

MM1Z2V0B THRU MM1Z75B

SURFACE MOUNT ZENER DIODES

SOD-123 SURFACE MOUNT SILICON ZENER DIODES

Features

- Low Zener Impedance
- Power Dissipation of 500mW
- 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.

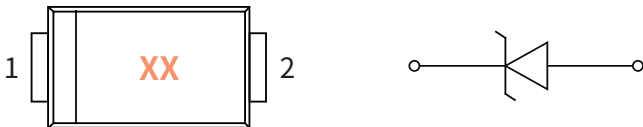
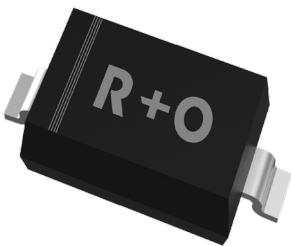
Mechanical Data

- Case: SOD-123
- 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
0.5 Watts

SOD-123



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

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation	P_D	mW	500
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	$R_{\theta J-A}$	°C /W	340

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

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● **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)
MM1Z2V0B	A4	1.96	2	2.04	5	100	120	0.5
MM1Z2V2B	B4	2.16	2.2	2.24	5	100	120	0.7
MM1Z2V4B	C4	2.35	2.4	2.45	5	100	120	1
MM1Z2V7B	D4	2.65	2.7	2.75	5	110	120	1
MM1Z3V0B	E4	2.94	3	3.06	5	120	50	1
MM1Z3V3B	F4	3.23	3.3	3.37	5	130	20	1
MM1Z3V6B	H4	3.53	3.6	3.67	5	130	10	1
MM1Z3V9B	J4	3.82	3.9	3.98	5	130	5	1
MM1Z4V3B	K4	4.21	4.3	4.39	5	130	5	1
MM1Z4V7B	M4	4.61	4.7	4.79	5	130	2	1
MM1Z5V1B	N4	5	5.1	5.20	5	130	2	1.5
MM1Z5V6B	P4	5.49	5.6	5.71	5	80	1	2.5
MM1Z6V2B	R4	6.08	6.2	6.32	5	50	1	3
MM1Z6V8B	X4	6.66	6.8	6.94	5	30	0.5	3.5
MM1Z7V5B	Y4	7.35	7.5	7.65	5	30	0.5	4
MM1Z8V2B	Z4	8.04	8.2	8.36	5	30	0.5	5
MM1Z9V1B	A5	8.92	9.1	9.28	5	30	0.5	6
MM1Z10B	B5	9.8	10	10.2	5	30	0.1	7
MM1Z11B	C5	10.78	11	11.22	5	30	0.1	8
MM1Z12B	D5	11.76	12	12.24	5	35	0.1	9
MM1Z13B	E5	12.74	13	13.26	5	35	0.1	10
MM1Z15B	F5	14.7	15	15.3	5	40	0.1	11
MM1Z16B	H5	15.68	16	16.32	5	40	0.1	12
MM1Z18B	J5	17.64	18	18.36	5	45	0.1	13
MM1Z20B	K5	19.6	20	20.4	5	50	0.1	15
MM1Z22B	M5	21.56	22	22.44	5	55	0.1	17
MM1Z24B	N5	23.52	24	24.48	5	60	0.1	19
MM1Z27B	P5	26.46	27	27.54	5	70	0.1	21
MM1Z30B	R5	29.4	30	30.6	5	80	0.1	23
MM1Z33B	X5	32.34	33	33.66	5	80	0.1	25
MM1Z36B	Y5	35.28	36	36.72	5	90	0.1	27
MM1Z39B	Z5	38.22	39	39.78	2.5	100	2	30
MM1Z43B	A6	42.14	43	43.86	2.5	130	2	33

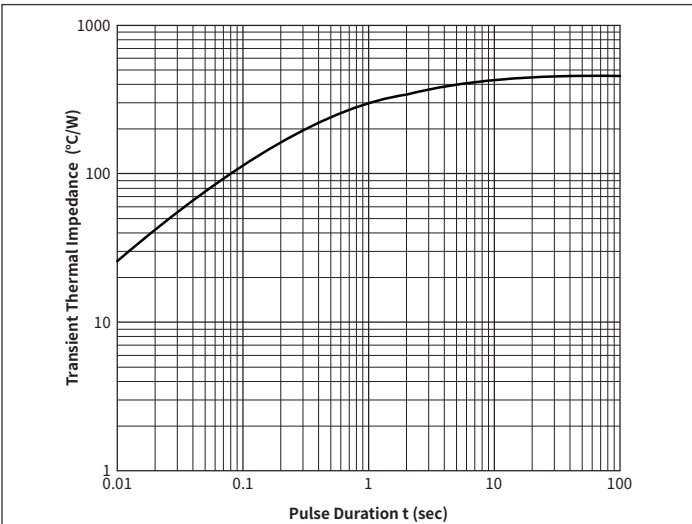
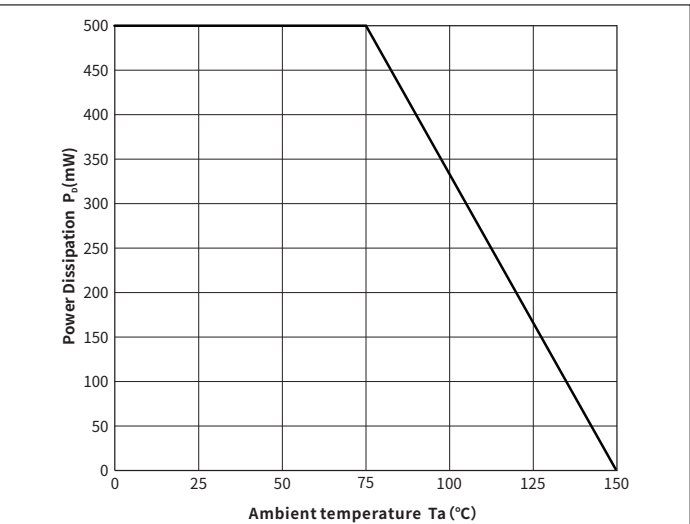
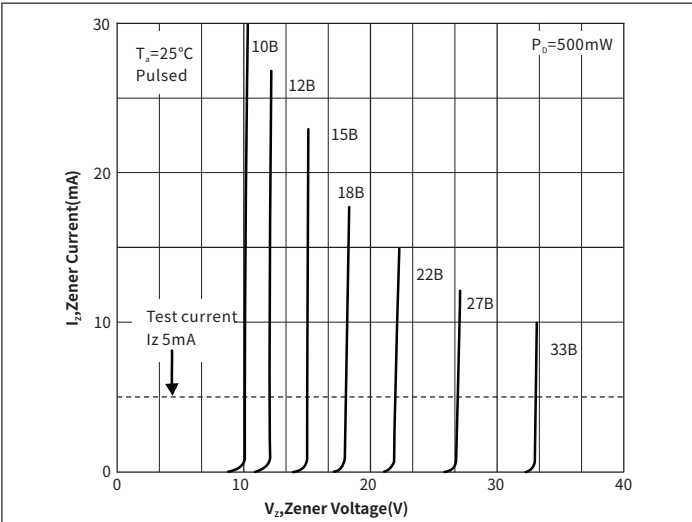
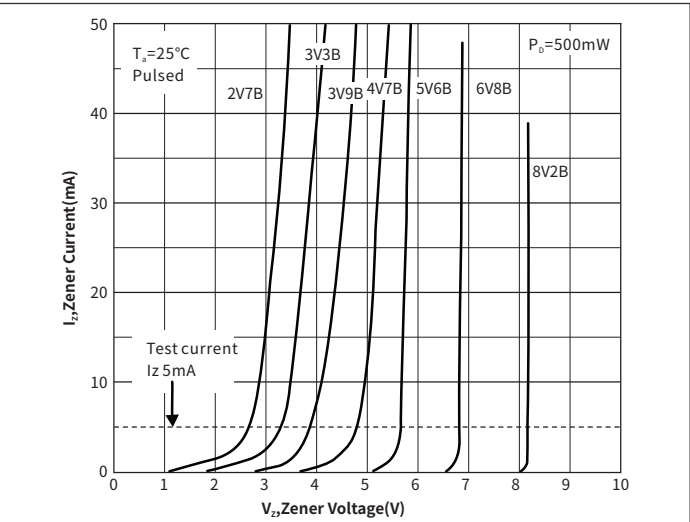
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Electrical Characteristics (Ta=25°C Unless otherwise noted)

Type Number	Type Code	Nominal Zener Voltage				Zener Impedance	Leakage Current	
		V _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)
MM1Z47B	B6	46.06	47	47.94	2.5	150	2	36
MM1Z51B	C6	49.98	51	52.02	2.5	180	1	39
MM1Z56B	D6	54.88	56	57.12	2.5	180	1	43
MM1Z62B	E6	60.76	62	63.24	2.5	200	0.2	47
MM1Z68B	F6	66.64	68	69.36	2.5	250	0.2	52
MM1Z75B	H6	73.5	75	76.5	2.5	300	0.2	57

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



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SURFACE MOUNT ZENER DIODES

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123	R1	0.012	3000	45000	180000	7"

● Package Outline Dimensions (SOT-23)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	3.85	0.140	0.152
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.140	0.152
E	0.51	0.71	0.037	0.053
F	-	0.15	-	0.006
G	0.15	0.45	0.006	0.008
H	0.08	0.25	0.003	0.010
θ	-	8°	-	8°

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.91	-	0.036	-
K	-	2.36	-	0.092
M	1.22	-	0.048	-