

## SOD-123 Plastic-Encapsulate Zener Diode

### Features

- Low Zener Impedance
- High Stability and High Reliability
- 500mW; Power Dissipation of 500mW



SOD-123

### Applications

- Epoxy UL: 94V-0
- Mounting Position: Any
- SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>D</sub>	500	mW
Forward Voltage @I <sub>F</sub> =10mA	V <sub>f</sub>	0.9	V
Storage temperature range	T <sub>s</sub>	-65-+150	°C

1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>
2. Short duration test pulse used to minimize self-heating effect
3. f=1KHz

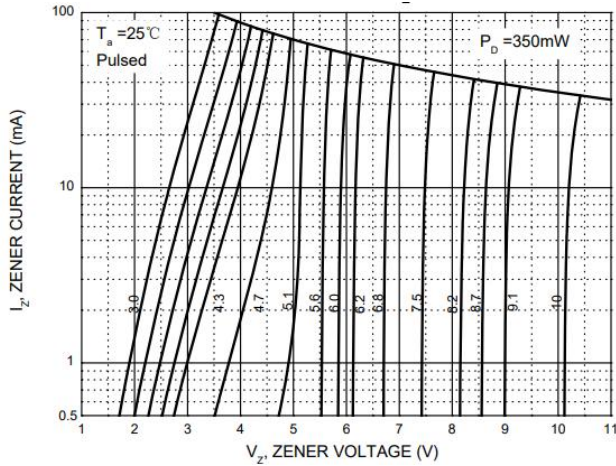
## Electrical Specifications (T<sub>A</sub>=25°C unless otherwise noted)

Type number	Code	Zener voltage range				Maximum Zener impedance		Maximum Reverse Leakage current	
		VZ @ IZT (V)			IZT	ZZT @ IZT	ZZK @ IZK=0.25A	IR	@VR
		Nom	Min	Max	(mA)	(Ω)		μA	V
MMSZ5221C	2C1	2.4	2.35	2.45	20	30	1200	100	1.0
MMSZ5223C	2C3	2.7	2.65	2.75	20	30	1300	75	1.0
MMSZ5225C	2C5	3.0	2.94	3.06	20	30	1600	50	1.0
MMSZ5226C	2G1	3.3	3.23	3.37	20	28	1600	25	1.0
MMSZ5227C	2G2	3.6	3.53	3.67	20	24	1700	15	1.0
MMSZ5228C	2G3	3.9	3.82	3.98	20	23	1900	10	1.0
MMSZ5229C	2G4	4.3	4.21	4.39	20	22	2000	5.0	1.0
MMSZ5230C	2G5	4.7	4.61	4.79	20	19	1900	5.0	2.0
MMSZ5231C	2E1	5.1	5.00	5.20	20	17	1600	5.0	2.0
MMSZ5232C	2E2	5.6	5.49	5.71	20	11	1600	5.0	3.0
MMSZ5233C	2E3	6.0	5.88	6.12	20	7	1600	5.0	3.5
MMSZ5234C	2E4	6.2	6.08	6.32	20	7	1000	5.0	4.0
MMSZ5235C	2E5	6.8	6.66	6.94	20	5	750	3.0	5.0
MMSZ5236C	2F1	7.5	7.35	7.65	20	6	500	3.0	6.0
MMSZ5237C	2F2	8.2	8.04	8.36	20	8	500	3.0	6.5
MMSZ5238C	2F3	8.7	8.53	8.87	20	8	600	3.0	6.5
MMSZ5239C	2F4	9.1	8.92	9.28	20	10	600	3.0	7.0
MMSZ5240C	2F5	10	9.80	10.20	20	17	600	3.0	8.0
MMSZ5241C	2H1	11	10.78	11.22	20	22	600	2.0	8.4
MMSZ5242C	2H2	12	11.76	12.24	20	30	600	1.0	9.1
MMSZ5243C	2H3	13	12.74	13.26	9.5	13	600	0.5	9.9
MMSZ5244C	2H4	14	13.72	14.28	9.0	15	600	0.1	10
MMSZ5245C	2H5	15	14.70	15.30	8.5	16	600	0.1	11
MMSZ5246C	2J1	16	15.68	16.32	7.8	17	600	0.1	12
MMSZ5248C	2J3	18	17.64	18.36	7.0	21	600	0.1	14
MMSZ5250C	2J5	20	19.60	20.40	6.2	25	600	0.1	15
MMSZ5251C	2K1	22	21.56	22.44	5.6	29	600	0.1	17
MMSZ5252C	2K2	24	23.52	24.48	5.2	33	600	0.1	18
MMSZ5253C	2K3	25	24.50	25.50	5.0	35	600	0.1	19
MMSZ5254C	2K4	27	26.46	27.54	5.0	41	600	0.1	21
MMSZ5255C	2K5	28	27.44	28.56	4.5	44	600	0.1	21
MMSZ5256C	2M1	30	29.40	30.60	4.2	49	600	0.1	23
MMSZ5257C	2M2	33	32.34	33.66	3.8	58	700	0.1	25
MMSZ5258C	2M3	36	35.28	36.72	3.4	70	700	0.1	27
MMSZ5259C	2M4	39	38.22	39.78	3.2	80	800	0.1	30

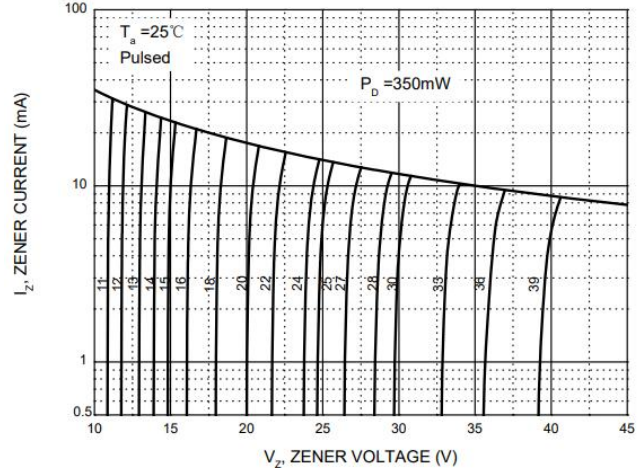
## Ratings and Characteristics Curves

( $T_a = 25^\circ\text{C}$  unless otherwise noted)

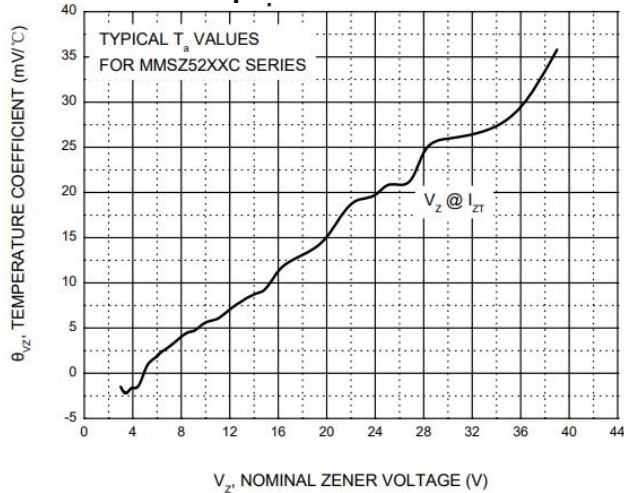
### Zener Characteristics(VZ Up to 10 V)



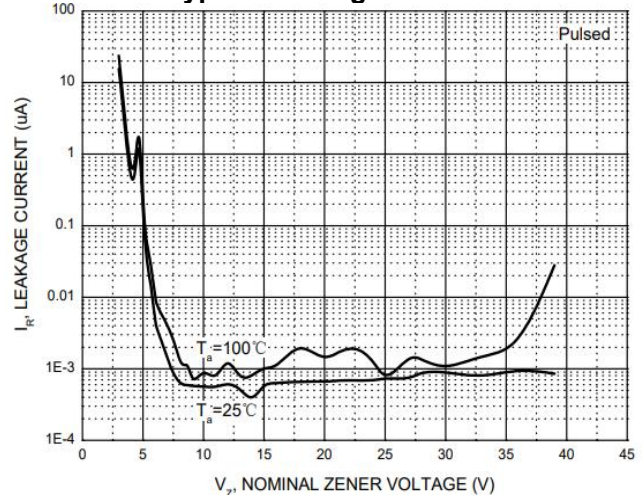
### Zener Characteristics(11 V to 39 V)



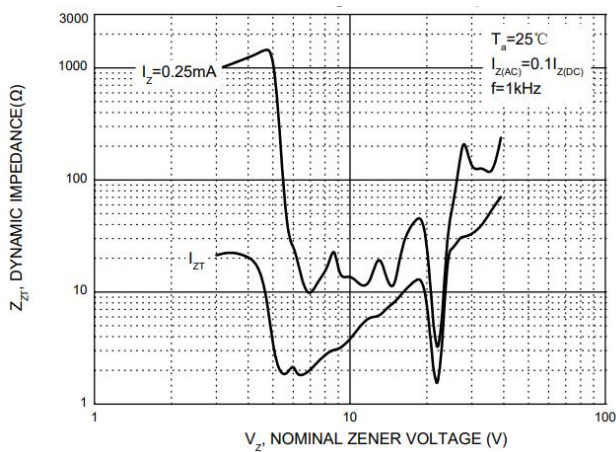
### Temperature Coefficients



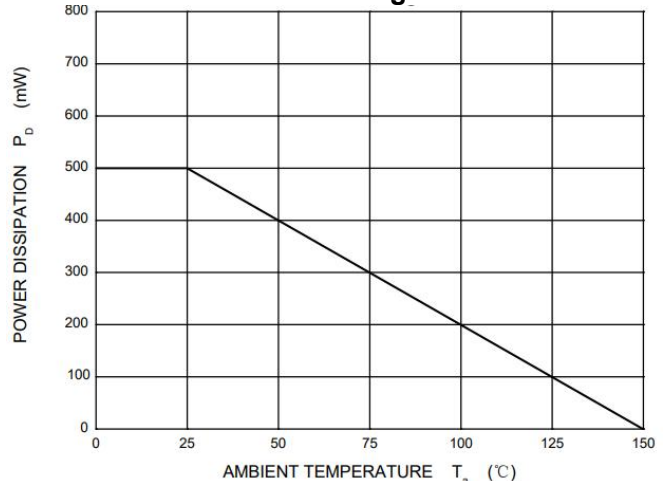
### Typical Leakage Current



### Effect of Zener Voltage on Zener Impedance

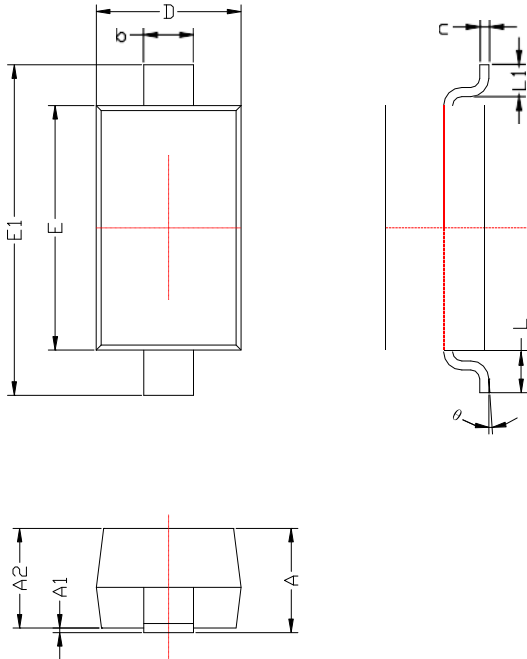


### Power Derating Curve



## Package Outline Dimensions

millimeters



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500REF	
L1	0.250	0.450
$\theta$	0°	8°

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.01	First issue

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