

## 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

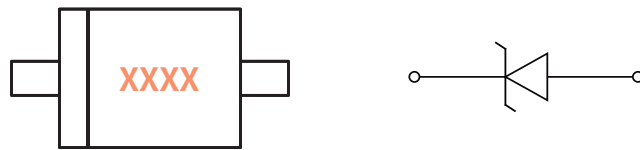
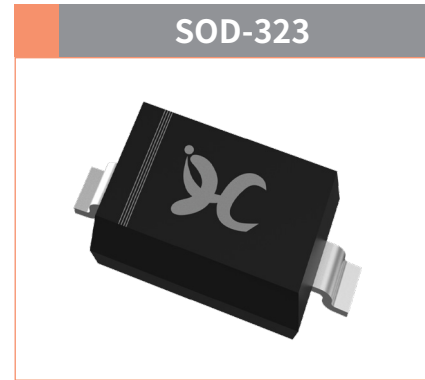
Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

### 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



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

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	$P_D$	mW	300
Forward Voltage @ $I_F=10\text{mA}$	$V_F$	V	0.9
Storage Temperature	$T_{stg}$	°C	-55 ~ +150
Junction Temperature	$T_J$	°C	-55 ~ +150
Typical Thermal Resistance	$R_{\theta JA}$	°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 <sub>Z</sub>			I <sub>ZT</sub>	Z <sub>ZT@I<sub>ZT</sub></sub>	I <sub>R@V<sub>R</sub></sub>		
		Min.(V)	Nom.(V)	Max.(V)	(mA)	Z <sub>ZT</sub> (Ω)	I <sub>R</sub> (μA)	V <sub>R</sub> (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	

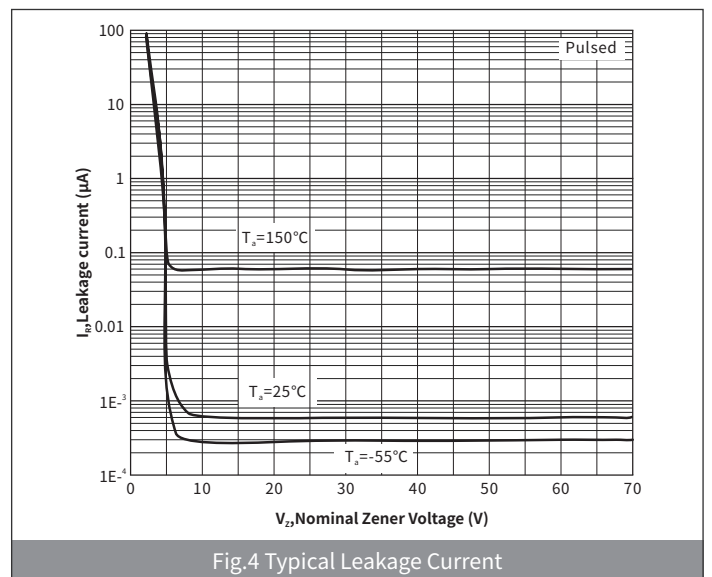
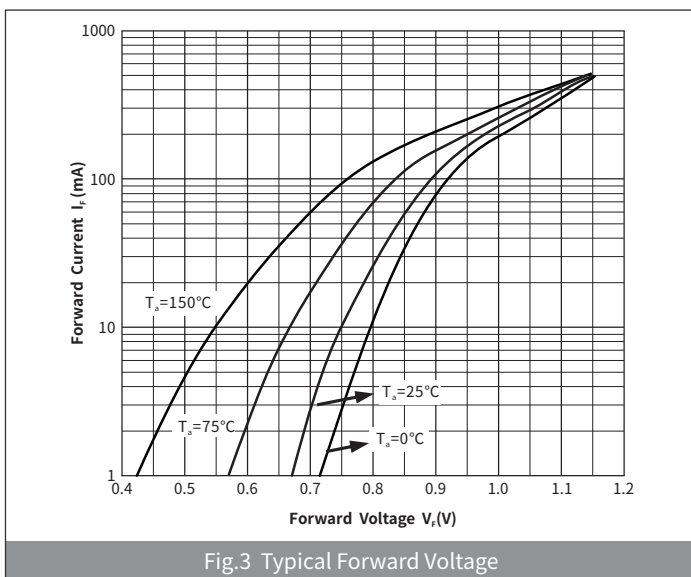
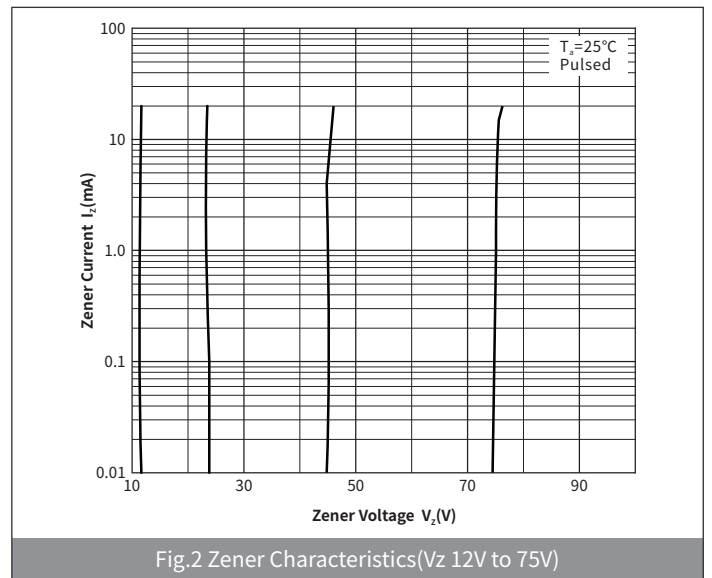
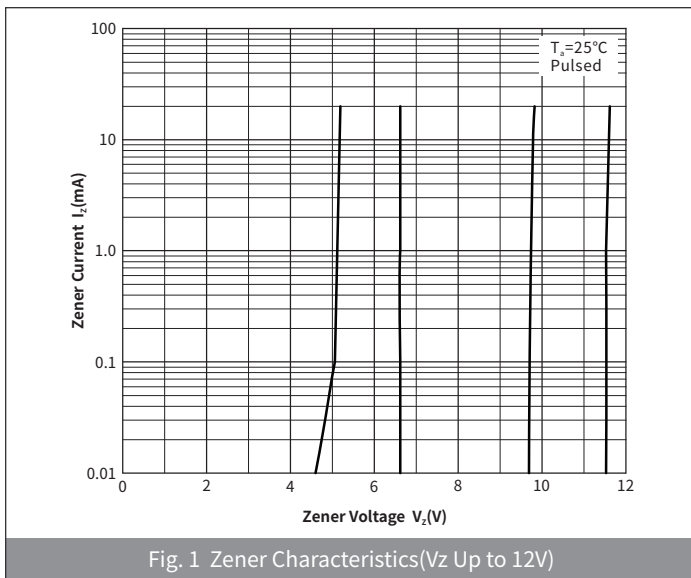
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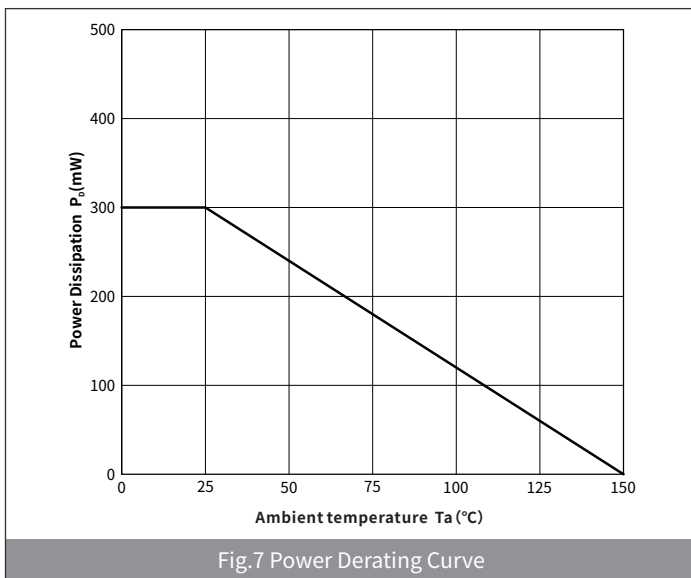
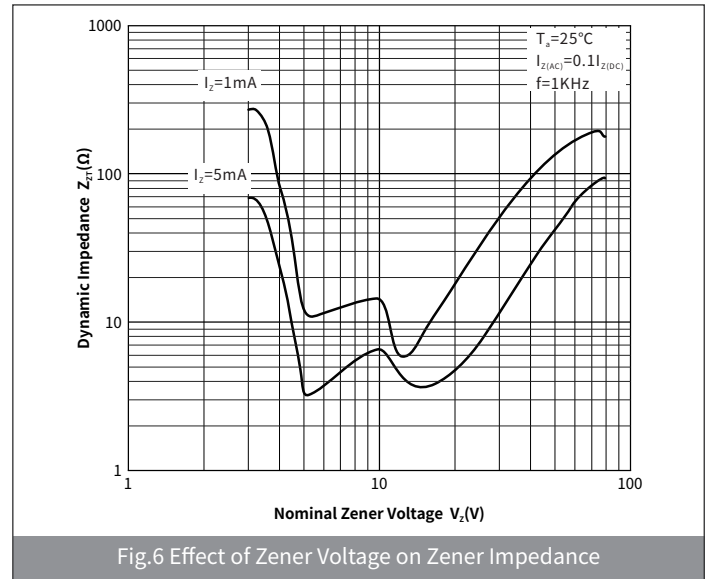
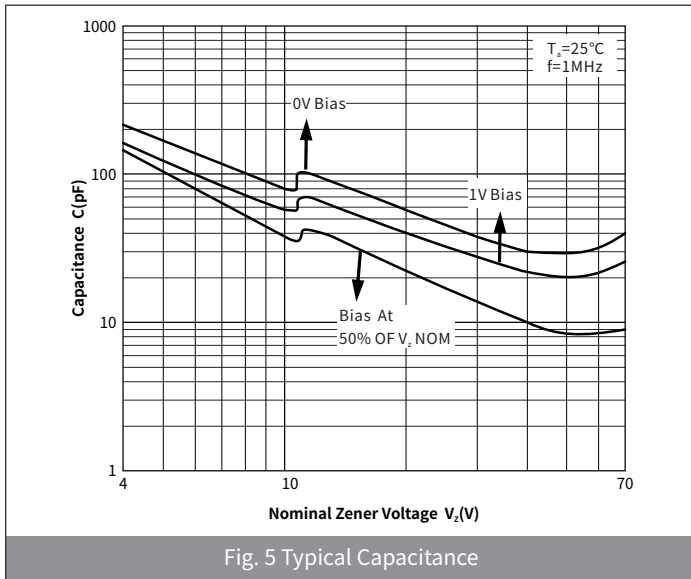
## ● Electrical Characteristics (Ta=25°C Unless otherwise noted)

Type Number	Type Code	Nominal Zener Voltage			Zener Impedance	Leakage Current		
		V <sub>Z</sub>				Z <sub>ZT</sub> @I <sub>ZT</sub>	I <sub>R</sub> @V <sub>R</sub>	
		Min.(V)	Nom.(V)	Max.(V)		I <sub>ZT</sub> (mA)	Z <sub>ZT</sub> (Ω)	I <sub>R</sub> (μA)
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)



● Ratings And Characteristics Curves ( $T_a=25^\circ\text{C}$  Unless otherwise specified)



# MM3Z2V0B THRU MM3Z75B

SURFACE MOUNT ZENER DIODES

## ● 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 <sub>1</sub>	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 <sub>1</sub>	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