

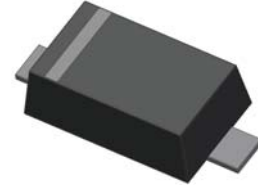
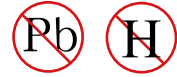


SEMICONDUCTOR

# DATA SHEET

## MMSZ52xxA

### 500mW SOD-123 SURFACE MOUNT Flat Lead Surface Mount Plastic Package Zener Voltage Regulators



SOD-123 Flat Lead

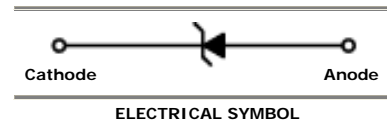
#### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	500	mW
$T_{STG}$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
$T_{OPR}$	Operating Temperature Range	-55 to +150	$^\circ\text{C}$

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

#### Specification Features:

- Wide Zener Voltage Range Selection, 4.3V to 75V
- VZ Tolerance Selection of  $\pm 2\%$
- 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	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
		Min	Nom	Max					
MMSZ5229A	229C	4.214	4.3	4.386	20	22	2000	5	1
MMSZ5230A	230C	4.606	4.7	4.794	20	19	1900	5	2
MMSZ5231A	231C	4.998	5.1	5.202	20	17	1600	5	2
MMSZ5232A	232C	5.488	5.6	5.712	20	11	1600	5	3
MMSZ5233A	233C	5.88	6.0	6.12	20	7	1600	5	3.5
MMSZ5234A	234C	6.076	6.2	6.324	20	7	1000	5	4
MMSZ5235A	235C	6.664	6.8	6.936	20	5	750	3	5
MMSZ5236A	236C	7.35	7.5	7.65	20	6	500	3	6
MMSZ5237A	237C	8.036	8.2	8.364	20	8	500	3	6.5
MMSZ5238A	238C	8.526	8.7	8.874	20	8	600	3	6.5
MMSZ5239A	239C	8.918	9.1	9.282	20	10	600	3	7
MMSZ5240A	240C	9.8	10	10.2	20	17	600	3	8
MMSZ5241A	241C	10.78	11	11.22	20	22	600	2	8.4
MMSZ5242A	242C	11.76	12	12.24	20	30	600	1	9.1
MMSZ5243A	243C	12.74	13	13.26	9.5	13	600	0.5	9.9
MMSZ5244A	244C	13.72	14	14.28	9	15	600	0.1	10
MMSZ5245A	245C	14.7	15	15.3	8.5	16	600	0.1	11
MMSZ5246A	246C	15.68	16	16.32	7.8	17	600	0.1	12
MMSZ5247A	247C	16.66	17	17.34	7.4	19	600	0.1	13
MMSZ5248A	248C	17.64	18	18.36	7	21	600	0.1	14
MMSZ5249A	249C	18.62	19	19.38	6.6	23	600	0.1	14
MMSZ5250A	250C	19.6	20	20.4	6.2	25	600	0.1	15

# ELECTRICAL CHARACTERISTICS

## MMSZ52xxA

### 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	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
		Min	Nom	Max					
MMSZ5251A	251C	21.56	22	22.44	5.6	29	600	0.1	17
MMSZ5252A	252C	23.52	24	24.48	5.2	33	600	0.1	18
MMSZ5253A	253C	24.5	25	25.5	5	35	600	0.1	19
MMSZ5254A	254C	26.46	27	27.54	4.6	41	600	0.1	21
MMSZ5255A	255C	27.44	28	28.56	4.5	44	600	0.1	21
MMSZ5256A	256C	29.4	30	30.6	4.2	49	600	0.1	23
MMSZ5257A	257C	32.34	33	33.66	3.8	58	700	0.1	25
MMSZ5258A	258C	35.28	36	36.72	3.4	70	700	0.1	27
MMSZ5259A	259C	38.22	39	39.78	3.2	80	800	0.1	30
MMSZ5260A	260C	42.14	43	43.86	3	93	900	0.1	33
MMSZ5261A	261C	46.06	47	47.94	2.7	105	1000	0.1	36
MMSZ5262A	262C	49.98	51	52.02	2.5	125	1100	0.1	39
MMSZ5263A	263C	54.88	56	57.12	2.2	150	1300	0.1	43
MMSZ5264A	264C	58.8	60	61.2	2.1	170	1400	0.1	46
MMSZ5265A	265C	60.76	62	63.24	2.0	185	1400	0.1	47
MMSZ5266A	266C	66.64	68	69.36	1.8	230	1600	0.1	52
MMSZ5267A	267C	73.5	75	76.5	1.7	270	1700	0.1	56

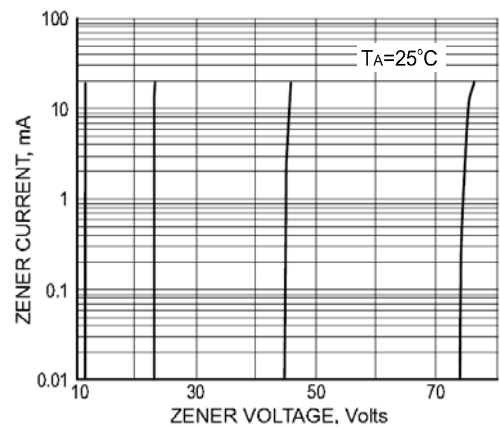
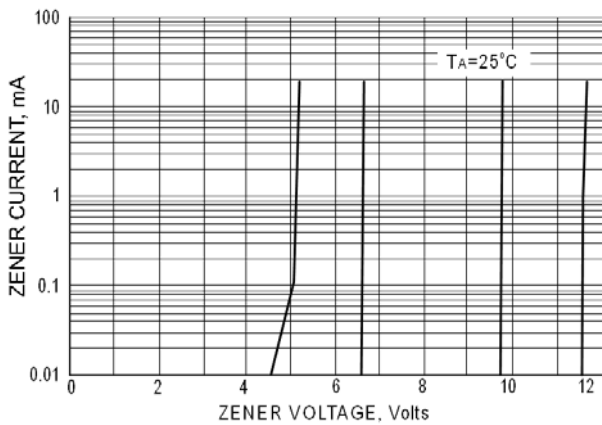
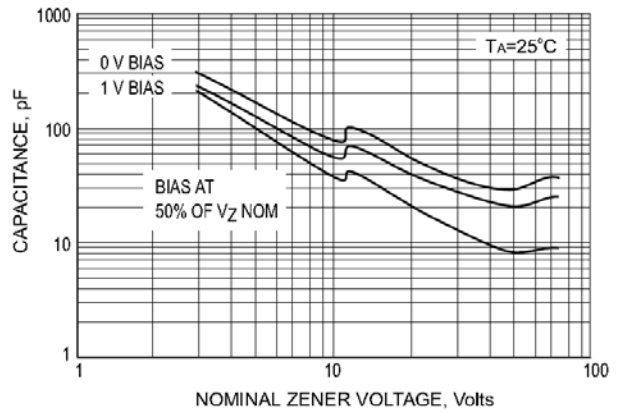
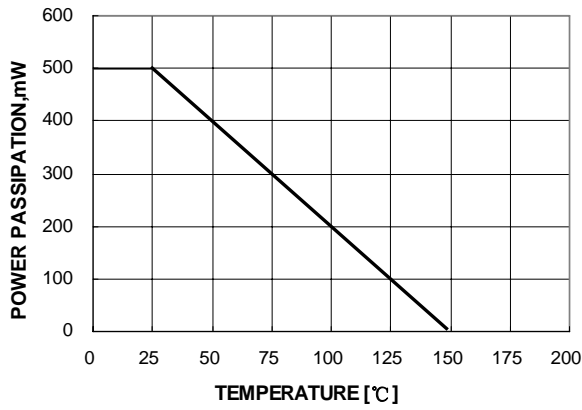
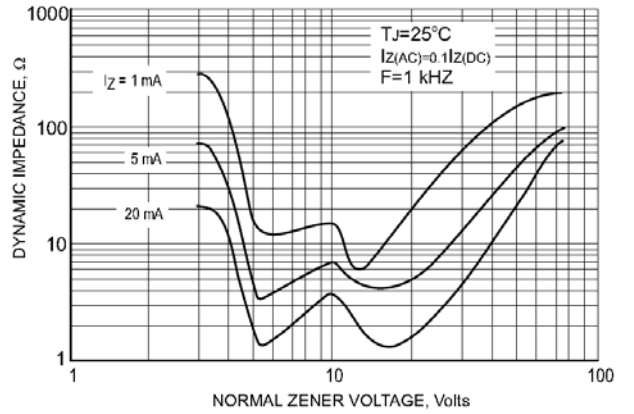
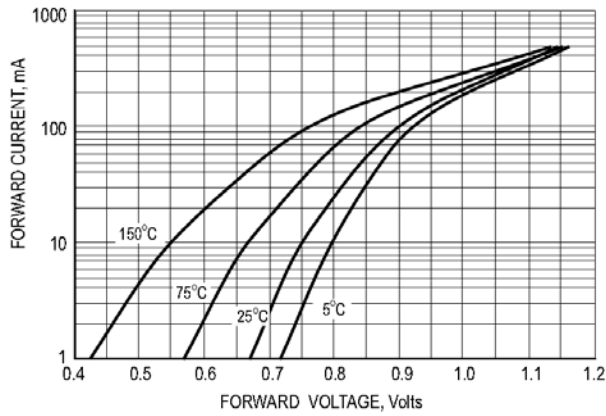
$V_F$  Forward Voltage = 900mV Maximum @  $I_F = 10$  mA for all types

#### Notes:

1. The zener voltage ( $V_Z$ ) is tested under pulse condition of 1mS.
2. The device numCers 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  $I_{ZK}$ .

# DEVICE CHARACTERISTICS

## MMSZ52xxA



# PACKAGE OUTLINE & DIMENSIONS

## MMSZ52xxA

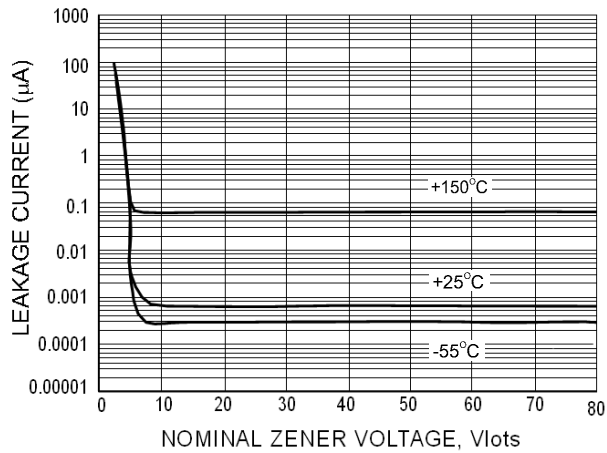
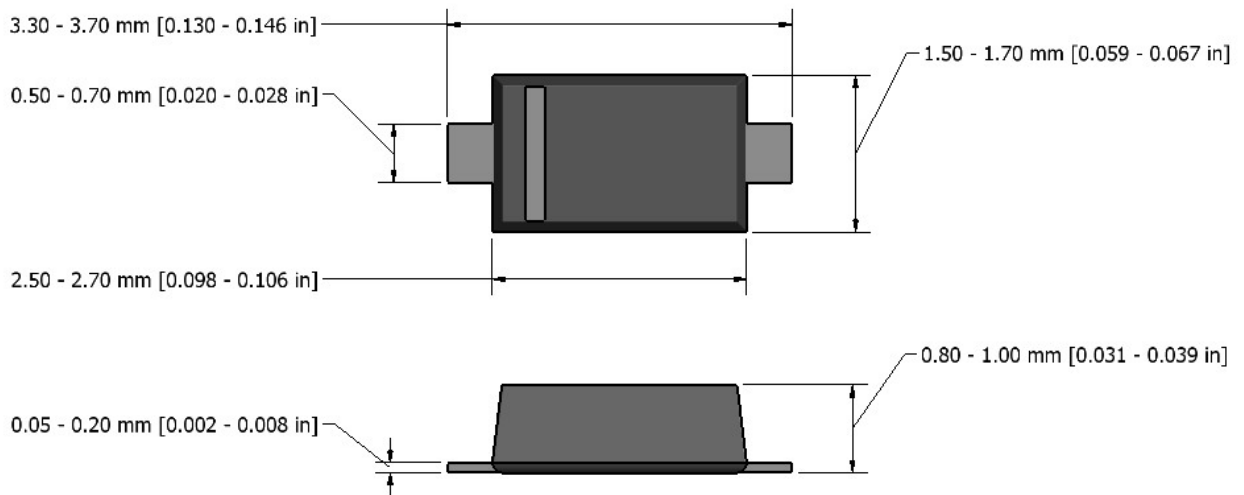


Fig.7 TYPICAL LEAKGE CURRENT

### Flat Lead SOD-123 Package Outline



**Note:** Dimensions are exclusive of Currs, Mold Flash & Tie Car extrusions.