

500mW Silicon Planar Zener Diodes

Features

- AEC-Q101 Qualified
- Power Dissipation: 500 mW
- Zener Voltage Tolerance: $\pm 2\%$
- Halogen and Antimony Free(HAF), RoHS compliant



Maximum Ratings& Thermal Characteristic($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameters	Symbol	Value	Unit
Power Dissipation	P_D	500	mW
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Typical Thermal Resistance from Junction to Ambient (<i>Note 2</i>)	$R_{\theta JA}$	340	$^{\circ}\text{C/W}$
Thermal Resistance Junction to Lead (<i>Note 1</i>)	$R_{\theta JL}$	150	$^{\circ}\text{C/W}$

Note 1: FR-4 PCB = 89 * 38 mm.

Note 2: Mounted on an FR-4 PCB 38 * 38 * 1.6 mm with single-sided Cu pad areas 25mm²(>70 μm thick).

Electrical Characteristics ($T_a = 25^{\circ}\text{C}$ unless otherwise noted, $V_F < 0.9\text{ V}$ at $I_F = 10\text{ mA}$)

Type	Marking Code	Zener Voltage Range ¹⁾			Dynamic Resistance ²⁾		Reverse Current	
		V_{Znom}	V_{ZT}	at I_{ZT}	Z_{ZT}	at I_{ZT}	I_R	at V_R
		(V)	(V)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
AMM1Z2B4	5Y1	2.4	2.352...2.448	5	100	5	120	1
AMM1Z2B7	5Z1	2.7	2.646...2.754	5	110	5	120	1
AMM1Z3B0	6A1	3.0	2.94...3.06	5	120	5	50	1
AMM1Z3B3	6B1	3.3	3.234...3.366	5	130	5	20	1
AMM1Z3B6	6C1	3.6	3.528...3.672	5	130	5	10	1
AMM1Z3B9	6D1	3.9	3.822...3.978	5	130	5	5	1
AMM1Z4B3	6E1	4.3	4.214...4.386	5	130	5	5	1
AMM1Z4B7	6F1	4.7	4.606...4.794	5	130	5	2	1
AMM1Z5B1	6G1	5.1	4.998...5.202	5	130	5	2	1.5
AMM1Z5B6	6H1	5.6	5.488...5.712	5	80	5	1	2.5
AMM1Z6B2	6J1	6.2	6.076...6.324	5	50	5	1	3
AMM1Z6B8	6K1	6.8	6.664...6.936	5	30	5	0.5	3.5
AMM1Z7B5	6L1	7.5	7.35...7.65	5	30	5	0.5	4
AMM1Z8B2	6M1	8.2	8.036...8.364	5	30	5	0.5	5
AMM1Z9B1	6N1	9.1	8.918...9.282	5	30	5	0.5	6
AMM1ZB10	6P1	10	9.8...10.2	5	30	5	0.1	7
AMM1ZB11	6Q1	11	10.78...11.22	5	30	5	0.1	8
AMM1ZB12	6R1	12	11.76...12.24	5	35	5	0.1	9
AMM1ZB13	6S1	13	12.74...13.26	5	35	5	0.1	10
AMM1ZB15	6T1	15	14.7...15.3	5	40	5	0.1	11
AMM1ZB16	6U1	16	15.68...16.32	5	40	5	0.1	12
AMM1ZB18	6W1	18	17.64...18.36	5	45	5	0.1	13
AMM1ZB20	6X1	20	19.6...20.4	5	50	5	0.1	15
AMM1ZB22	6Y1	22	21.56...22.44	5	55	5	0.1	17
AMM1ZB24	6Z1	24	23.52...24.48	5	60	5	0.1	19
AMM1ZB27	7A1	27	26.46...27.54	5	70	2	0.1	21
AMM1ZB30	7B1	30	29.4...30.6	5	80	2	0.1	23
AMM1ZB33	7C1	33	32.34...33.66	5	80	2	0.1	25
AMM1ZB36	7D1	36	35.28...36.72	5	90	2	0.1	27
AMM1ZB39	7E1	39	38.22...39.78	2.5	100	2	2	30
AMM1ZB43	7F1	43	42.14...43.86	2.5	130	2	2	33
AMM1ZB47	7G1	47	46.06...47.94	2.5	150	2	2	36
AMM1ZB51	7H1	51	49.98...52.02	2.5	180	2	1	39
AMM1ZB56	7J1	56	54.88...57.12	2.5	180	2	1	43
AMM1ZB62	7K1	62	60.76...63.24	2.5	200	2	0.2	47
AMM1ZB68	7L1	68	66.64...69.36	2.5	250	2	0.2	52
AMM1ZB75	7M1	75	73.5...76.5	2.5	300	2	0.2	57

¹⁾ V_{ZT} is tested with pulses (20 ms).

Typical Characteristics Curves

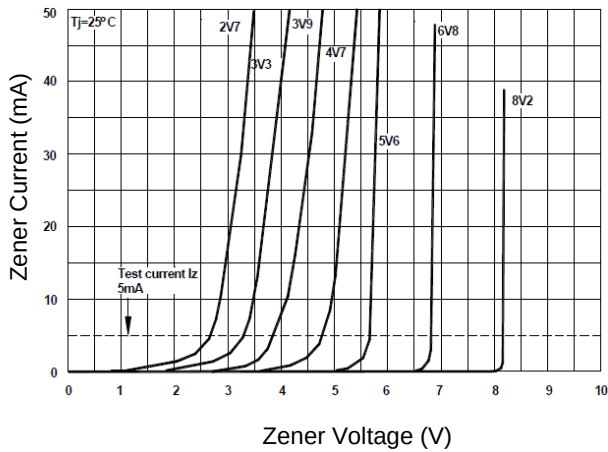


Fig 1. Zener Characteristics Curve

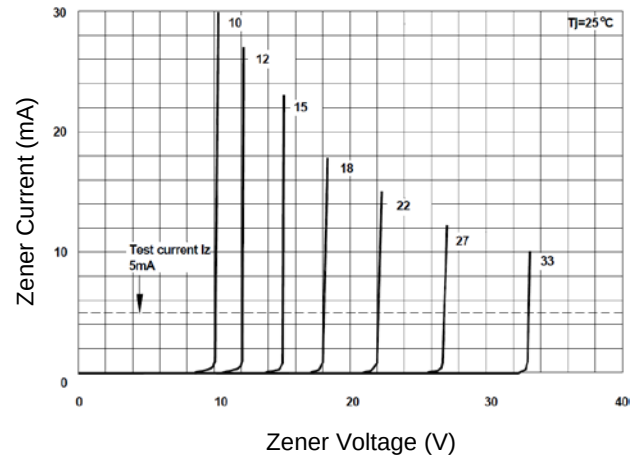


Fig 2. Zener Characteristics Curve

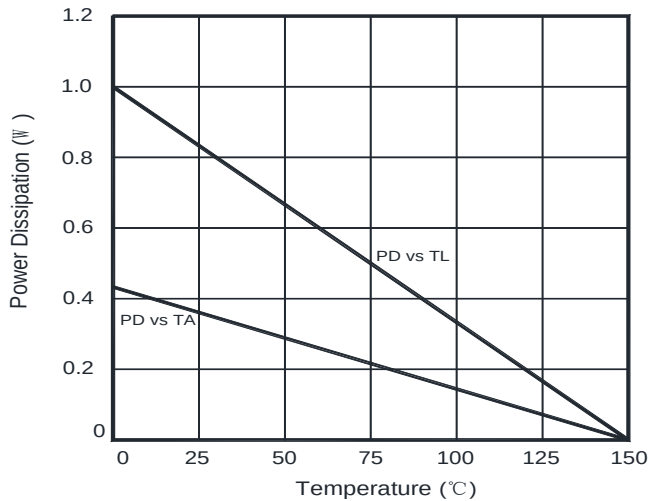
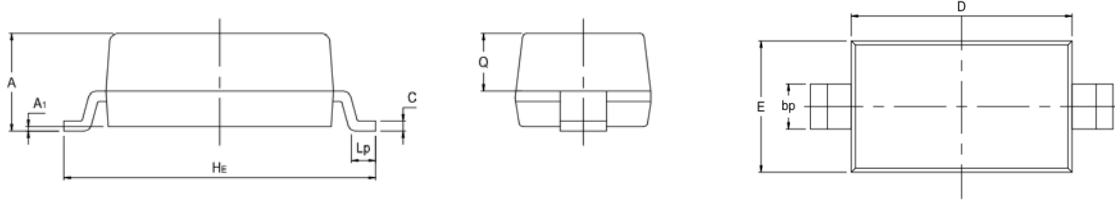


Fig 3. Power Derating Curve

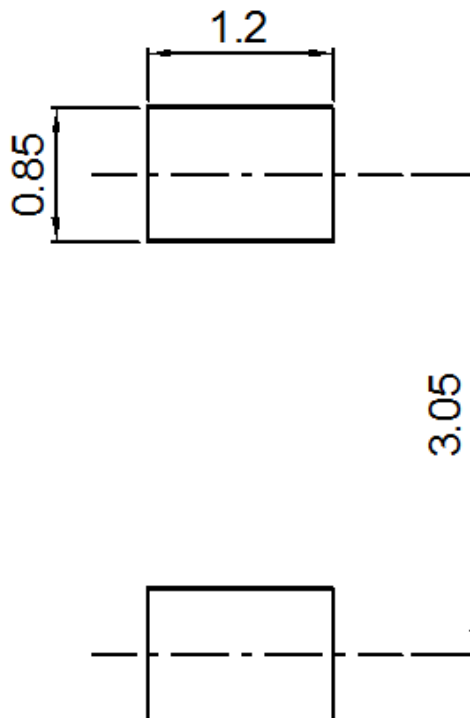
Package Outline Dimensions (Unit: millimeters)

SOD-123



UNIT	A	A ₁	bp	C	D	E	H _E	L _p	Q
mm	1.21	0.1	0.7	0.14	2.7	1.7	3.8	0.4	0.65
	0.91	0	0.5	0.08	2.54	1.5	3.5	0.2	0.55

Recommended Soldering Footprint (Unit: millimeters)



Packing information

Package	Tape Width	Pitch		Reel Size		Per Reel Packing Quantity
SOD-123	mm	mm	inch	mm	inch	
	8	4±0.1	0.157±0.004	178	7	3000

Marking information



1. " ** " = Part No. (See Electrical Characteristics of Marking code)
2. " • " = HAF (Halogen and Antimony Free)
3. " Y " = Year"
4. M " = Month

Font type: Arial

Revision History

Version	Date	Description of changes
Rev.A	2025.10.17	Primary

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