

SOD-323 SURFACE MOUNT SILICON ZENER DIODES

Features

- Low Zener Impedance
- Power Dissipation of 300mW
- High Stability and High Reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

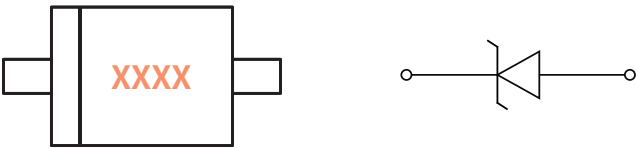
Mechanical Data

- Case: SOD-323
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

Zener Diode
2.0 to 75 Volts
Power Dissipation
0.3 Watts

SOD-323



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	P _D	mW	300
Forward Voltage @ I _F =10mA	V _F	V	0.9
Storage Temperature	T _{stg}	°C	-55 ~+150
Junction Temperature	T _J	°C	-55 ~+150
Typical Thermal Resistance	R _{θJA}	°C /W	417

Electrical Parameter

SYMBOL	PARAMETER
V _Z	Reverse zener voltage @ I _{ZT}
I _{ZT}	Reverse current
Z _{ZT}	Maximum Zener Impedance @ I _{ZT}
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ I _{ZK}
I _R	Reverse leakage current @ V _R
V _R	Reverse voltage
I _F	Forward current
V _F	Forward voltage @ I _F

MM3Z2V0B THRU MM3Z75B

SURFACE MOUNT ZENER DIODES

● Electrical Characteristics (Ta=25°C Unless otherwise noted)

Type Number	Type Code	Nominal Zener Voltage				Zener Impedance	Leakage Current	
		V _Z			I _{ZT}	Z _{VT} @I _{ZT}	I _R @V _R	
		Min.(V)	Nom.(V)	Max.(V)	(mA)	Z _{VT} (Ω)	I _R (μA)	V _R (V)
MM3Z2V0B	0B	1.96	2.0	2.04	5	100	120	0.5
MM3Z2V2B	0C	2.16	2.2	2.24	5	100	120	0.7
MM3Z2V4B	C1	2.35	2.4	2.45	5	100	120	1
MM3Z2V7B	D1	2.65	2.7	2.75	5	110	120	1
MM3Z3V0B	E1	2.94	3.0	3.06	5	120	50	1
MM3Z3V3B	F1	3.23	3.3	3.37	5	130	20	1
MM3Z3V6B	H1	3.53	3.6	3.67	5	130	10	1
MM3Z3V9B	J1	3.82	3.9	3.98	5	130	5	1
MM3Z4V3B	K1	4.21	4.3	4.39	5	130	5	1
MM3Z4V7B	M1	4.61	4.7	4.79	5	130	2	1
MM3Z5V1B	N1	5	5.1	5.2	5	130	2	1.5
MM3Z5V6B	P1	5.49	5.6	5.71	5	80	1	2.5
MM3Z6V2B	R1	6.08	6.2	6.32	5	50	1	3
MM3Z6V8B	X1	6.66	6.8	6.94	5	30	0.5	3.5
MM3Z7V5B	Y1	7.35	7.5	7.65	5	30	0.5	4
MM3Z8V2B	Z1	8.04	8.2	8.36	5	30	0.5	5
MM3Z9V1B	A2	8.92	9.1	9.28	5	30	0.5	6
MM3Z10B	B2	9.8	10	10.2	5	30	0.1	7
MM3Z11B	C2	10.78	11	11.22	5	30	0.1	8
MM3Z12B	D2	11.76	12	12.24	5	35	0.1	9
MM3Z13B	E2	12.74	13	13.26	5	35	0.1	10
MM3Z15B	F2	14.7	15	15.3	5	40	0.1	11
MM3Z16B	H2	15.68	16	16.32	5	40	0.1	12
MM3Z18B	J2	17.64	18	18.36	5	45	0.1	13
MM3Z20B	K2	19.6	20	20.4	5	50	0.1	15
MM3Z22B	M2	21.56	22	22.44	5	55	0.1	17
MM3Z24B	N2	23.52	24	24.48	5	60	0.1	19
MM3Z27B	P2	26.46	27	27.54	2	70	0.1	21
MM3Z30B	R2	29.4	30	30.60	2	80	0.1	23
MM3Z33B	X2	32.34	33	33.66	2	80	0.1	25
MM3Z36B	Y2	35.28	36	36.72	2	90	0.1	27
MM3Z39B	Z2	38.22	39	39.78	2	100	0.1	30
MM3Z43B	A3	42.14	43	43.86	2	130	0.1	33

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

Type Number	Type Code	Nominal Zener Voltage				Zener Impedance	Leakage Current	
		V _Z			I _{ZT}	Z _{ZT} @I _{ZT}	I _R @V _R	
		Min.(V)	Nom.(V)	Max.(V)	(mA)	Z _{ZT} (Ω)	I _R (μA)	V _R (V)
MM3Z47B	B3	46.06	47	47.94	2	150	0.1	36
MM3Z51B	C3	49.98	51	52.02	2	180	0.1	39
MM3Z56B	D3	54.88	56	57.12	2	200	0.1	43
MM3Z62B	E3	60.76	62	63.24	2	215	0.1	47
MM3Z68B	F3	66.64	68	69.36	2	240	0.1	52
MM3Z75B	H3	73.5	75	76.5	2	265	0.1	56

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)

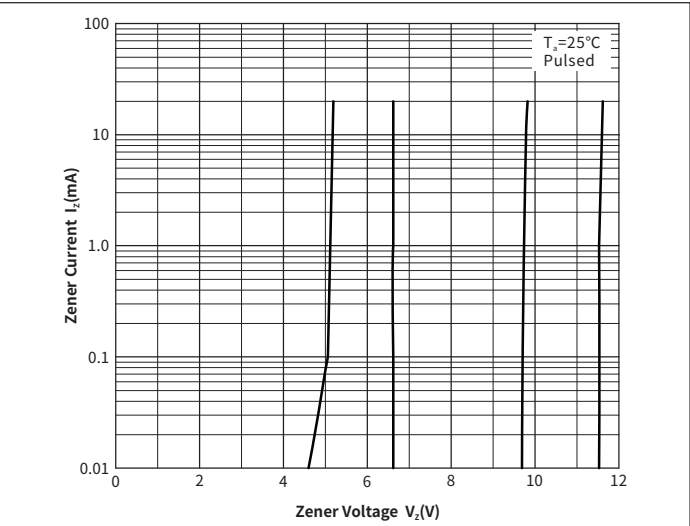


Fig. 1 Zener Characteristics(V_Z Up to 12V)

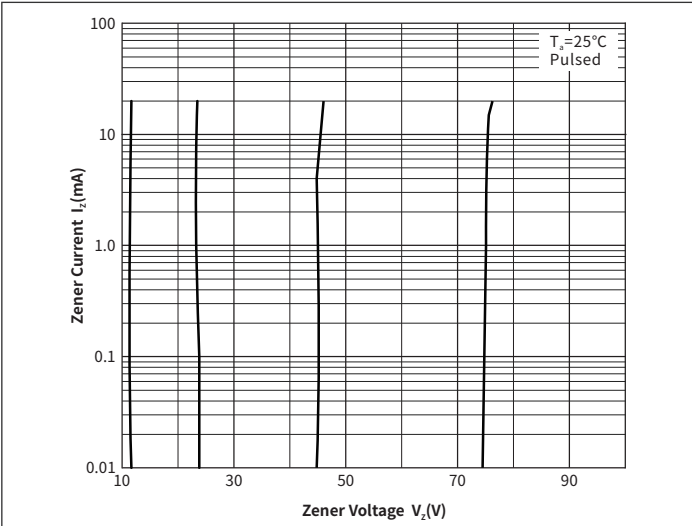


Fig.2 Zener Characteristics(V_Z 12V to 75V)

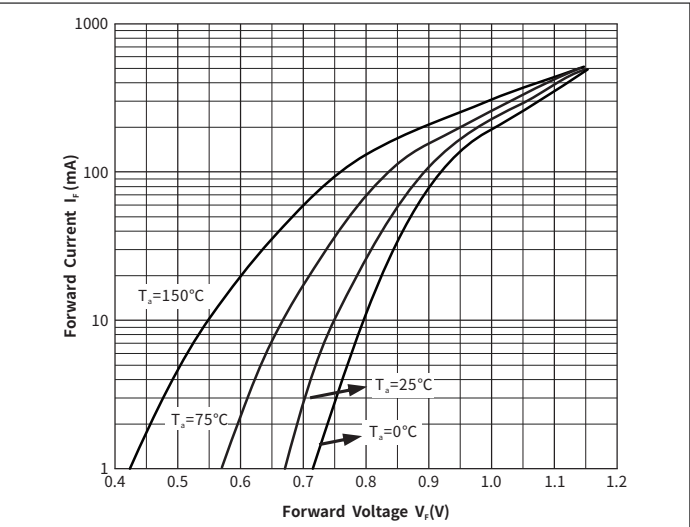


Fig.3 Typical Forward Voltage

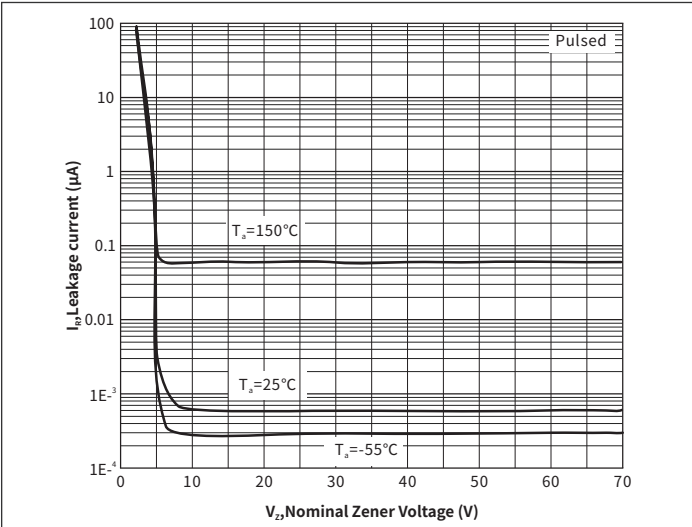
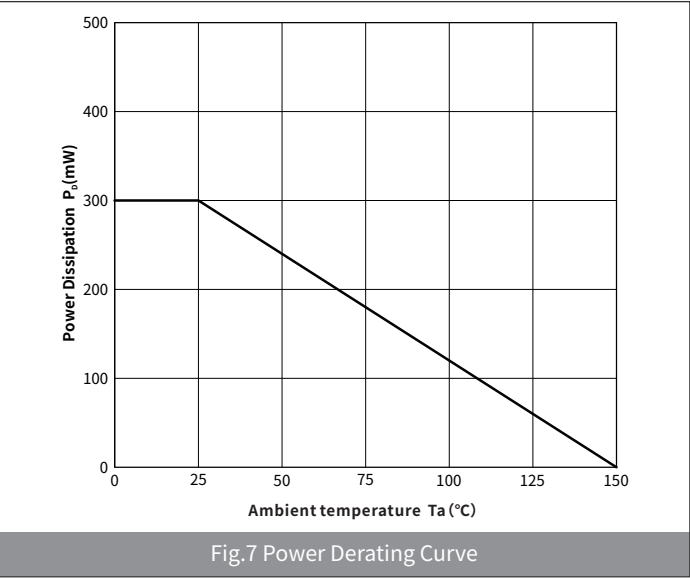
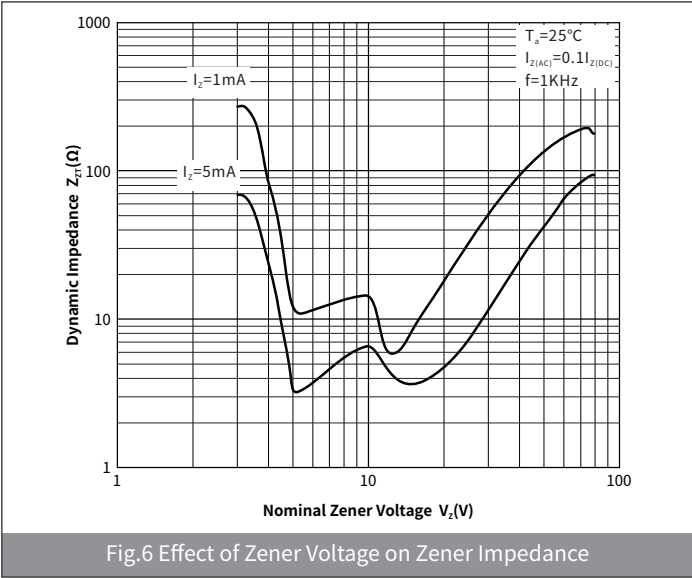
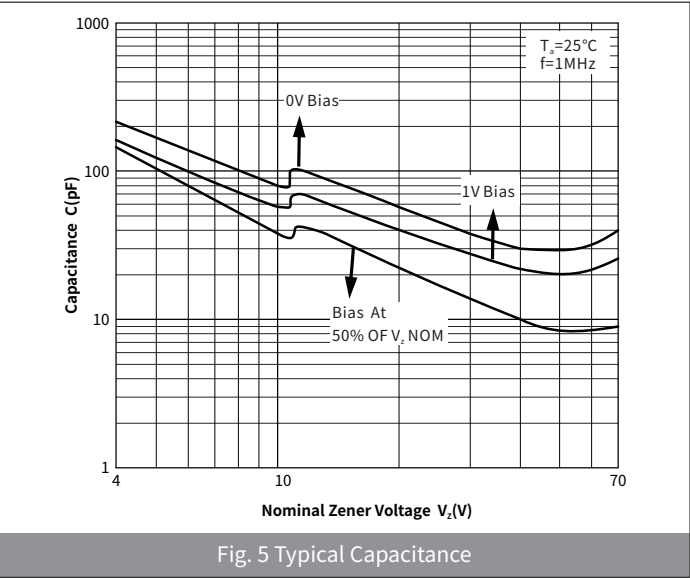


Fig.4 Typical Leakage Current

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-323	R1	0.0048	3000	45000	180000	7"

● Package Outline Dimensions (SOD-323)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.80	0.063	0.071
B	0.25	0.40	0.010	0.016
C	2.30	2.80	0.091	0.110
D	0.80	1.10	0.031	0.043
D ₁	0.80	0.90	0.031	0.035
E	1.20	1.40	0.047	0.055
F	0.08	0.18	0.003	0.007
L	0.475REF		0.019REF	
L ₁	0.25	0.40	0.010	0.016
H	-	0.14	-	0.006

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
X	0.65	0.75	0.026	0.030
Y	0.65	0.75	0.026	0.030
Z	2.10	2.20	0.084	0.088