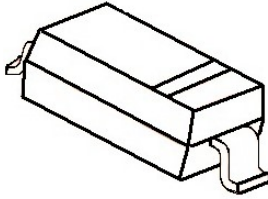


# MM3Z Series

SOD-323

SOD-323 Plastic-Encapsulate Zener Diode



## 特征 Features

- 齐纳击穿阻抗低; Low Zener Impedance
- 最大功率耗散 200mW; Power Dissipation of 200mW
- 高稳定性和可靠性。High Stability and High Reliability

## 机械数据 Mechanical Data

- 封装: SOD-323 封装 SOD-323 Small Outline Plastic Package
- 极性: 色环端为负极 Polarity: Color band denotes cathode end
- 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	200 <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

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)

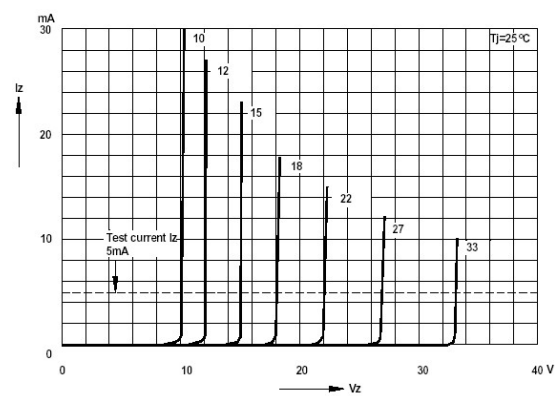
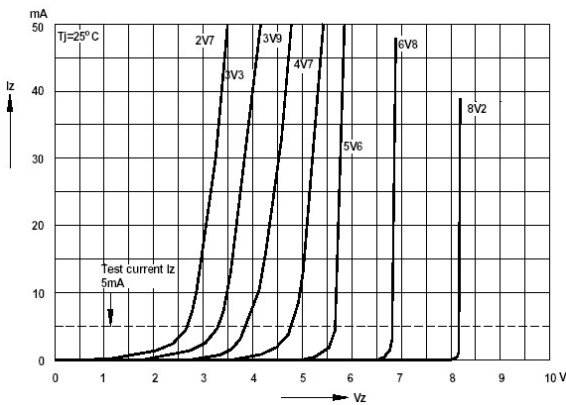
**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

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)	mA	Ω		mA	uA	V			
MM3Z2V0	WY	2.0	1.80	2.15	5	150	600	1.0	100	1.0	-3.5	0	5
MM3Z2V4	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
MM3Z2V7	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
MM3Z3V0	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
MM3Z3V3	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
MM3Z3V6	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
MM3Z3V9	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V3	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V7	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
MM3Z5V1	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
MM3Z5V6	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
MM3Z6V2	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
MM3Z6V8	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
MM3Z7V5	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
MM3Z8V2	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
MM3Z9V1	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
MM3Z10	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
MM3Z11	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
MM3Z12	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
MM3Z13	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5

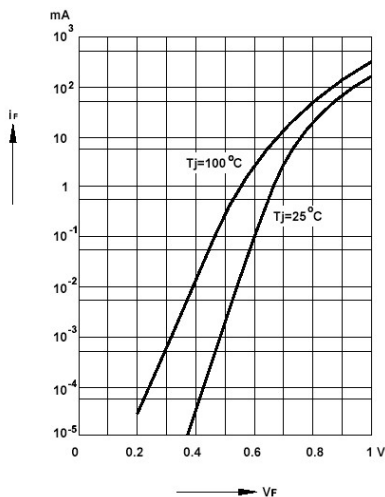
# MM3Z Series

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)	mA	Ω		mA	μA	V			
MM3Z15	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
MM3Z16	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
MM3Z18	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
MM3Z20	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
MM3Z22	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
MM3Z24	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
MM3Z27	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
MM3Z30	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
MM3Z33	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
MM3Z36	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
MM3Z39	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
MM3Z43	WU	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
MM3Z47	WV	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
MM3Z51	WW	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5
MM3Z56	XW	56	52.0	60.0	2	135	700	1.0	0.1	39.0	10.0	12.0	5
MM3Z62	6E	62	58.0	66.0	2	200	1000	1.0	0.2	47.0	10.0	12.0	5
MM3Z68	6F	68	64.0	72.0	2	250	1000	1.0	0.2	52.0	10.0	12.0	5
MM3Z75	6H	75	70.0	79.0	2	300	1000	1.0	0.2	57	10.0	12.0	5

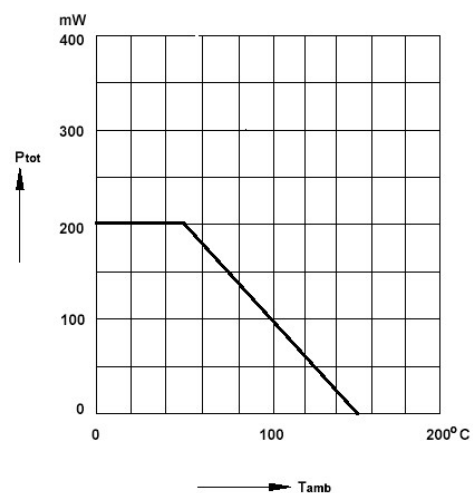
### Breakdown characteristics at Tj=constant (pulsed)



### Forward characteristics

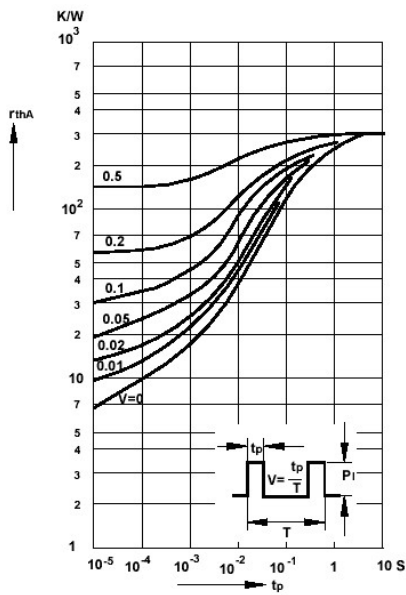


### Admissible power dissipation versus ambient temperature

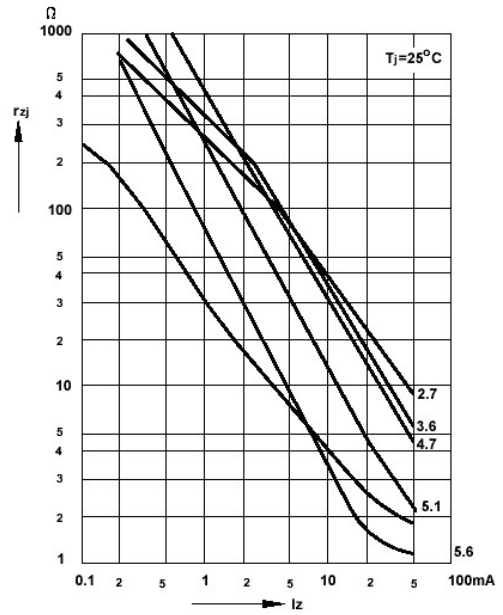


# MM3Z Series

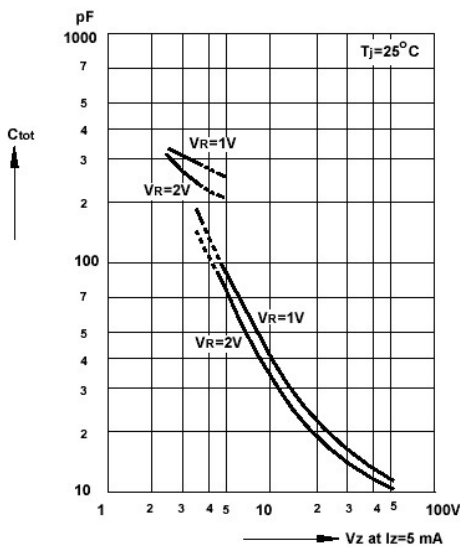
Pulse thermal resistance versus pulse duration



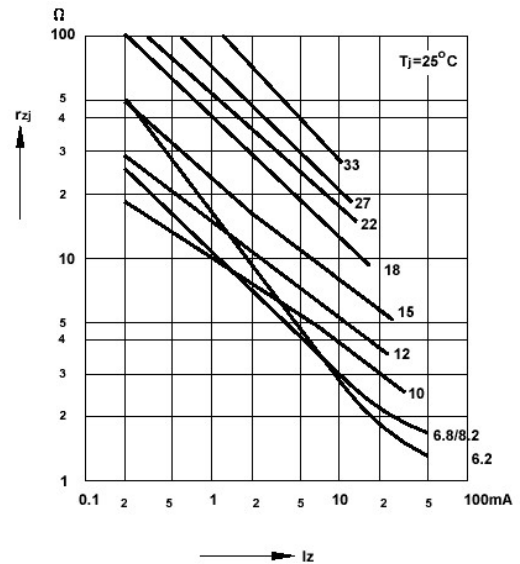
Dynamic resistance versus Zener current



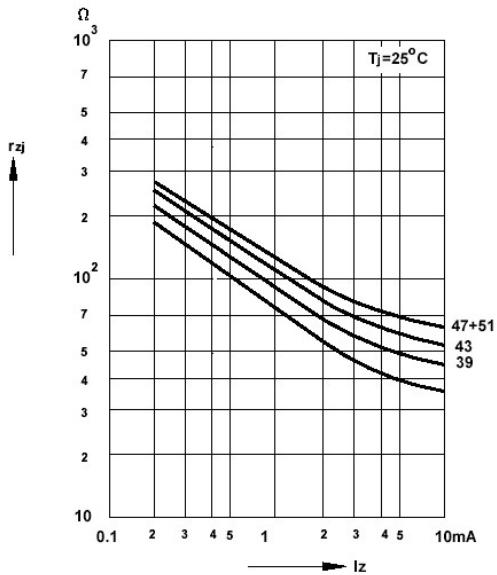
Capacitance versus Zener voltage



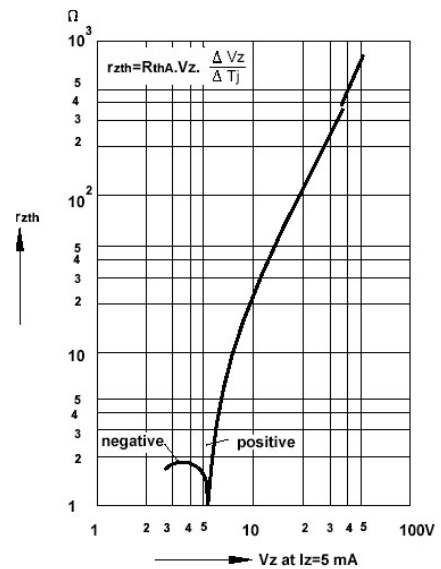
Dynamic resistance versus Zener current



Dynamic resistance versus Zener current

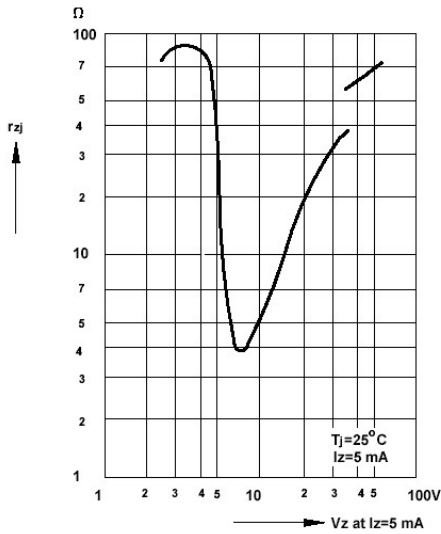


Thermal differential resistance versus Zener voltage

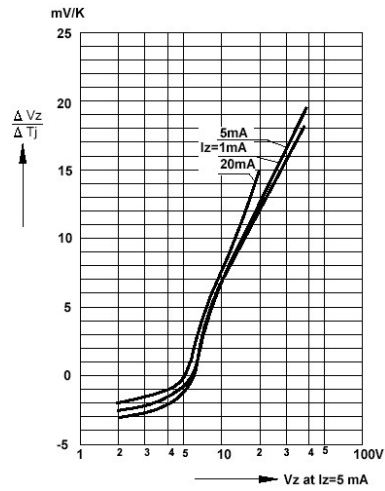


# MM3Z Series

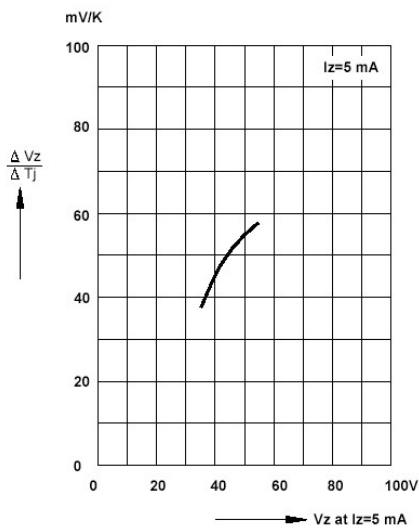
Dynamic resistance versus Zener voltage



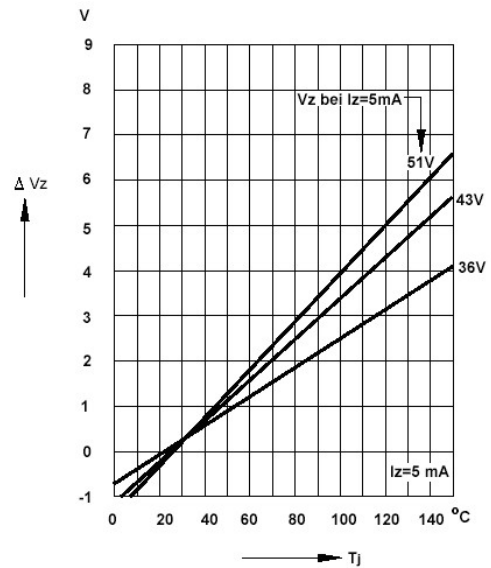
Temperature dependence of Zener voltage versus Zener voltage



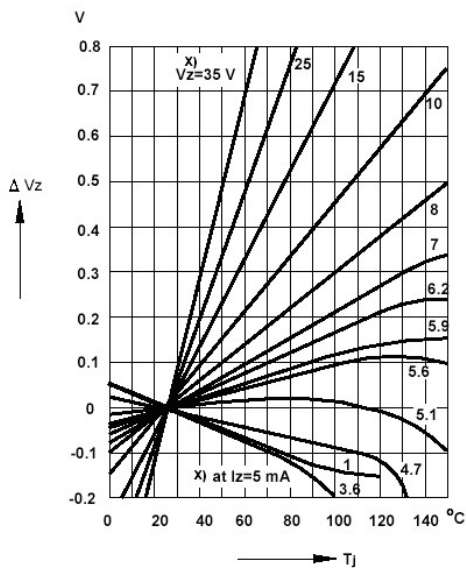
Temperature dependence of Zener voltage versus Zener voltage



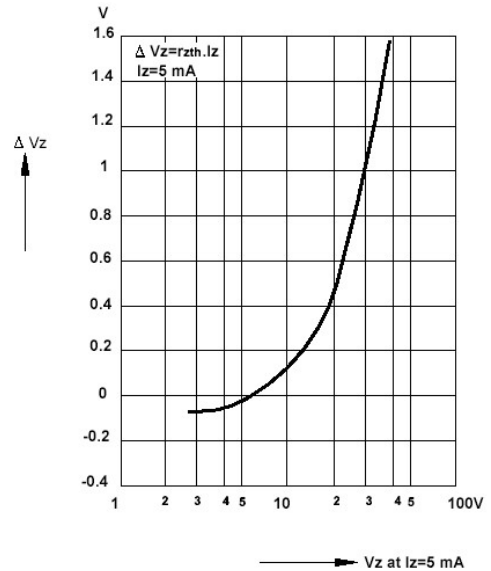
Change of Zener voltage versus junction temperature



Change of Zener voltage versus junction temperature



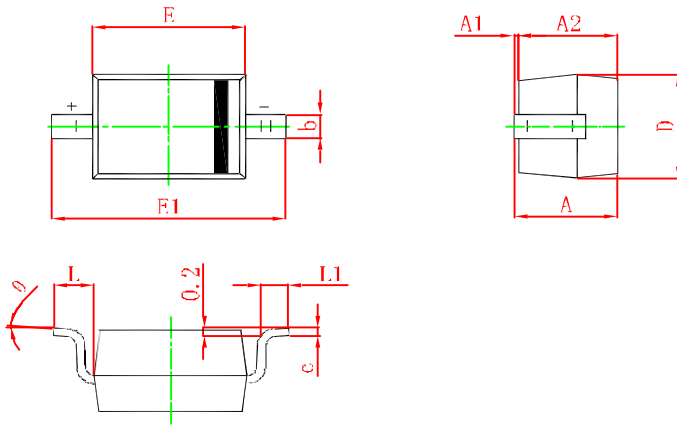
Change of Zener voltage from turn-on up to the point of thermal equilibrium versus Zener voltage



# MM3Z Series

## SOD-323 PACKAGE OUTLINE Plastic surface mounted package

### SOD-323



Symbol	Min.(mm)	Max.(mm)
<b>A</b>		1.000
<b>A1</b>	0.000	0.100
<b>A2</b>	0.800	0.900
<b>b</b>	0.250	0.350
<b>c</b>	0.080	0.150
<b>D</b>	1.200	1.400
<b>E</b>	1.600	1.800
<b>E1</b>	2.500	2.700
<b>L</b>	0.475REF	
<b>L1</b>	0.250	0.400
<b><math>\theta</math></b>	<b>0°</b>	<b>8°</b>

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