

MM3Z5221BH~MM3Z5267BH

SILICON PLANAR ZENER DIODES

Lead free product

Halogen - free type

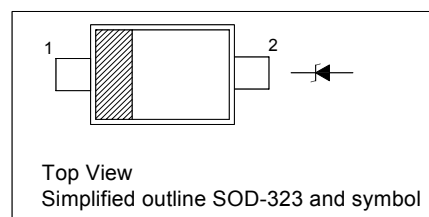
Silicon Planar Zener Diode in a small plastic
SMD SOD-323 package

Features

- Total power dissipation: Max. 300 mW
- Small plastic package suitable for surface mounted design
- Tolerance approximately $\pm 5\%$

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Total Power Dissipation	P_{tot}	300	mW
Operating Junction and Storage Temperature Range	T_j, T_s	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Forward Voltage at $I_F = 10\text{ mA}$	V_F	0.9	V

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Type	Marking Code	Zener Voltage Range ^{1), 2)}			Maximum Zener Impedance ³⁾			Reverse Leakage Current	
		V _{znom}	I _{ZT}	for V _{ZT}	r _{ZJT}	r _{ZJK}	at I _{ZK}	I _R	at V _R
		V	mA	V	Ω	Ω	mA	μA	V
MM3Z5221BH	A1	2.4	20	2.28...2.52	30	1200	0.25	100	1
MM3Z5223BH	B1	2.7	20	2.57...2.84	30	1300	0.25	75	1
MM3Z5225BH	C1	3.0	20	2.85...3.15	29	1600	0.25	50	1
MM3Z5226BH	D1	3.3	20	3.14...3.47	28	1600	0.25	25	1
MM3Z5227BH	E1	3.6	20	3.42...3.78	24	1700	0.25	15	1
MM3Z5228BH	F1	3.9	20	3.71...4.1	23	1900	0.25	10	1
MM3Z5229BH	H1	4.3	20	4.09...4.52	22	2000	0.25	5	1
MM3Z5230BH	J1	4.7	20	4.47...4.94	19	1900	0.25	5	2
MM3Z5231BH	K1	5.1	20	4.85...5.36	17	1600	0.25	5	2
MM3Z5232BH	M1	5.6	20	5.32...5.88	11	1600	0.25	5	3
MM3Z5234BH	N1	6.2	20	5.89...6.51	7	1000	0.25	5	4
MM3Z5235BH	P1	6.8	20	6.46...7.14	5	750	0.25	3	5
MM3Z5236BH	R1	7.5	20	7.13...7.88	6	500	0.25	3	6
MM3Z5237BH	X1	8.2	20	7.79...8.61	8	500	0.25	3	6.5
MM3Z5239BH	Y1	9.1	20	8.65...9.56	10	600	0.25	3	7
MM3Z5240BH	Z1	10	20	9.5...10.5	17	600	0.25	3	8
MM3Z5241BH	A2	11	20	10.45...11.55	22	600	0.25	2	8.4
MM3Z5242BH	B2	12	20	11.4...12.6	30	600	0.25	1	9.1
MM3Z5243BH	C2	13	9.5	12.35...13.65	13	600	0.25	0.5	9.9
MM3Z5245BH	D2	15	8.5	14.25...15.75	16	600	0.25	0.1	11
MM3Z5246BH	E2	16	7.8	15.2...16.8	17	600	0.25	0.1	12
MM3Z5248BH	F2	18	7	17.1...18.9	21	600	0.25	0.1	14
MM3Z5249BH	N9	19	6.6	18.05...19.95	23	600	0.25	0.1	14
MM3Z5250BH	H2	20	6.2	19...21	25	600	0.25	0.1	15
MM3Z5251BH	J2	22	5.6	20.9...23.1	29	600	0.25	0.1	17
MM3Z5252BH	K2	24	5.2	22.8...25.2	33	600	0.25	0.1	18
MM3Z5253BH	P9	25	5	23.75...26.25	35	600	0.25	0.1	19
MM3Z5254BH	M2	27	4.6	25.65...28.35	41	600	0.25	0.1	21
MM3Z5256BH	N2	30	4.2	28.5...31.5	49	600	0.25	0.1	23
MM3Z5257BH	P2	33	3.8	31.35...34.65	58	700	0.25	0.1	25
MM3Z5258BH	R2	36	3.4	34.2...37.8	70	700	0.25	0.1	27
MM3Z5259BH	X2	39	3.2	37.05...40.95	80	800	0.25	0.1	30
MM3Z5260BH	Y2	43	3	40.85...45.15	93	900	0.25	0.1	33
MM3Z5261BH	Z2	47	2.7	44.65...49.35	105	1000	0.25	0.1	36
MM3Z5262BH	A3	51	2.5	48.45...53.55	125	1100	0.25	0.1	39
MM3Z5263BH	B3	56	2.2	53.2...58.8	150	1300	0.25	0.1	43
MM3Z5265BH	C3	62	2	58.9...65.1	185	1400	0.25	0.1	47
MM3Z5266BH	D3	68	1.8	64.6...71.4	230	1600	0.25	0.1	52
MM3Z5267BH	E3	75	1.7	71.25...78.75	270	1700	0.25	0.1	56

¹⁾ V_Z is tested with pulses (20 ms)

²⁾ Nominal Zener voltage is measured with the device junction in thermal equilibrium at T_L = 30 °C ± 1 °C.

³⁾ Z_{JT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for I_{Z(AC)} = 0.1 I_{Z(DC)} with the AC frequency = 1 KHz.

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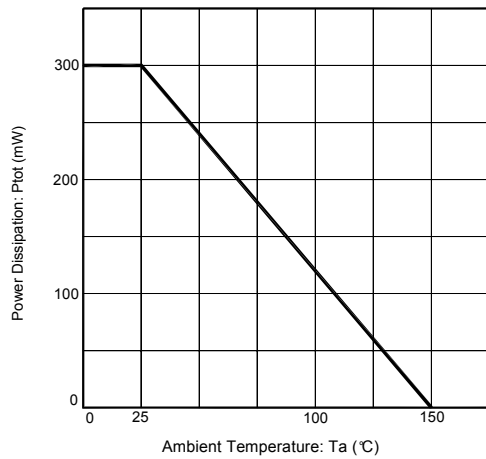


Fig. 1 Derating Curve

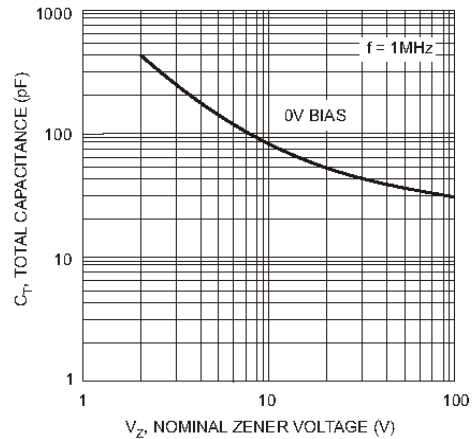


Fig. 2 Typical Capacitance

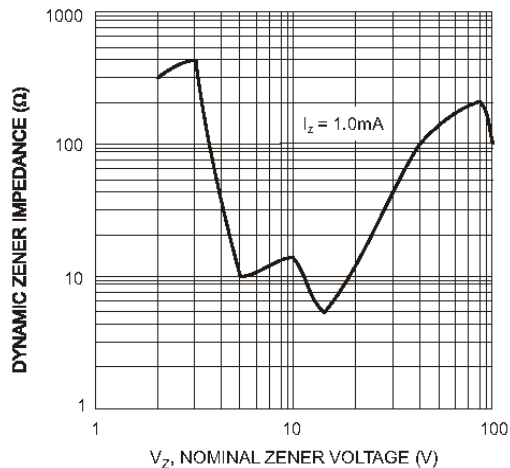


Fig. 3 Zener Impedance vs. Zener Voltage

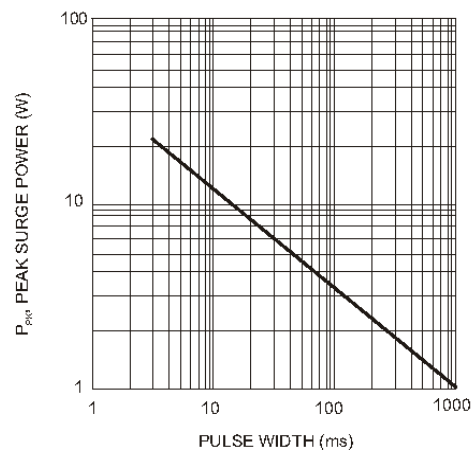


Fig. 4 Maximum Non-repetitive Surge Power

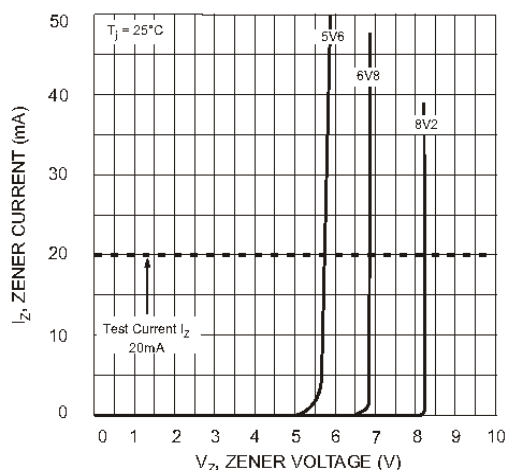


Fig. 5 Zener Breakdown Characteristics

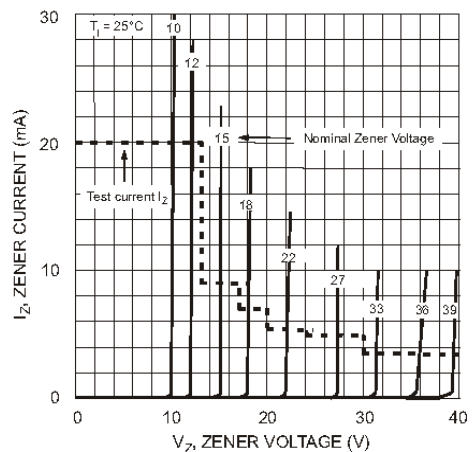


Fig. 6 Zener Breakdown Characteristics