

Product Specification

Number: MMSZ52xxB-(SOD-123)

Name: Zener Diodes

Customer: _____

Date: 2025-02-07

Customer Signature:



NINGBO KLS ELECTRONIC CO; LTD

INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.

Compi	Check	Review	Approva
Jenny	Jack.C		

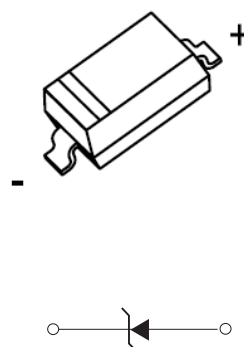
MMSZ5221B-MMSZ5259B

FEATURES

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

SOD-1 23 Plastic-Encapsulate Diodes

SOD-123



Maximum Ratings($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation(Note 1)	P_d	350	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	

Notes:1. Device mounted on ceramic PCB; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm².
 2. Tested with pulses, $T_p \leq 1.0\text{ms}$.

Part name	Zener Diodes	Date	2025-02-07
Part number	MMSZ52xxB-(SOD-123)	Edition	V1
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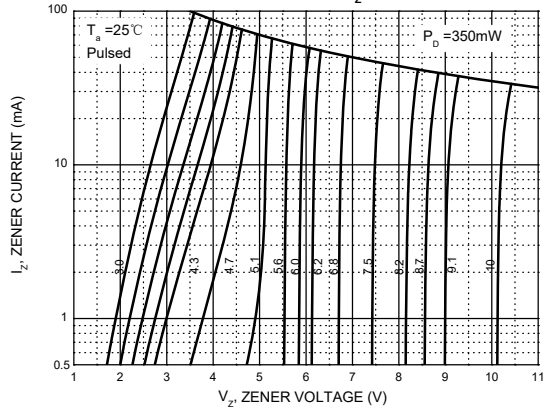
ELECTRICAL CHARACTERISTICS

$T_a=25^{\circ}\text{C}$ unless otherwise specified

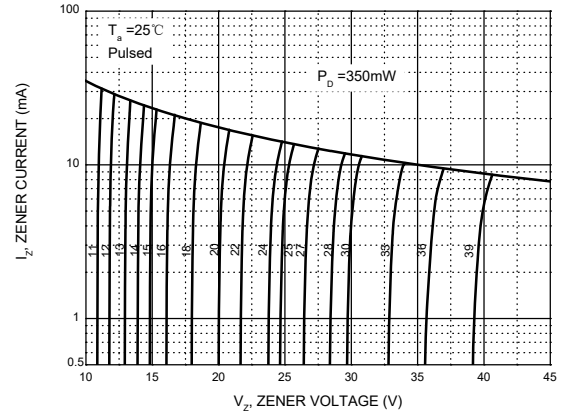
Type Number	Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 4)			Maximum Reverse Current	
		$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	I_R	V_R
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	μA	V
MMSZ5221B	C1	2.4	2.28	2.52	20	30	1200	0.25	100	1.0
MMSZ5223B	C3	2.7	2.57	2.84	20	30	1300	0.25	75	1.0
MMSZ5225B	C5	3.0	2.85	3.15	20	30	1600	0.25	50	1.0
MMSZ5226B	G1	3.3	3.14	3.47	20	28	1600	0.25	25	1.0
MMSZ5227B	G2	3.6	3.42	3.78	20	24	1700	0.25	15	1.0
MMSZ5228B	G3	3.9	3.71	4.10	20	23	1900	0.25	10	1.0
MMSZ5229B	G4	4.3	4.09	4.52	20	22	2000	0.25	5	1.0
MMSZ5230B	G5	4.7	4.47	4.94	20	19	1900	0.25	5	2.0
MMSZ5231B	E1	5.1	4.85	5.36	20	17	1600	0.25	5	2.0
MMSZ5232B	E2	5.6	5.32	5.88	20	11	1600	0.25	5	3.0
MMSZ5233B	E3	6.0	5.70	6.30	20	7	1600	0.25	5	3.5
MMSZ5234B	E4	6.2	5.89	6.51	20	7	1000	0.25	5	4.0
MMSZ5235B	E5	6.8	6.46	7.14	20	5	750	0.25	3	5.0
MMSZ5236B	F1	7.5	7.13	7.88	20	6	500	0.25	3	6.0
MMSZ5237B	F2	8.2	7.79	8.61	20	8	500	0.25	3	6.5
MMSZ5238B	F3	8.7	8.27	9.14	20	8	600	0.25	3	6.5
MMSZ5239B	F4	9.1	8.65	9.56	20	10	600	0.25	3	7.0
MMSZ5240B	F5	10	9.50	10.50	20	17	600	0.25	3	8.0
MMSZ5241B	H1	11	10.45	11.55	20	22	600	0.25	2.0	8.4
MMSZ5242B	H2	12	11.40	12.60	20	30	600	0.25	1.0	9.1
MMSZ5243B	H3	13	12.35	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5244B	H4	14	13.30	14.70	9.0	15	600	0.25	0.1	10
MMSZ5245B	H5	15	14.25	15.75	8.5	16	600	0.25	0.1	11
MMSZ5246B	J1	16	15.20	16.80	7.8	17	600	0.25	0.1	12
MMSZ5248B	J3	18	17.10	18.90	7.0	21	600	0.25	0.1	14
MMSZ5250B	J5	20	19.00	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251B	K1	22	20.90	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252B	K2	24	22.80	25.20	5.2	33	600	0.25	0.1	18
MMSZ5253B	K3	25	23.75	26.25	5.0	35	600	0.25	0.1	19
MMSZ5254B	K4	27	25.65	28.35	5.0	41	600	0.25	0.1	21
MMSZ5255B	K5	28	26.60	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256B	M1	30	28.50	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257B	M2	33	31.35	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258B	M3	36	34.20	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259B	M4	39	37.05	40.95	3.2	80	800	0.25	0.1	30

Typical Characteristics

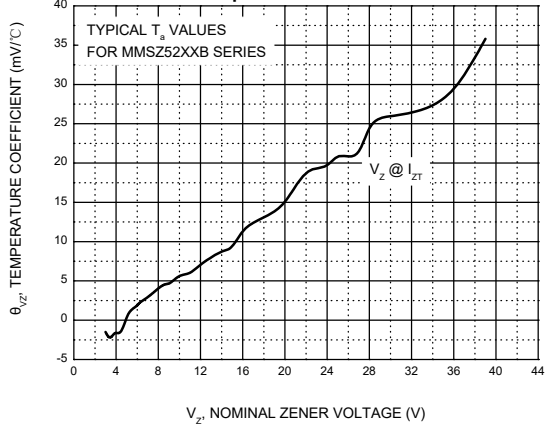
Zener Characteristics (V_Z Up to 10 V)



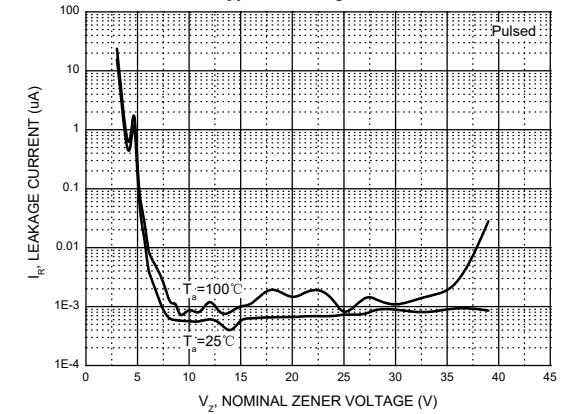
Zener Characteristics (11 V to 39 V)



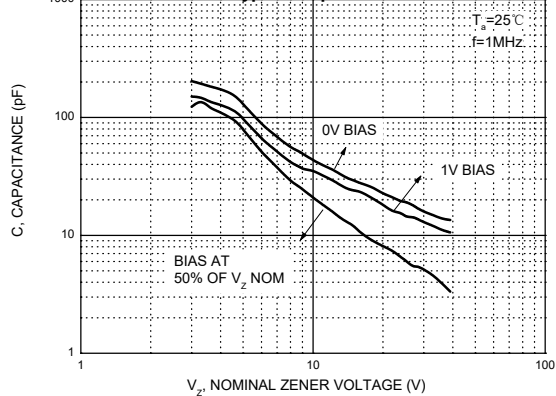
Temperature Coefficients



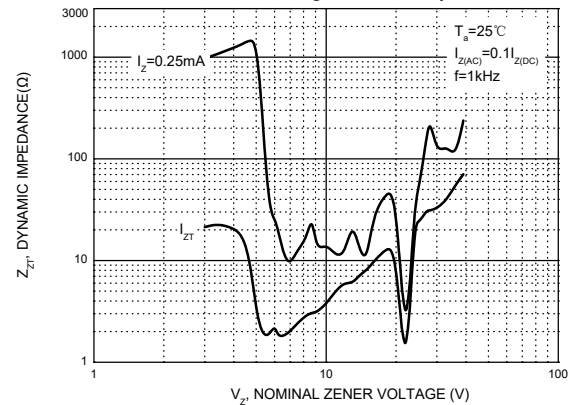
Typical Leakage Current



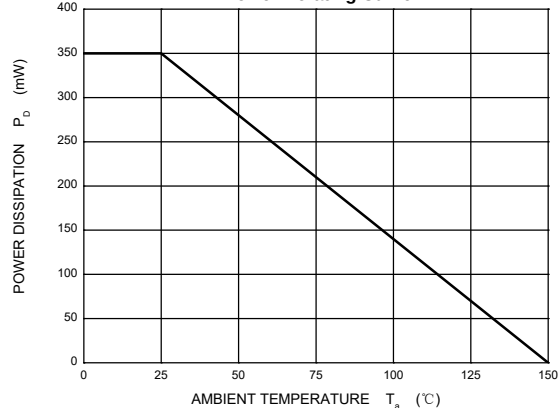
Typical Capacitance



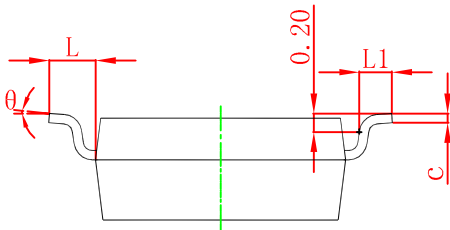
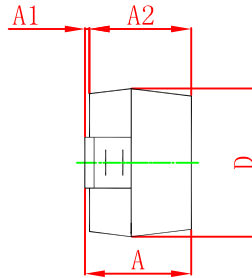
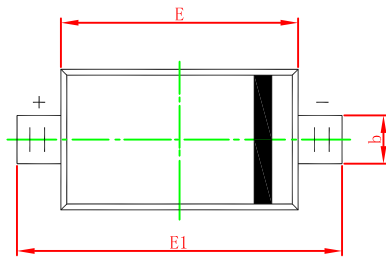
Effect of Zener Voltage on Zener Impedance



Power Derating Curve

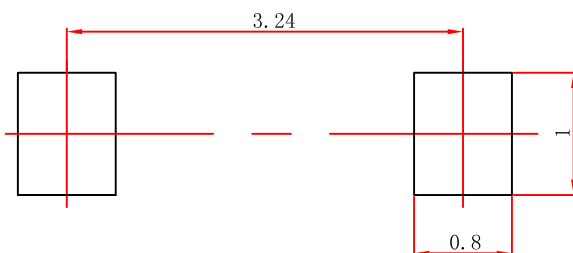


SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.