	470	0.5	0.045	52.5

Notes:

1. The zener voltage ( $V_Z$ ) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of  $\pm 2\%$ .
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 ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed to  $I_{ZT}$  or  $I_{ZK}$ .

**CHARACTERISTIC CURVES**



**CHARACTERISTIC CURVES**

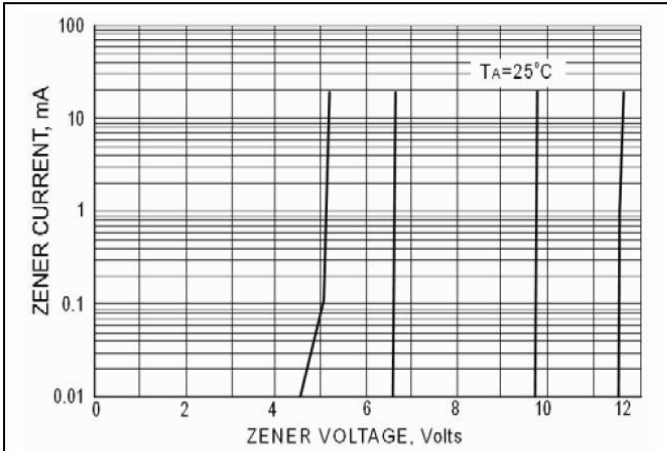


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

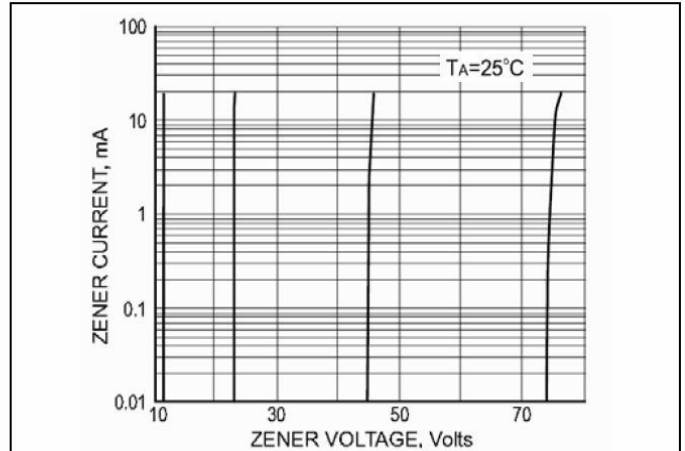


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

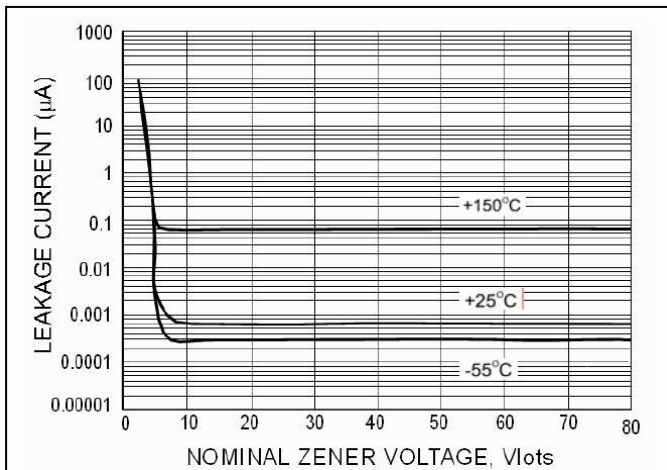


Fig.7 TYPICAL LEAKGE CURRENT

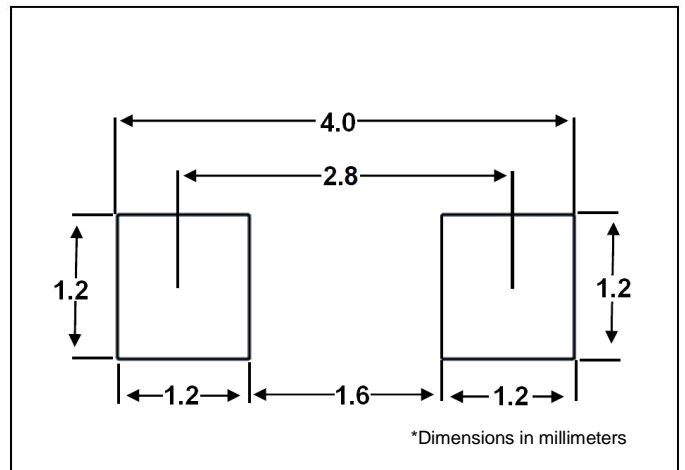


Fig.8 MOUNTING PAD LAYOUT