



Silicon Planar Zener Diodes

FEATURES

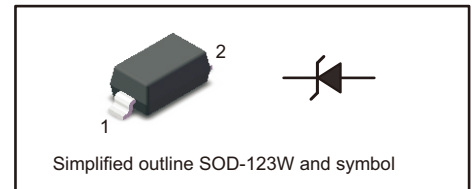
- Total power dissipation: Max. 500mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately $\pm 2\%$

MECHANICAL DATA

- Case: SOD-123W
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 16mg/0.00056oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Absolute Maximum Ratings And Characteristics (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500	mW
Forward Voltage at $I_F = 10$ mA	V_F	0.9	V
Typical thermal resistance junction to ambient ⁽¹⁾	$R_{\theta JA}$	340	°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.



Characteristics at Ta = 25°C

Type	Marking	Zener Voltage Range ⁽¹⁾			I _{ZT}	Dynamic Impedance	Reverse Current	
		V _{ZT} (at I _{ZT})				Z _{ZT} (at I _{ZT})	I _R	at V _R
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)
MM1Z2V0BWA	A4	1.96	2	2.04	5	100	120	0.5
MM1Z2V2BWA	B4	2.16	2.2	2.24	5	100	120	0.7
MM1Z2V4BWA	C4	2.35	2.4	2.45	5	100	120	1
MM1Z2V7BWA	D4	2.65	2.7	2.75	5	110	120	1
MM1Z3V0BWA	E4	2.94	3	3.06	5	120	50	1
MM1Z3V3BWA	F4	3.23	3.3	3.37	5	130	20	1
MM1Z3V6BWA	H4	3.53	3.6	3.67	5	130	10	1
MM1Z3V9BWA	J4	3.82	3.9	3.98	5	130	5	1
MM1Z4V3BWA	K4	4.21	4.3	4.39	5	130	5	1
MM1Z4V7BWA	M4	4.61	4.7	4.79	5	130	2	1
MM1Z5V1BWA	N4	5	5.1	5.20	5	130	2	1.5
MM1Z5V6BWA	P4	5.49	5.6	5.71	5	80	1	2.5
MM1Z6V2BWA	R4	6.08	6.2	6.32	5	50	1	3
MM1Z6V8BWA	X4	6.66	6.8	6.94	5	30	0.5	3.5
MM1Z7V5BWA	Y4	7.35	7.5	7.65	5	30	0.5	4
MM1Z8V2BWA	Z4	8.04	8.2	8.36	5	30	0.5	5
MM1Z9V1BWA	A5	8.92	9.1	9.28	5	30	0.5	6
MM1Z10BWA	B5	9.8	10	10.2	5	30	0.1	7
MM1Z11BWA	C5	10.78	11	11.22	5	30	0.1	8
MM1Z12BWA	D5	11.76	12	12.24	5	35	0.1	9
MM1Z13BWA	E5	12.74	13	13.26	5	35	0.1	10
MM1Z15BWA	F5	14.7	15	15.3	5	40	0.1	11
MM1Z16BWA	H5	15.68	16	16.32	5	40	0.1	12
MM1Z18BWA	J5	17.64	18	18.36	5	45	0.1	13
MM1Z20BWA	K5	19.6	20	20.4	5	50	0.1	15
MM1Z22BWA	M5	21.56	22	22.44	5	55	0.1	17
MM1Z24BWA	N5	23.52	24	24.48	5	60	0.1	19
MM1Z27BWA	P5	26.46	27	27.54	2	70	0.1	21
MM1Z30BWA	R5	29.4	30	30.6	2	80	0.1	23
MM1Z33BWA	X5	32.34	33	33.66	2	80	0.1	25
MM1Z36BWA	Y5	35.28	36	36.72	2	90	0.1	27
MM1Z39BWA	Z5	38.22	39	39.78	2	100	2	30
MM1Z43BWA	A6	42.14	43	43.86	2	130	2	33
MM1Z47BWA	B6	46.06	47	47.94	2	150	2	36
MM1Z51BWA	C6	49.98	51	52.02	2	180	1	39
MM1Z56BWA	D6	54.88	56	57.12	2	180	1	43
MM1Z62BWA	E6	60.76	62	63.24	2	200	0.2	47
MM1Z68BWA	F6	66.64	68	69.36	2	250	0.2	52
MM1Z75BWA	H6	73.5	75	76.5	2	300	0.2	57

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



Fig.1 Maximum Continuous Power Derating

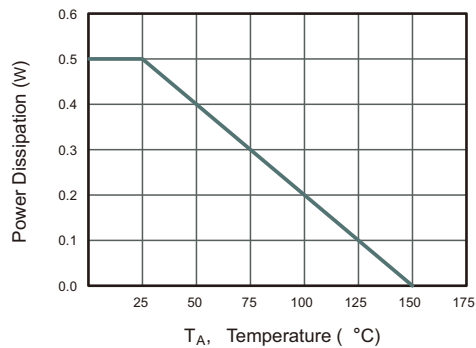


Fig.2 Typical Transient Thermal Impedance

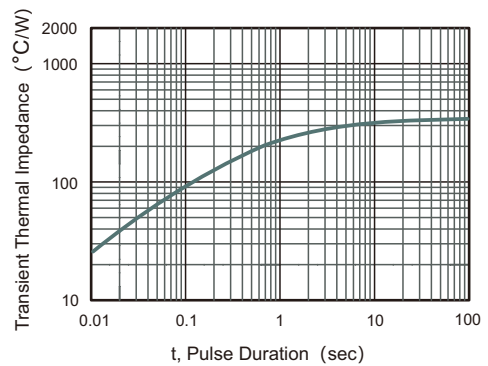


Fig.3 Zener voltage vs zener current

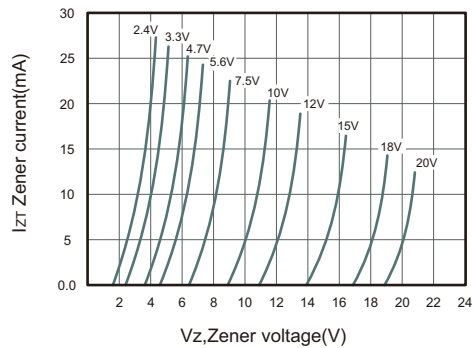


Fig.4 Zener voltage vs zener current

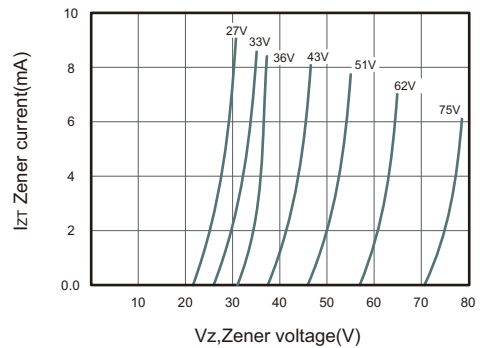
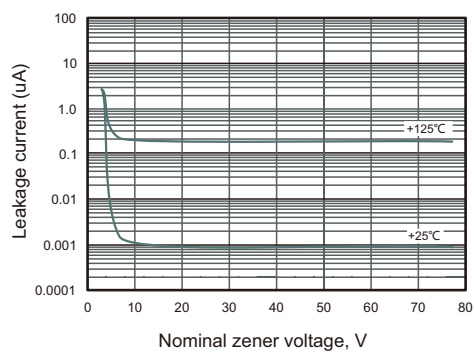


Fig.5 Typical leakage current

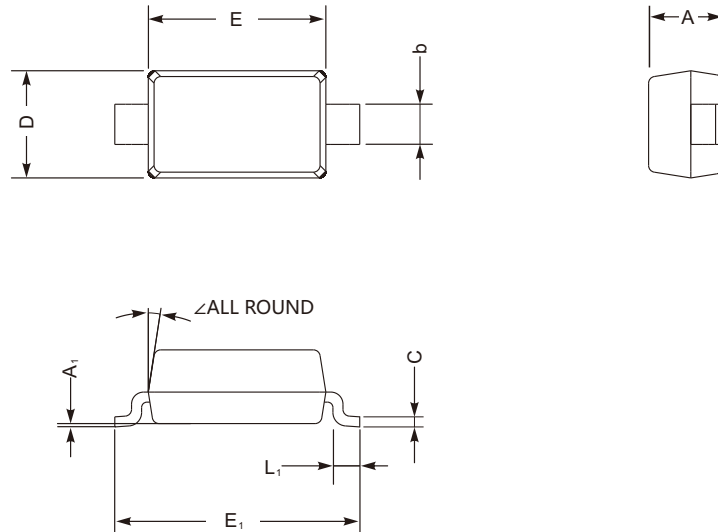




PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

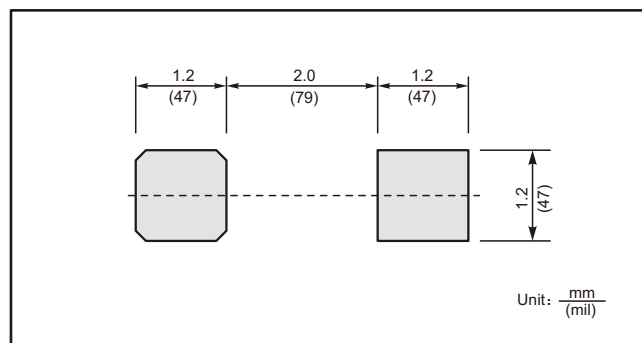
SOD-123W



SOD-123W mechanical data

UNIT		A	C	D	E	E ₁	L ₁	b	A ₁	∠
mm	max	1.3	0.22	1.8	2.8	3.9	0.45	0.7	0.2	9°
	min	0.9	0.09	1.5	2.5	3.6	0.25	0.5	—	
mil	max	51	8.7	71	110	154	18	28	8	
	min	35	3.5	59	98	142	10	20	—	

The recommended mounting pad size





Important Notice and Disclaimer

Jingdao Microelectronics reserves the right to make changes to this document and its products and specifications at any time without notice.

Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Jingdao Microelectronics makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Jingdao Microelectronics assume any liability for application assistance or customer product design.

Jingdao Microelectronics does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Jingdao Microelectronics.

Jingdao Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of Jingdao Microelectronics.