

# MMSZxxxCW

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°C 除非另有规定)

**Maximum Ratings & Thermal Characteristics** (Ratings at 25°C 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	°C
Thermal resistance junction to ambient air Warmewiderstand Sperschicht -umgebende Luft	RthA	400	K/W <sup>1)</sup>

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

电特性 (TA = 25°C 除非另有规定)

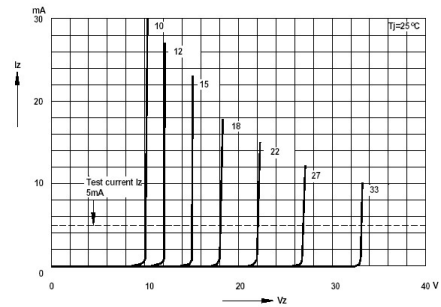
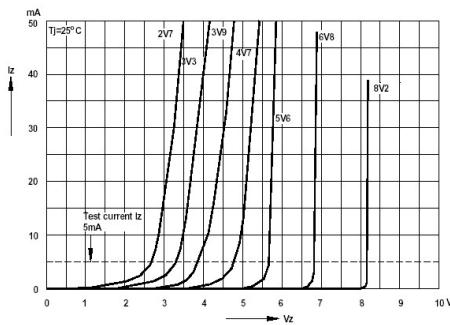
**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

Device	Marking	Zener Voltage Range				Maximum Zener Impedance <sup>3)</sup>			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR	Min	Max	
		Nom(V)	Min(V)	Max(V)									
MMSZ2V0CW	WY	2.0	1.80	2.15	5	150	600	1.0	100	1.0	-3.5	0	5
MMSZ2V4CW	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
MMSZ2V7CW	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
MMSZ3V0CW	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
MMSZ3V3CW	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
MMSZ3V6CW	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
MMSZ3V9CW	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
MMSZ4V3CW	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
MMSZ4V7CW	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
MMSZ5V1CW	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
MMSZ5V6CW	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
MMSZ6V2CW	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
MMSZ6V8CW	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
MMSZ7V5CW	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
MMSZ8V2CW	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
MMSZ9V1CW	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
MMSZ10VCW	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5

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Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR	Min	Max	
		Nom(V)	Min(V)	Max(V)									
MMSZ11VCW	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
MMSZ12VCW	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
MMSZ13VCW	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
MMSZ15VCW	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
MMSZ16VCW	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
MMSZ18VCW	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
MMSZ20VCW	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
MMSZ22VCW	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
MMSZ24VCW	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
MMSZ27VCW	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
MMSZ30VCW	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
MMSZ33VCW	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
MMSZ36VCW	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
MMSZ39VCW	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
MMSZ43VCW	WU	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
MMSZ47VCW	WV	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
MMSZ51VCW	WW	51	48.0	54.0	2	125	750	1.0	0.1	38.0	10.0	12.0	5
MMSZ56VCW	XW	56	52.0	60.0	2	135	700	1.0	0.1	39.0	10.0	12.0	5
MMSZ62VCW	6E	62	58.0	66.0	2	200	1000	1.0	0.2	47.0	10.0	12.0	5
MMSZ68VCW	6F	68	64.0	72.0	2	250	1000	1.0	0.2	52.0	10.0	12.0	5
MMSZ75VCW	6H	75	70.0	79.0	2	300	1000	1.0	0.2	57	10.0	12.0	5

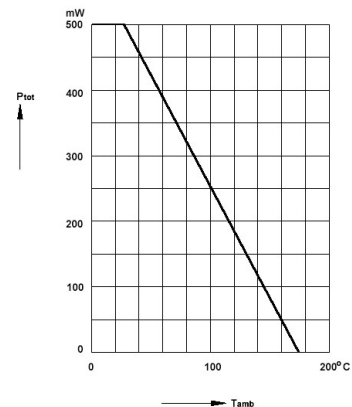
### Breakdown characteristics at Tj=constant (pulsed)



### Forward characteristics



### Admissible power dissipation versus ambient temperature



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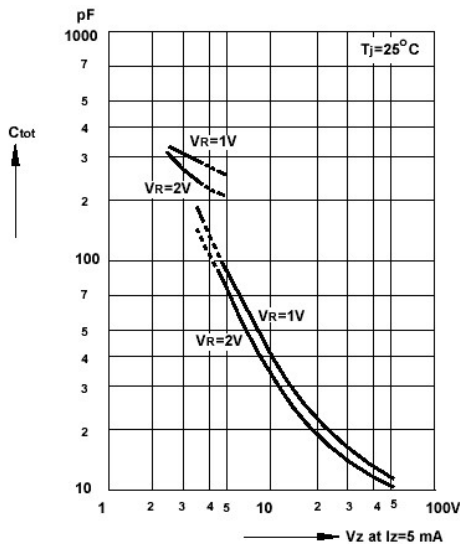
Pulse thermal resistance versus pulse duration



Dynamic resistance versus Zener current



Capacitance versus Zener voltage



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Thermal differential resistance versus Zener voltage

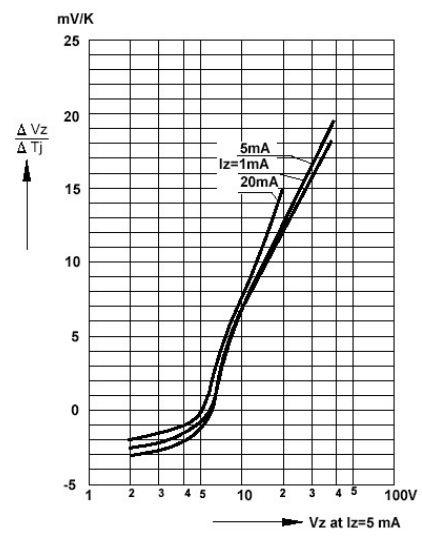


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Dynamic resistance versus Zener voltage



Temperature dependence of Zener voltage versus Zener voltage



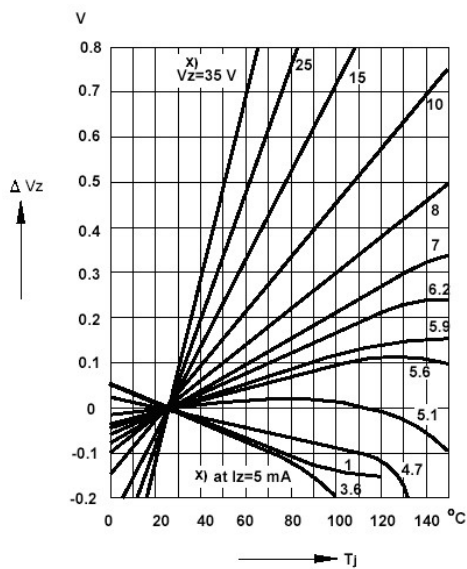
Temperature dependence of Zener voltage versus Zener voltage



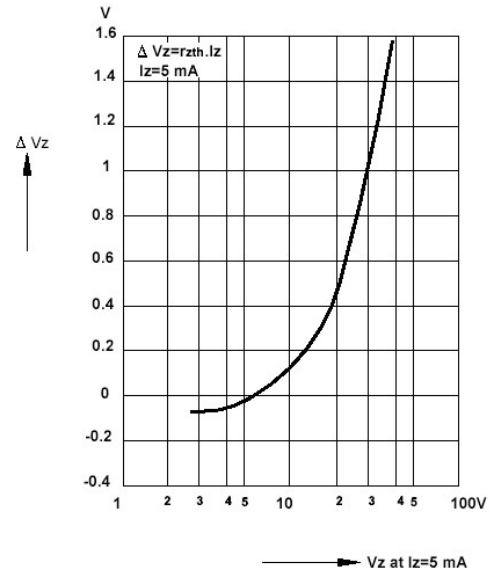
Change of Zener voltage versus junction temperature



Change of Zener voltage versus junction temperature

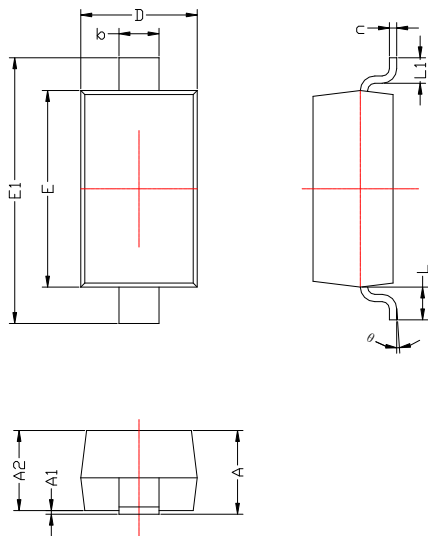


Change of Zener voltage from turn-on up to the point of thermal equilibrium versus Zener voltage



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## SOD-123 PACKAGE OUTLINE Plastic surface mounted package

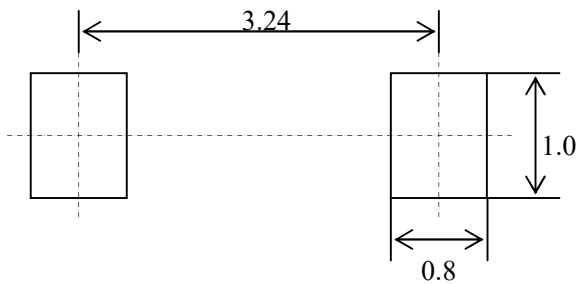


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500REF	
L1	0.250	0.450
$\theta$	0°	8°

### 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

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