Plastic-Encapsulate Zener Diode

Parameter	Value	Unit
V_Z	2.4~39	V
P_D	200	mW

SOD-323

Features

- Planar Die Construction
- Ultra-Small Surface Mount Package
- General purpose, Medium Current
- Ideally Suited for Automated Assembly Processes

Applications

- Surge protection
- Voltage stabilization
- Polarity Protection

Absolute Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Forward Voltage @ I_F = 10mA	V_F	0.9	V
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	-55~+150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃
Typical Thermal Resistance	$R_{\theta JA}$	417	℃/W

Electrical Characteristics(Ta=25℃ unless otherwise noted)

Type Number	Marking	Nominal Zener Voltage				Zener Impedance			Leakage Current	
		V_Z@I_{ZT}			I_{ZT}	Z_{ZT}@I_ZT	Z_{ZK}@I_{ZK}	I_{ZK}	I_R@V_R	
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	I_R (uA)	V_R(V)
MMSZ5221BS	C1	2.4	2.28	2.52	20	30	1200	0.25	100	1.0
MMSZ5223BS	C3	2.7	2.57	2.84	20	30	1300	0.25	75	1.0
MMSZ5225BS	C5	3.0	2.85	3.15	20	30	1600	0.25	50	1.0
MMSZ5226BS	G1	3.3	3.14	3.47	20	28	1600	0.25	25	1.0
MMSZ5227BS	G2	3.6	3.42	3.78	20	24	1700	0.25	15	1.0
MMSZ5228BS	G3	3.9	3.71	4.10	20	23	1900	0.25	10	1.0
MMSZ5229BS	G4	4.3	4.09	4.52	20	22	2000	0.25	5	1.0
MMSZ5230BS	G5	4.7	4.47	4.94	20	19	1900	0.25	5	2.0
MMSZ5231BS	E1	5.1	4.85	5.36	20	17	1600	0.25	5	2.0
MMSZ5232BS	E2	5.6	5.32	5.88	20	11	1600	0.25	5	3.0
MMSZ5233BS	E3	6.0	5.70	6.30	20	7	1600	0.25	5	3.5
MMSZ5234BS	E4	6.2	5.89	6.51	20	7	1000	0.25	5	4.0
MMSZ5235BS	E5	6.8	6.46	7.14	20	5	750	0.25	3	5.0
MMSZ5236BS	F1	7.5	7.13	7.88	20	6	500	0.25	3	6.0
MMSZ5237BS	F2	8.2	7.79	8.61	20	8	500	0.25	3	6.5
MMSZ5238BS	F3	8.7	8.27	9.14	20	8	600	0.25	3	6.5
MMSZ5239BS	F4	9.1	8.65	9.56	20	10	600	0.25	3	7.0
MMSZ5240BS	F5	10	9.50	10.50	20	17	600	0.25	3	8.0
MMSZ5241BS	H1	11	10.45	11.55	20	22	600	0.25	2.0	8.4
MMSZ5242BS	H2	12	11.40	12.60	20	30	600	0.25	1.0	9.1
MMSZ5243BS	H3	13	12.35	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5244BS	H4	14	13.30	14.70	9.0	15	600	0.25	0.1	10
MMSZ5245BS	H5	15	14.25	15.75	8.5	16	600	0.25	0.1	11
MMSZ5246BS	J1	16	15.20	16.80	7.8	17	600	0.25	0.1	12
MMSZ5248BS	J3	18	17.10	18.90	7.0	21	600	0.25	0.1	14
MMSZ5250BS	J5	20	19.00	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251BS	K1	22	20.90	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252BS	K2	24	22.80	25.20	5.2	33	600	0.25	0.1	18
MMSZ5253BS	K3	25	23.75	26.25	5.0	35	600	0.25	0.1	19
MMSZ5254BS	K4	27	25.65	28.35	5.0	41	600	0.25	0.1	21
MMSZ5255BS	K5	28	26.60	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256BS	M1	30	28.50	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257BS	M2	33	31.35	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258BS	M3	36	34.20	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259BS	M4	39	37.05	40.95	3.2	80	800	0.25	0.1	30

Typical Characteristics

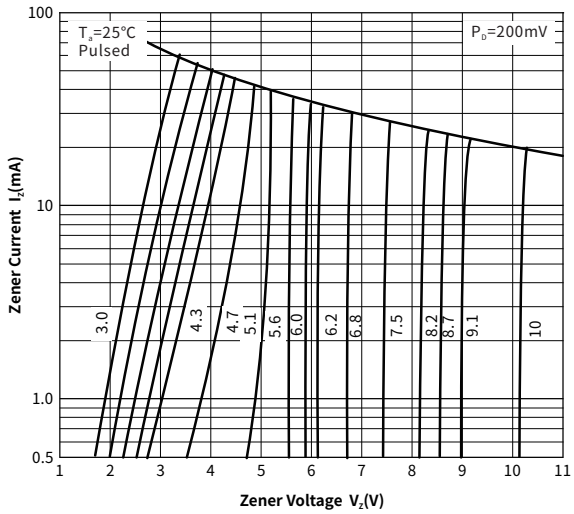


Fig. 1 Zener Characteristics(Vz 3V to 10V)

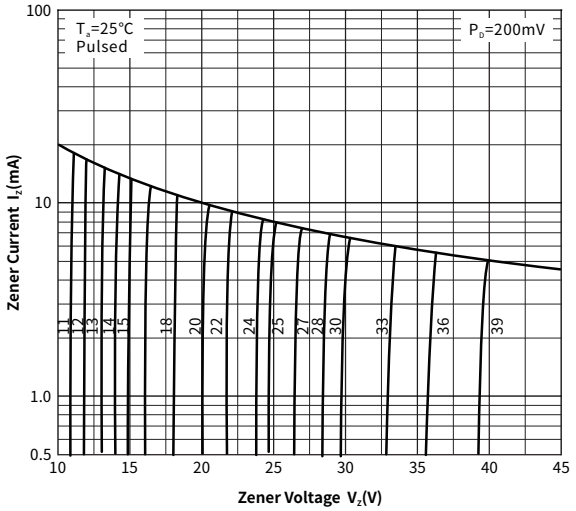


Fig.2 Zener Characteristics(Vz 11V to 39V)

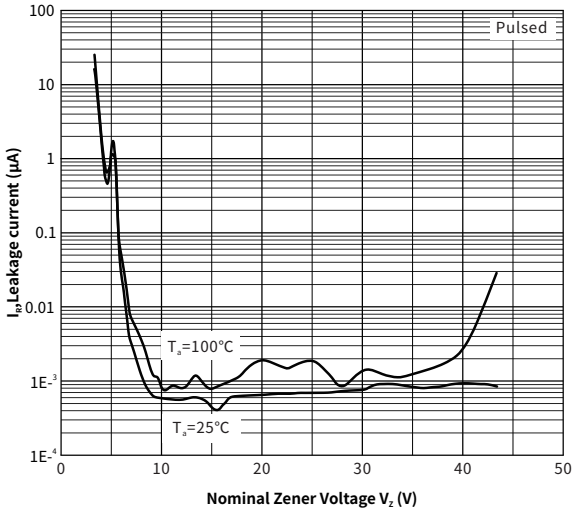


Fig.3 Typical Leakage Current

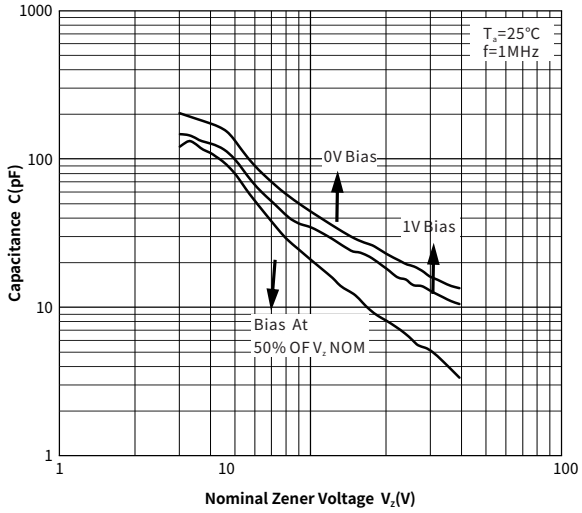


Fig.4 Typical Capacitance

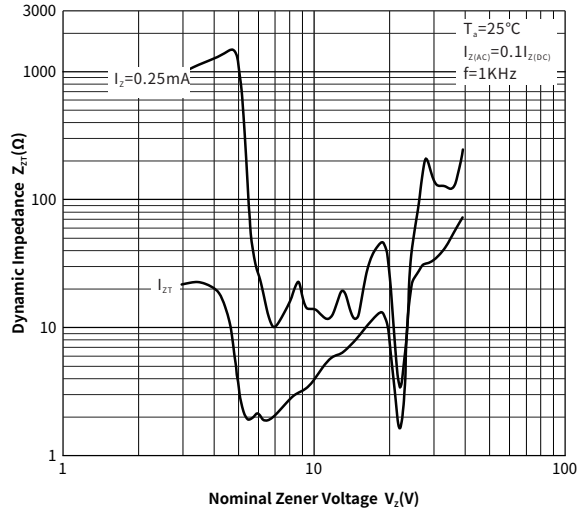


Fig.5 Effect of Zener Voltage on Zener Impedance

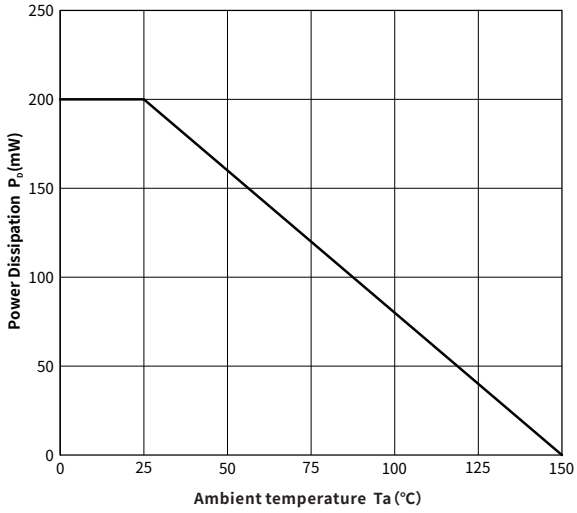
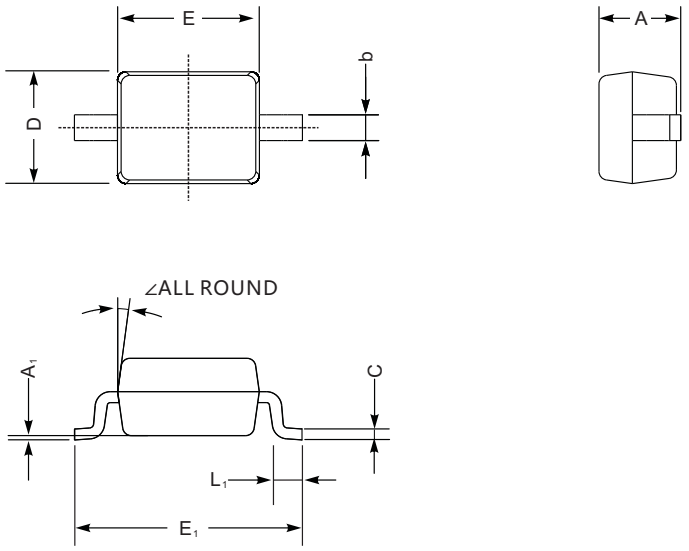


Fig.6 Power Derating Curve

Package Outlines (Dimensions in mm)

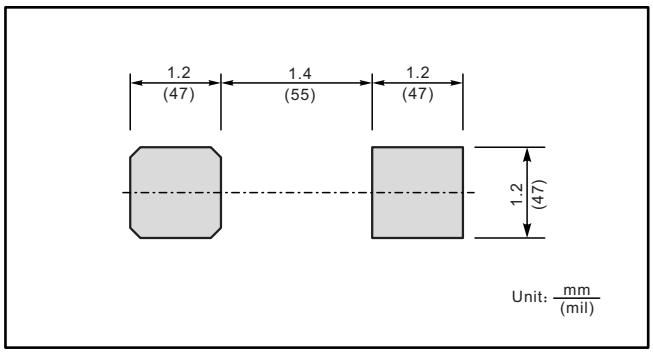
Plastic surface mounted package; 2 leads



SOD-323 mechanical data

UNIT		A	C	D	E	E_1	b	L_1	A_1	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

The recommended mounting pad size



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