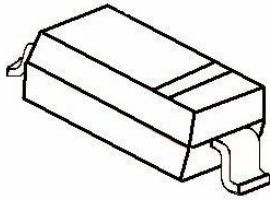


## SOD-123

## SOD-123 Plastic-Encapsulate Zener Diode



## 特征 Features

- 齐纳击穿阻抗低; Low Zener Impedance
- 最大功率耗散 500mW; Power Dissipation of 500mW
- 高稳定性和可靠性。High Stability and High Reliability

## 机械数据 Mechanical Data

- 封装: SOD-123 封装 SOD-123 Small Outline Plastic Package
- 极性: 色环端为负极 Polarity: Color band denotes cathode end
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0
- 安装位置: 任意 Mounting Position: Any

极限值和温度特性(TA = 25℃ 除非另有规定)

**Maximum Ratings & Thermal Characteristics** (Ratings at 25℃ ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
功率消耗 Power Dissipation	Pd	500 <sup>1)</sup>	mW
正向压降 Forward Voltage @IF=10mA	Vf	0.9 <sup>2)</sup>	V
存储温度 Storage temperature range	Ts	-65-+150	℃
热阻 Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	340	℃/W

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

电特性 (TA = 25℃ 除非另有规定)

**Electrical Characteristics** (Ratings at 25℃ ambient temperature unless otherwise specified.)

Device	Marking	Zener Voltage Range				Maximum Reverse Current	
		Vz@Izt			Izt uA	IR uA	VR V
		Min(V)	Nom (V)	Max(V)			
MMSZ4678	CC	1.71	1.8	1.89	50	7.5	1
MMSZ4679	CD	1.90	2.0	2.10	50	5	1
MMSZ4680	CE	2.09	2.2	2.31	50	4	1
MMSZ4681	CF	2.28	2.4	2.52	50	2	1
MMSZ4682	CH	2.57	2.7	2.84	50	1	1
MMSZ4683	CJ	2.85	3.0	3.15	50	0.8	1
MMSZ4684	CK	3.13	3.3	3.47	50	7.5	1.5
MMSZ4685	CM	3.42	3.6	3.78	50	7.5	2
MMSZ4686	CN	3.70	3.9	4.10	50	5	2
MMSZ4687	CP	4.09	4.3	4.52	50	4	2
MMSZ4688	CT	4.47	4.7	4.94	50	10	3
MMSZ4689	CU	4.85	5.1	5.36	50	10	3
MMSZ4690	CV	5.32	5.6	5.88	50	10	4
MMSZ4691	CA	5.89	6.2	6.51	50	10	5
MMSZ4692	CX	6.46	6.8	7.14	50	10	5.1
MMSZ4693	CY	7.13	7.5	7.88	50	10	5.7
MMSZ4694	CZ	7.79	8.2	8.61	50	1	6.2
MMSZ4695	DC	8.27	8.7	9.14	50	1	6.6

# MMSZ4xxx Series

Device	Marking	Zener Voltage Range				Maximum Reverse Current	
		V <sub>Z</sub> @I <sub>ZT</sub>			I <sub>ZT</sub> uA	I <sub>R</sub> uA	V <sub>R</sub> V
		Min(V)	Nom(V)	Max(V)			
MMSZ4696	DD	8.65	9.1	9.56	50	1	6.9
MMSZ4697	DE	9.50	10.0	10.50	50	1	7.6
MMSZ4698	DF	10.45	11.0	11.55	50	0.05	8.4
MMSZ4699	DH	11.40	12.0	12.60	50	0.05	9.1
MMSZ4700	DJ	12.35	13.0	13.65	50	0.05	9.8
MMSZ4701	DK	13.30	14.0	14.70	50	0.05	10.6
MMSZ4702	DM	14.25	15.0	15.75	50	0.05	11.4
MMSZ4703	DN	15.20	16.0	16.80	50	0.05	12.1
MMSZ4704	DP	16.15	17.0	17.85	50	0.05	12.9
MMSZ4705	DT	17.10	18.0	18.90	50	0.05	13.6
MMSZ4706	DU	18.05	19.0	19.95	50	0.05	14.4
MMSZ4707	DV	19.00	20.0	21.00	50	0.01	15.2
MMSZ4708	DA	20.90	22.0	23.10	50	0.01	16.7
MMSZ4709	DX	22.80	24.0	25.20	50	0.01	18.2
MMSZ4710	DY	23.75	25.0	26.25	50	0.01	19
MMSZ4711	EA	25.65	27.0	28.35	50	0.01	20.4
MMSZ4712	EC	26.60	28.0	29.40	50	0.01	21.2
MMSZ4713	ED	28.50	30.0	31.50	50	0.01	22.8
MMSZ4714	EE	31.35	33.0	34.65	50	0.01	25
MMSZ4715	EF	34.20	36.0	37.80	50	0.01	27.3
MMSZ4716	EH	37.05	39.0	40.95	50	0.01	29.6
MMSZ4717	EJ	40.85	43.0	45.15	50	0.01	32.6

## TYPICAL CHARACTERISTICS

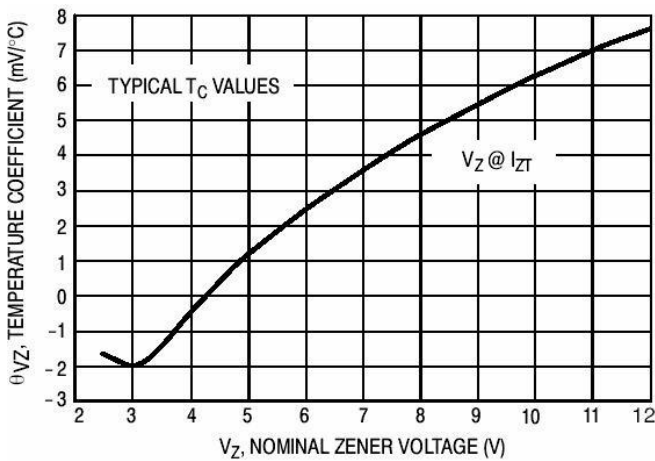


Figure 1. Temperature Coefficients  
(Temperature Range -55°C to +150°C)

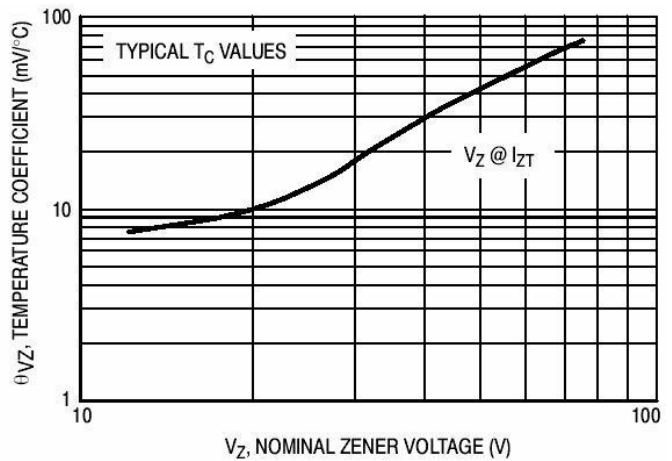


Figure 2. Temperature Coefficients  
(Temperature Range -55°C to +150°C)

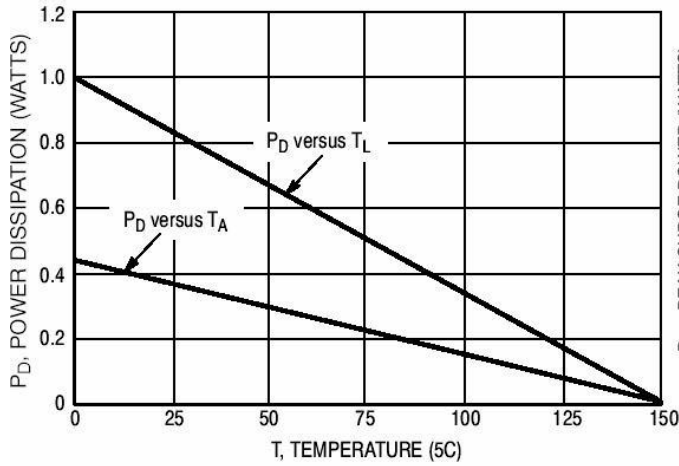


Figure 3. Steady State Power Derating

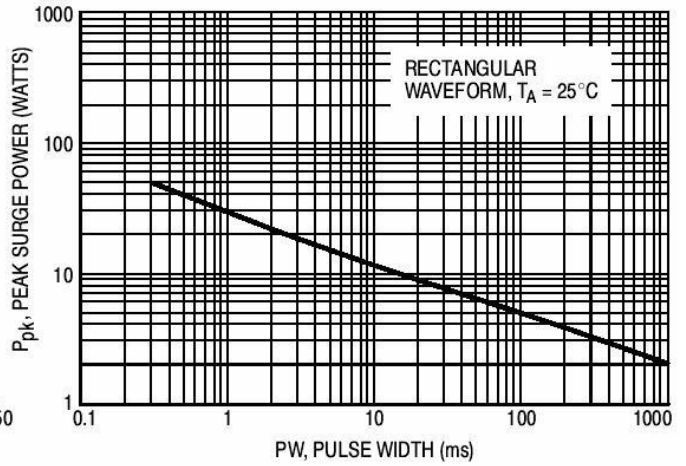


Figure 4. Maximum Nonrepetitive Surge Power

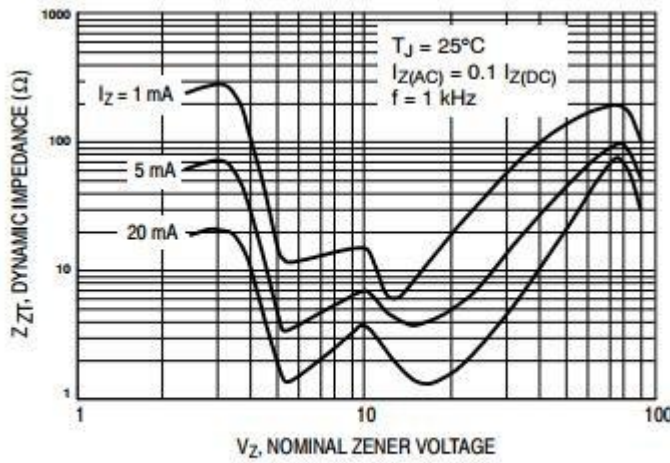


Figure 5. Effect of Zener Voltage on Zener Impedance

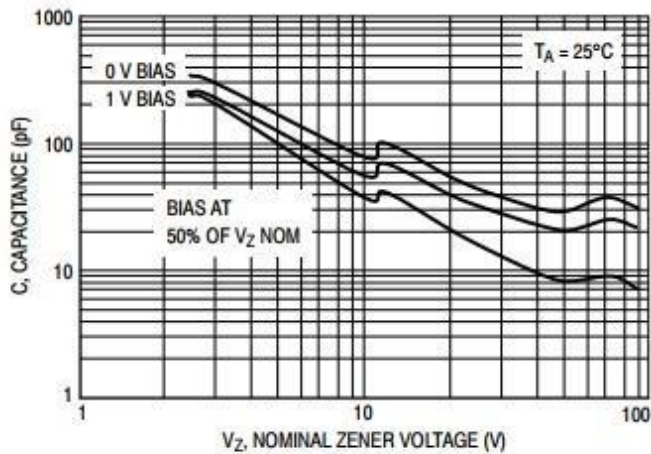


Figure 6. Typical Capacitance

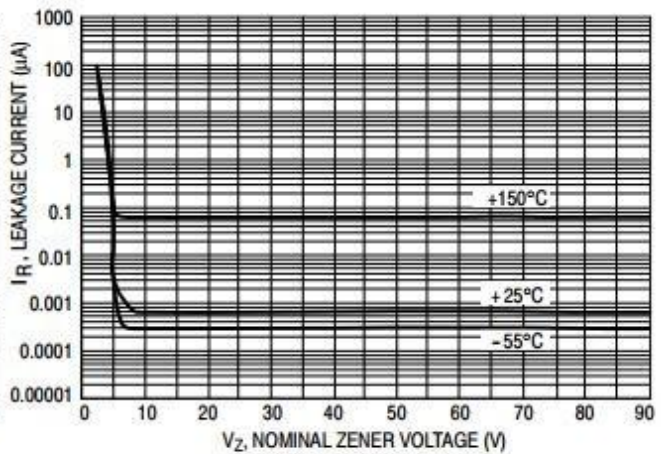


Figure 7. Typical Leakage Current

## MMSZ4xxx Series

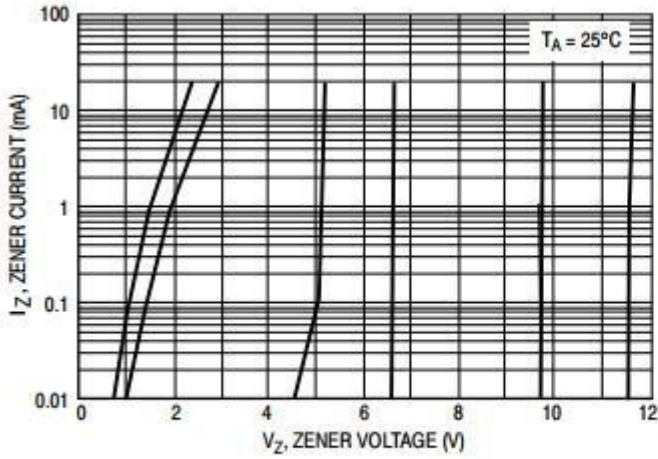


Figure 8. Zener Voltage versus Zener Current  
( $V_Z$  Up to 12 V)

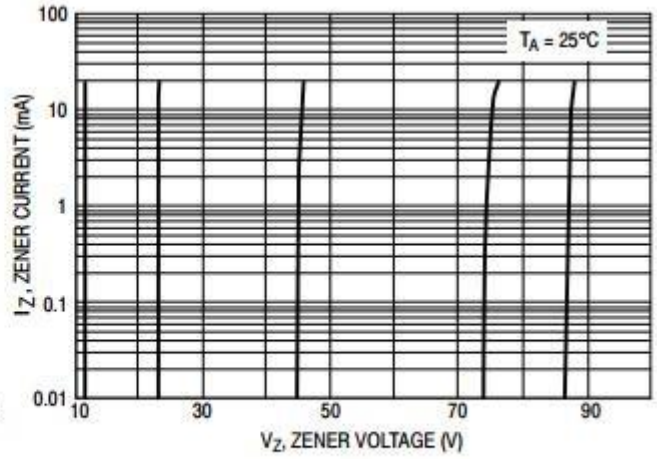
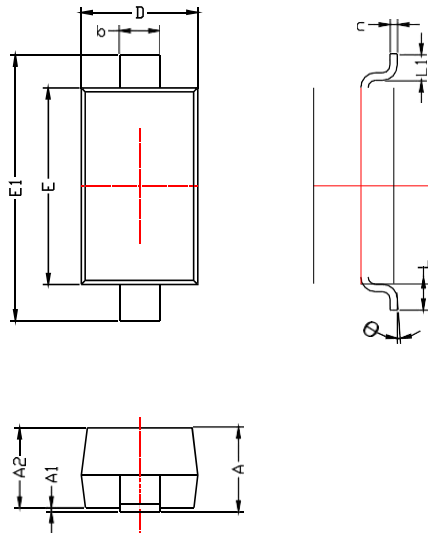


Figure 9. Zener Voltage versus Zener Current  
(12V to 43V)

## SOD-123 PACKAGE OUTLINE Plastic surface mounted package

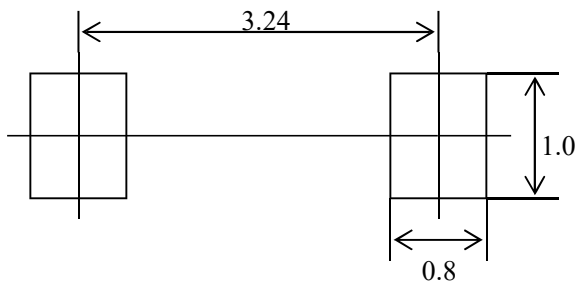


SYMBOL	DIMENSIONS	
	MEN.	MAX.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
R	0.500R±	
1	0.250	0.450
θ	0°	8°

### 焊盘设计参考

Precautions: PCB Design

Recommended land dimensions for SOD-123 diode. Electrode patterns for PCBs



中心距: 3.24  
脚宽: 0.55  
焊盘宽: 1.00  
脚长: 0.50  
焊盘长: 0.80

技术要求:

- 1, 塑封体尺寸: 2.70 X 1.60
- 2, 未注公差为:  $\pm 0.05$
- 3, 所有单位: mm