MMSZ5221B ~ MMSZ5263B

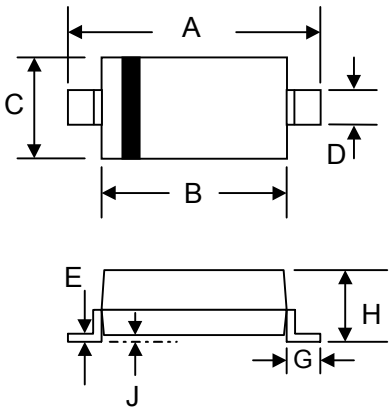
SURFACE MOUNT ZENER DIODE

Features

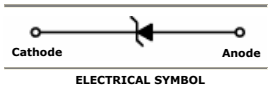
- Planar Die Construction
- 500mW Power Dissipation on Ceramic PCB
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes

Mechanical Data

- Case: SOD-123, Plastic
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: See Below
- Weight: 0.01 grams (approx.)



SOD-123		
Dim	**Min**	**Max**
A	3.6	3.9
B	2.5	2.8
C	1.4	1.8
D	0.5	0.7
E	—	0.2
G	0.4	—
H	0.95	1.35
J	—	0.12
All Dimensions in mm		



ELECTRICAL SYMBOL

Maximum Ratings @T_A=25°C unless otherwise specified

Type Number	Symbol	Value	Units
Forward Voltage @ IF = 10mA	VF	0.9	V
Power Dissipation (Note 1)	Pd	500	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	340	^{O}C /W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	^{O}C

Notes: 1. Device Mounted on Ceramic PCB, 7.6mm x 9.4mm x 0.87mm with Pad Areas 25mm$^{2.}$
2. Tested with Pulses. Period = 5ms, Pulse Width = 300us.
3. When Provided, Otherwise, Parts are Provided with Date Code only, and Type Number Identifications Appears on reel only.
4. f = 1KHz.

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Electrical Characteristics @T_A=25°C unless otherwise specified

Part Number	V_Z @ I_{ZT} (Volt)			I_{ZT}(mA)	Z_{ZT} @ I_{ZT}(Ω) Max	I_{ZK}(mA)	Z_{ZK} @ I_{ZK}(Ω) Max	I_R @ V_R(μA) Max	V_R(V)
	Nom	Min	Max						
MMSZ5221B	2.4	2.28	2.52	20	30	0.25	1200	100	1.0
MMSZ5222B	2.5	2.38	2.63	20	30	0.25	1250	100	1.0
MMSZ5223B	2.7	2.57	2.84	20	30	0.25	1300	75	1.0
MMSZ5224B	2.8	2.66	2.94	20	30	0.25	1400	75	1.0
MMSZ5225B	3.0	2.85	3.15	20	30	0.25	1600	50	1.0
MMSZ5226B	3.3	3.14	3.47	20	28	0.25	1600	25	1.0
MMSZ5227B	3.6	3.42	3.78	20	24	0.25	1700	15	1.0
MMSZ5228B	3.9	3.71	4.10	20	23	0.25	1900	10	1.0
MMSZ5229B	4.3	4.09	4.52	20	22	0.25	2000	5.0	1.0
MMSZ5230B	4.7	4.47	4.94	20	19	0.25	1900	5.0	2.0
MMSZ5231B	5.1	4.85	5.36	20	17	0.25	1600	5.0	2.0
MMSZ5232B	5.6	5.32	5.88	20	11	0.25	1600	5.0	3.0
MMSZ5233B	6.0	5.70	6.30	20	7	0.25	16900	5.0	3.5
MMSZ5234B	6.2	5.89	6.51	20	7	0.25	1000	5.0	4.0
MMSZ5235B	6.8	6.46	7.14	20	5	0.25	750	3.0	5.0
MMSZ5236B	7.5	7.13	7.88	20	6	0.25	500	3.0	6.0
MMSZ5237B	8.2	7.79	8.61	20	8	0.25	500	3.0	6.5
MMSZ5238B	8.7	8.27	9.14	20	8	0.25	600	3.0	6.5
MMSZ5239B	9.1	8.65	9.56	20	10	0.25	600	3.0	7.0
MMSZ5240B	10	9.50	10.50	20	17	0.25	600	3.0	8.0
MMSZ5241B	11	10.45	11.55	20	22	0.25	600	2.0	8.4
MMSZ5242B	12	11.40	12.60	20	30	0.25	600	1.0	9.1
MMSZ5243B	13	12.35	13.65	9.5	13	0.25	600	0.5	9.9
MMSZ5244B	14	13.30	14.70	9.0	15	0.25	600	0.1	10.0
MMSZ5245B	15	14.25	15.75	8.5	16	0.25	600	0.1	11
MMSZ5246B	16	15.20	16.80	7.8	17	0.25	600	0.1	12
MMSZ5247B	17	16.15	17.85	7.4	19	0.25	600	0.1	13
MMSZ5248B	18	17.10	18.90	7.0	21	0.25	600	0.1	14
MMSZ5249B	19	18.05	19.95	6.6	23	0.25	600	0.1	14
MMSZ5250B	20	19.00	21.00	6.2	25	0.25	600	0.1	15
MMSZ5251B	22	20.90	23.10	5.6	29	0.25	600	0.1	17
MMSZ5252B	24	22.80	25.20	5.2	33	0.25	600	0.1	18
MMSZ5253B	25	23.75	26.25	5.0	35	0.25	600	0.1	19
MMSZ5254B	27	25.65	28.35	5.0	41	0.25	600	0.1	21
MMSZ5255B	28	26.60	29.40	4.5	44	0.25	600	0.1	21
MMSZ5256B	30	28.50	31.50	4.2	49	0.25	600	0.1	23
MMSZ5257B	33	31.35	34.65	3.8	58	0.25	700	0.1	25
MMSZ5258B	36	34.20	37.80	3.4	70	0.25	700	0.1	27
MMSZ5259B	39	37.05	40.95	3.2	80	0.25	800	0.1	30
MMSZ5260B	43	40.85	45.15	3.0	93	0.25	900	0.1	33
MMSZ5261B	47	44.65	49.35	2.7	105	0.25	1000	0.1	36
MMSZ5262B	51	48.45	53.55	2.5	125	0.25	1100	0.1	39
MMSZ5263B	56	53.20	58.80	2.2	150	0.25	1300	0.1	43

Notes:

1. The Zener Voltage (**V_Z**) is tested under pulse condition of 1ms.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of **±5%**.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest **Taiwan semiconductor** representative.
4. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the DC zener current (**I_{ZT}** or **I_{ZK}**) is superimposed to **I_{ZT}** or **I_{ZK}**.

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RATINGS AND CHARACTERISTIC CURVES

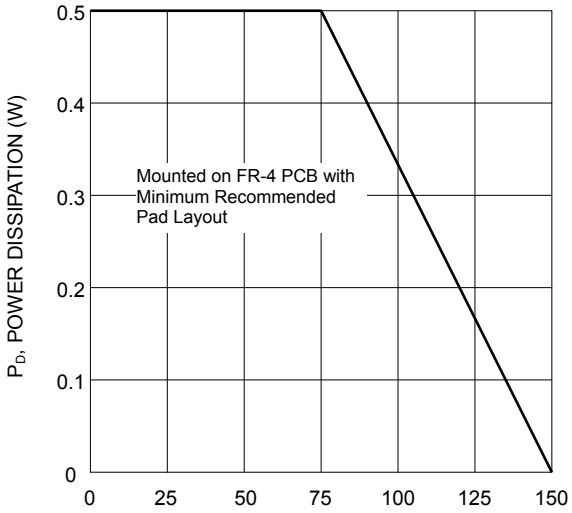

Fig. 1 Power Derating Curve

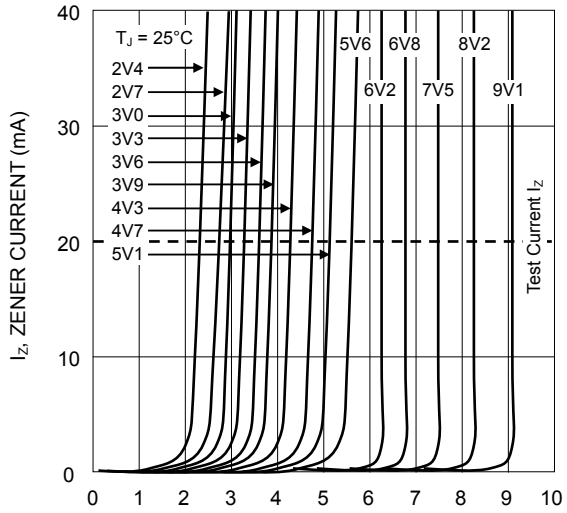

Fig. 2 Zener Breakdown Characteristics

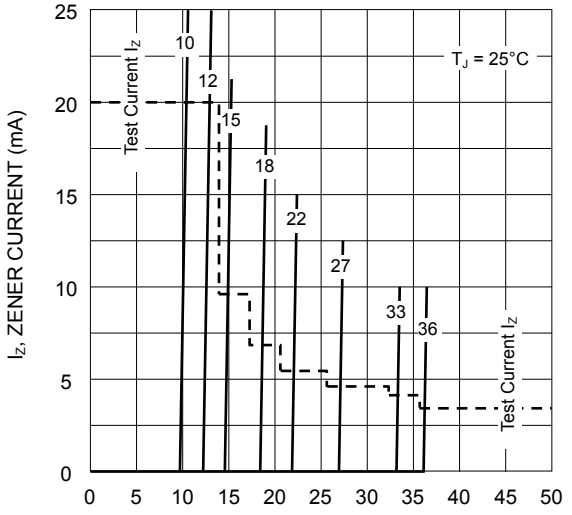

Fig. 3 Zener Breakdown Characteristics

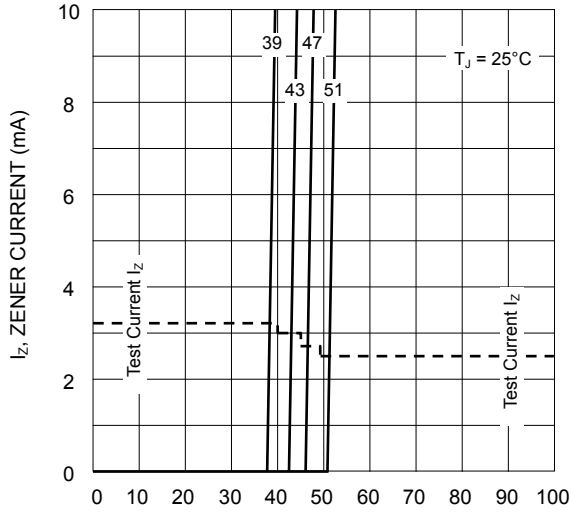

Fig. 4 Zener Breakdown Characteristics

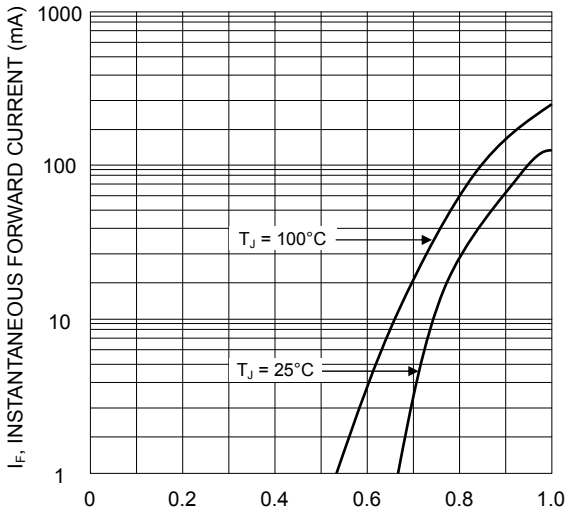

Fig. 5 Typical Forward Characteristics

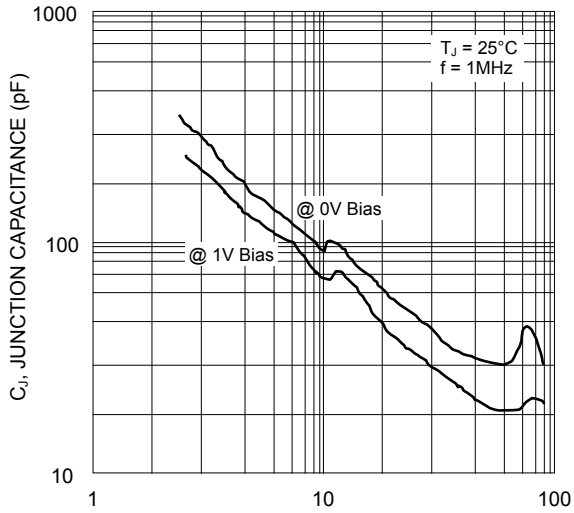

Fig. 6 Junction Capacitance vs. Nominal Zener Voltage