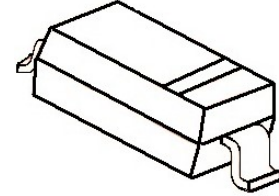


0.2W Plastic-Encapsulate Zener Diode

Features

- Low Zener Impedance
- Power Dissipation of 200mW
- High Stability and High Reliability

SOD-323



Mechanical Data

- SOD-323 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Power Dissipation	P_D	200 1)	mW
Forward Voltage @ $I_F=10mA$	V_F	0.9 2)	V
Storage temperature range	T_S	-65~+150	°C

1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm²

2) Short duration test pulse used to minimize self-heating effect

3) f=1KHz

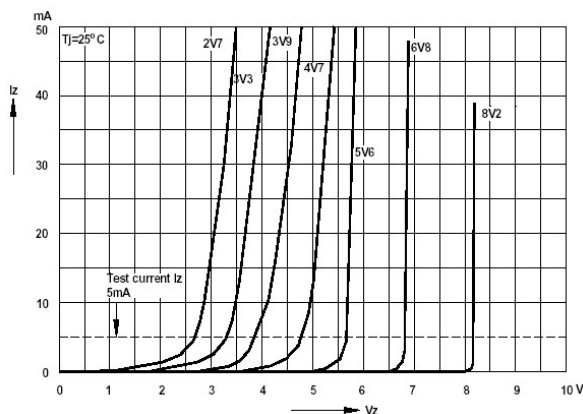
Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Part Number	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ I _{ZTC} =mV/°C		Test Current I _{ZTC}
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	V _R	Min	Max	
		Nom(V)	Min(V)	Max(V)	mA	Ω	mA	μA	V				
MM3Z2V0	WY	2.0	1.91	2.09	5	100	600	1.0	150	1.0	-3.5	0	450
MM3Z2V4	00	2.4	2.2	2.6	5	100	1000	0.5	50	1.0	-3.5	0	450
MM3Z2V7	01	2.7	2.5	2.9	5	100	1000	0.5	20	1.0	-3.5	0	450
MM3Z3V0	02	3.0	2.8	3.2	5	100	1000	0.5	10	1.0	-3.5	0	450
MM3Z3V3	05	3.3	3.1	3.5	5	95	1000	0.5	5	1.0	-3.5	0	450
MM3Z3V6	06	3.6	3.4	3.8	5	90	1000	0.5	5	1.0	-3.5	0	450
MM3Z3V9	07	3.9	3.7	4.1	5	90	1000	0.5	3	1.0	-3.5	-2.5	450
MM3Z4V3	08	4.3	4.0	4.6	5	90	1000	0.5	3	1.0	-3.5	0	450
MM3Z4V7	09	4.7	4.4	5.0	5	80	800	0.5	3	2.0	-3.5	0.2	260
MM3Z5V1	0A	5.1	4.8	5.4	5	60	800	0.5	2	2.0	-2.7	1.2	225
MM3Z5V6	0C	5.6	5.2	6.0	5	40	700	0.5	1	2.0	-2.0	2.5	200
MM3Z6V2	0E	6.2	5.8	6.6	5	10	100	0.5	3	4.0	0.4	3.7	185
MM3Z6V8	0F	6.8	6.4	7.2	5	15	160	0.5	2	4.0	1.2	4.5	155
MM3Z7V5	0G	7.5	7.0	7.9	5	15	160	0.5	1	5.0	2.5	5.3	140
MM3Z8V2	0H	8.2	7.7	8.7	5	15	160	0.5	0.7	5.0	3.2	6.2	135
MM3Z9V1	0K	9.1	8.5	9.6	5	15	160	0.5	0.2	7.0	3.8	7.0	130
MM3Z10	0L	10	9.4	10.6	5	20	160	0.5	0.1	8.0	4.5	8.0	130
MM3Z11	0M	11	10.4	11.6	5	20	160	0.5	0.1	8.0	5.4	9.0	130
MM3Z12	0N	12	11.4	12.7	5	25	80	0.5	0.1	8.0	6.0	10.0	130
MM3Z13	0P	13	12.4	14.1	5	30	80	0.5	0.1	8.0	7.0	11.0	120

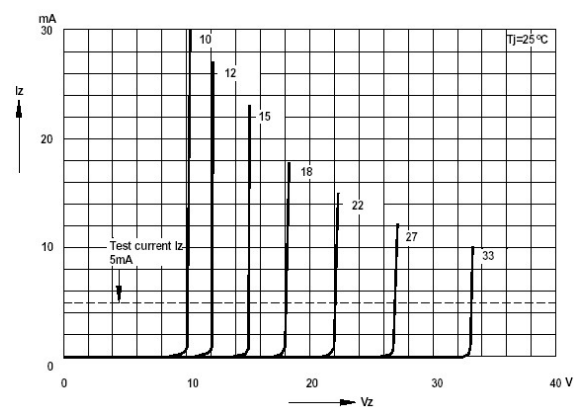
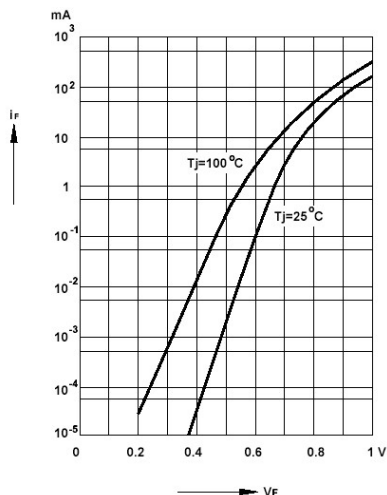


Part Number	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ $I_{ZTC}=mV/^{\circ}C$		Test Current I_{ZTC}
		$V_Z@I_{ZT}$			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	V_R	$^{\circ}C$		
		Nom(V)	Min(V)	Max(V)	mA	Ω	mA	μA	V	Min		Max	
MM3Z15	0T	15	13.8	15.6	5	30	400	0.5	0.05	10.5	9.2	13.0	110
MM3Z16	0U	16	15.3	17.1	5	40	400	0.5	0.05	11.2	10.4	14.0	105
MM3Z18	0W	18	16.8	19.1	5	45	400	0.5	0.05	12.6	12.4	16.0	100
MM3Z20	0Z	20	18.8	21.2	5	55	500	0.5	0.05	14.0	14.4	18.0	85
MM3Z22	10	22	20.8	23.3	5	55	500	0.5	0.05	15.4	16.4	20.0	85
MM3Z24	11	24	22.8	25.6	5	70	120	0.5	0.05	16.8	18.4	22.0	80
MM3Z27	12	27	25.1	28.9	2	80	300	0.5	0.05	18.9	21.4	25.3	70
MM3Z30	14	30	28.0	32.0	2	80	300	0.5	0.05	21.0	24.4	29.4	70
MM3Z33	18	33	31.0	35.0	2	80	300	0.5	0.05	23.1	27.4	33.4	70
MM3Z36	19	36	34.0	38.0	2	90	500	0.5	0.05	25.2	30.4	37.4	70
MM3Z39	20	39	37.0	41.0	2	130	500	0.5	0.05	27.3	33.4	41.2	45
MM3Z43	21	43	40.0	46.0	2	150	500	0.5	0.05	30.1	37.6	46.6	40
MM3Z47	1A	47	44.0	50.0	2	170	500	0.5	0.05	32.9	42.0	51.8	40
MM3Z51	1C	51	48.0	54.0	2	180	500	0.5	0.05	35.7	46.6	57.2	40
MM3Z56	1D	56	52.0	60.0	2	200	500	0.5	0.05	39.2	52.2	63.8	40
MM3Z62	1E	62	58.0	66.0	2	215	500	0.5	0.05	43.3	58.8	71.6	35
MM3Z68	1F	68	64.0	72.0	2	240	500	0.5	0.05	47.6	65.6	79.8	35
MM3Z75	1G	75	70.0	79.0	2	255	500	0.5	0.05	52.5	73.4	88.6	35

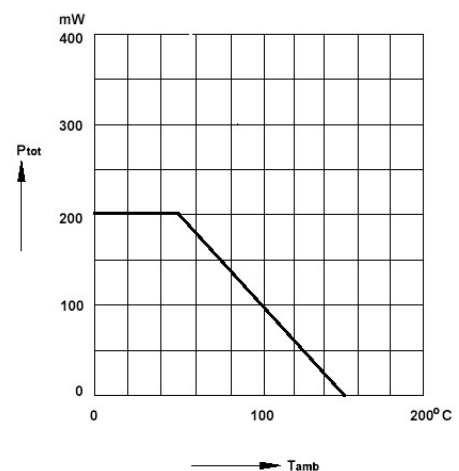
Breakdown Characteristics at $T_J=\text{constant}$ (pulsed)



Forward characteristics

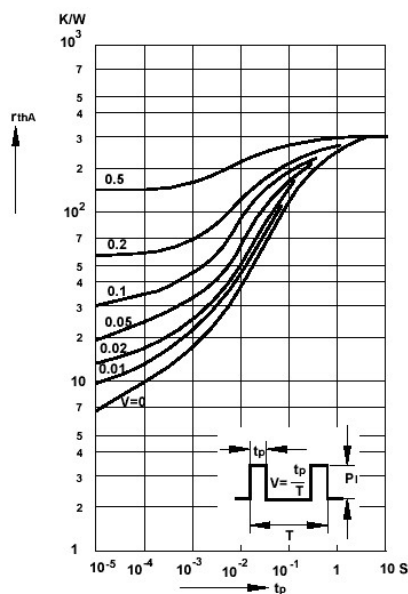


Admissible power dissipation versus ambient temperature

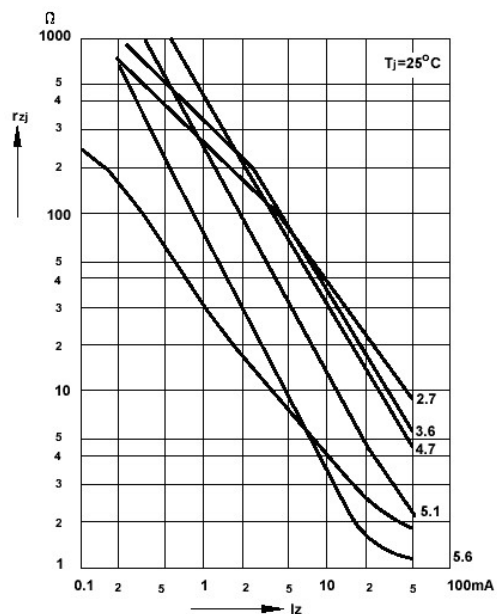




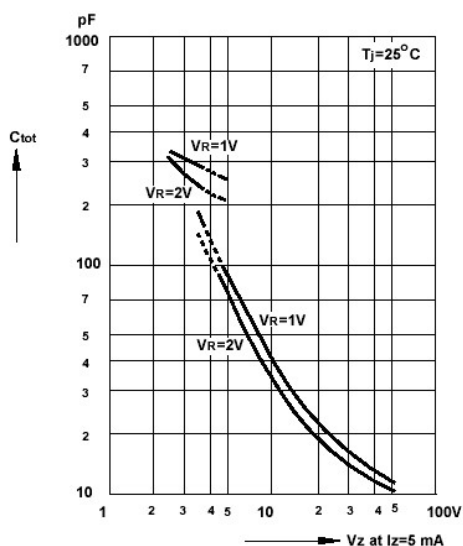
Pulse thermal resistance versus pulse duration



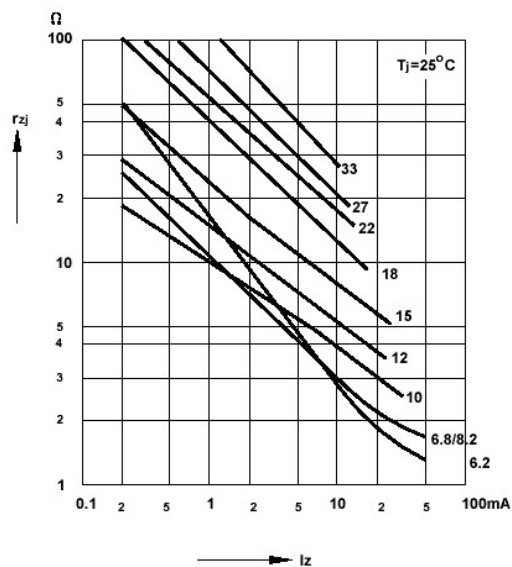
Dynamic resistance versus Zener current



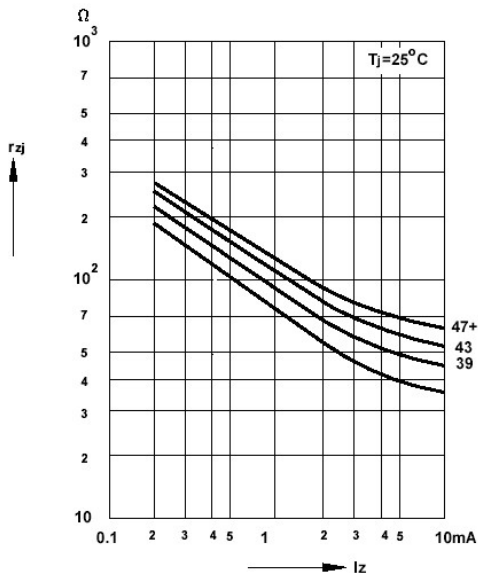
Capacitance versus Zener voltage



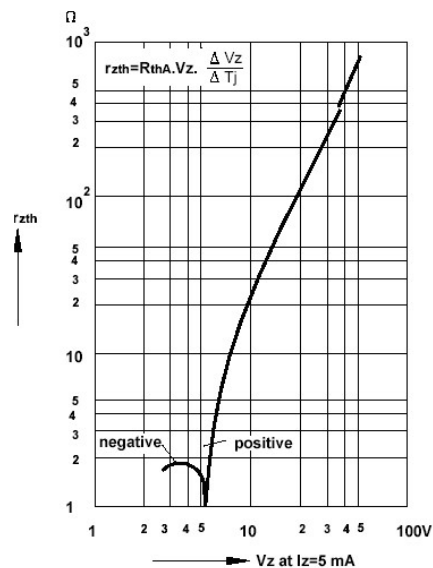
Dynamic resistance versus Zener current



Dynamic resistance versus Zener current

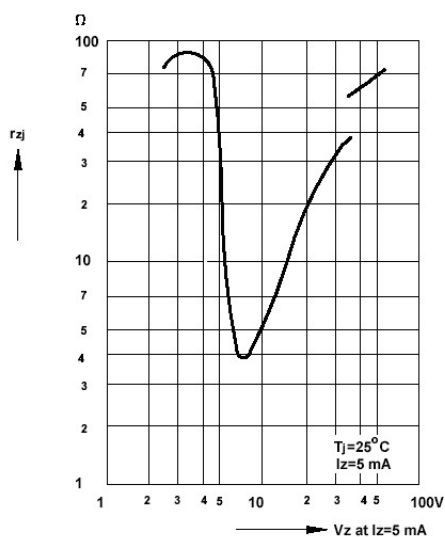


Thermal differential resistance versus Zener voltage

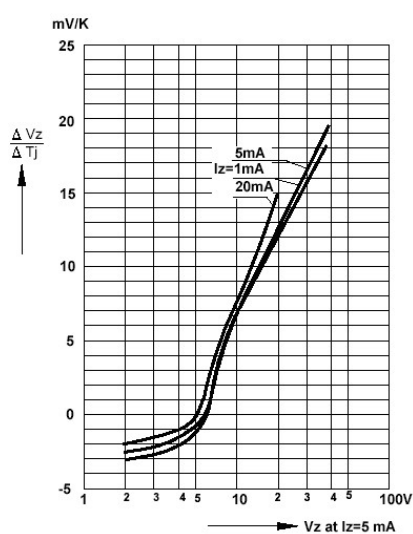




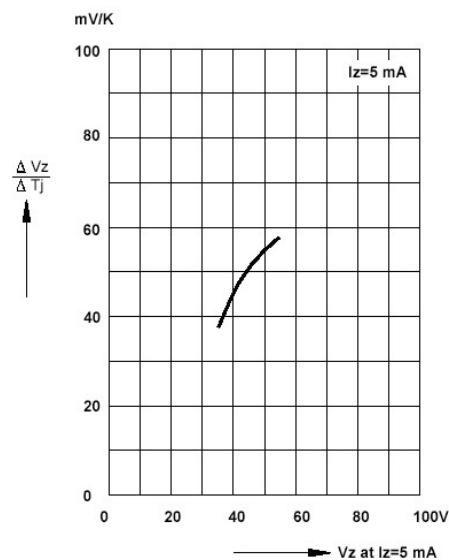
Dynamic resistance versus Zener voltage



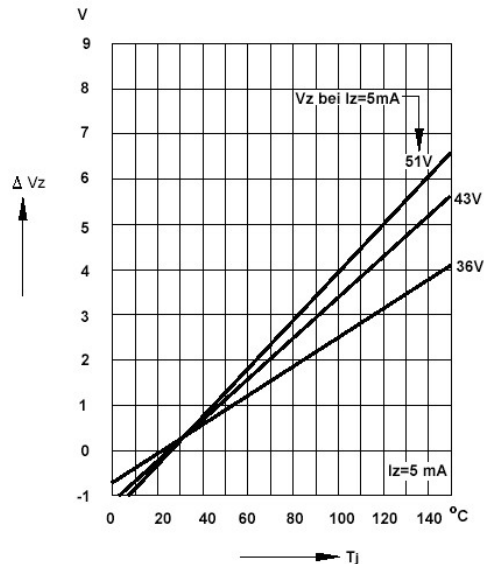
Temperature dependence of Zener voltage versus Zener voltage



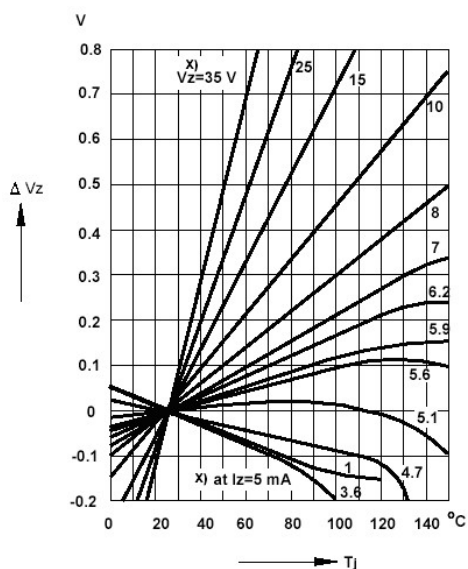
Temperature dependence of Zener voltage versus Zener voltage



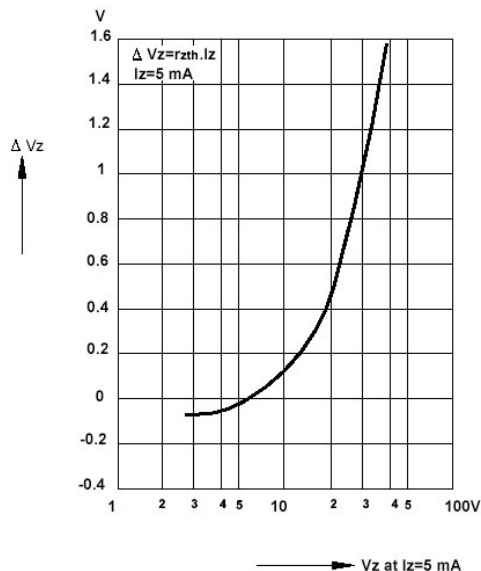
Change of Zener voltage versus junction temperature



Change of Zener voltage versus junction temperature



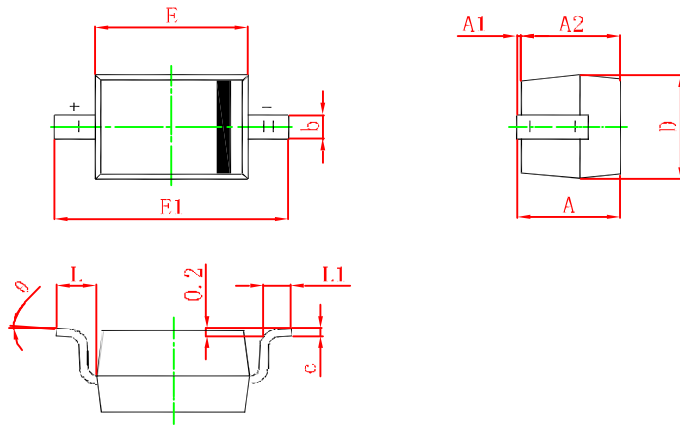
Change of Zener voltage from turn-on up to the point of thermal equilibrium versus Zener voltage





SOD-323 Package Outline Plastic surface mounted package

SOD-323



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