



Silicon Planar Zener Diodes

FEATURES

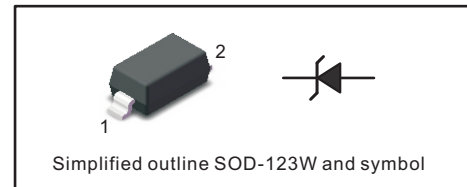
- Total power dissipation: Max. 500mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately $\pm 2\%$

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 $I_F = 10\text{ mA}$	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)
MM1Z2V0BW	A4	1.96	2	2.04	5	100	120	0.5
MM1Z2V2BW	B4	2.16	2.2	2.24	5	100	120	0.7
MM1Z2V4BW	C4	2.35	2.4	2.45	5	100	120	1
MM1Z2V7BW	D4	2.65	2.7	2.75	5	110	120	1
MM1Z3V0BW	E4	2.94	3	3.06	5	120	50	1
MM1Z3V3BW	F4	3.23	3.3	3.37	5	130	20	1
MM1Z3V6BW	H4	3.53	3.6	3.67	5	130	10	1
MM1Z3V9BW	J4	3.82	3.9	3.98	5	130	5	1
MM1Z4V3BW	K4	4.21	4.3	4.39	5	130	5	1
MM1Z4V7BW	M4	4.61	4.7	4.79	5	130	2	1
MM1Z5V1BW	N4	5	5.1	5.20	5	130	2	1.5
MM1Z5V6BW	P4	5.49	5.6	5.71	5	80	1	2.5
MM1Z6V2BW	R4	6.08	6.2	6.32	5	50	1	3
MM1Z6V8BW	X4	6.66	6.8	6.94	5	30	0.5	3.5
MM1Z7V5BW	Y4	7.35	7.5	7.65	5	30	0.5	4
MM1Z8V2BW	Z4	8.04	8.2	8.36	5	30	0.5	5
MM1Z9V1BW	A5	8.92	9.1	9.28	5	30	0.5	6
MM1Z10BW	B5	9.8	10	10.2	5	30	0.1	7
MM1Z11BW	C5	10.78	11	11.22	5	30	0.1	8
MM1Z12BW	D5	11.76	12	12.24	5	35	0.1	9
MM1Z13BW	E5	12.74	13	13.26	5	35	0.1	10
MM1Z15BW	F5	14.7	15	15.3	5	40	0.1	11
MM1Z16BW	H5	15.68	16	16.32	5	40	0.1	12
MM1Z18BW	J5	17.64	18	18.36	5	45	0.1	13
MM1Z20BW	K5	19.6	20	20.4	5	50	0.1	15
MM1Z22BW	M5	21.56	22	22.44	5	55	0.1	17
MM1Z24BW	N5	23.52	24	24.48	5	60	0.1	19
MM1Z27BW	P5	26.46	27	27.54	5	70	0.1	21
MM1Z30BW	R5	29.4	30	30.6	5	80	0.1	23
MM1Z33BW	X5	32.34	33	33.66	5	80	0.1	25
MM1Z36BW	Y5	35.28	36	36.72	5	90	0.1	27
MM1Z39BW	Z5	38.22	39	39.78	2.5	100	2	30
MM1Z43BW	A6	42.14	43	43.86	2.5	130	2	33
MM1Z47BW	B6	46.06	47	47.94	2.5	150	2	36
MM1Z51BW	C6	49.98	51	52.02	2.5	180	1	39
MM1Z56BW	D6	54.88	56	57.12	2.5	180	1	43
MM1Z62BW	E6	60.76	62	63.24	2.5	200	0.2	47
MM1Z68BW	F6	66.64	68	69.36	2.5	250	0.2	52
MM1Z75BW	H6	73.5	75	76.5	2.5	300	0.2	57

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



Fig.1 Maximum Continuous Power Derating

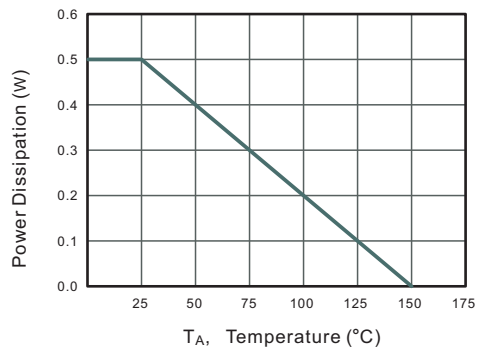


Fig.2 Typical Transient Thermal Impedance

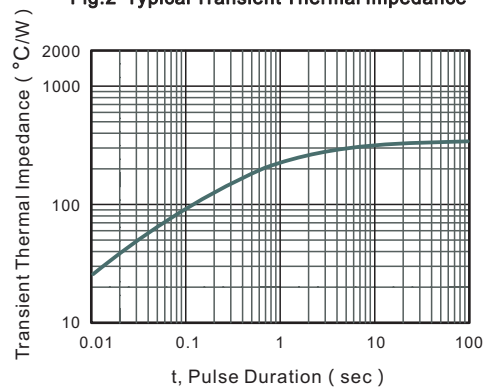


Fig.3 Zener voltage vs zener current

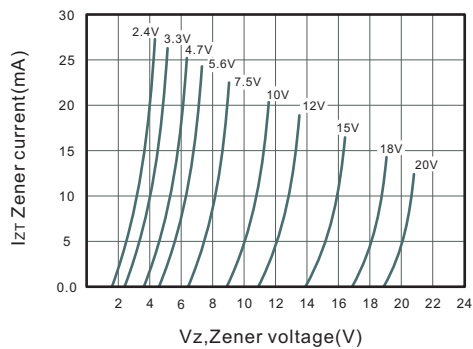


Fig.4 Zener voltage vs zener current

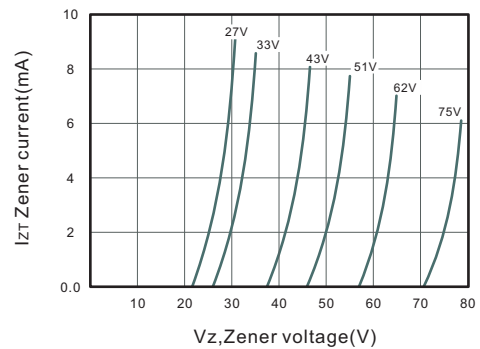
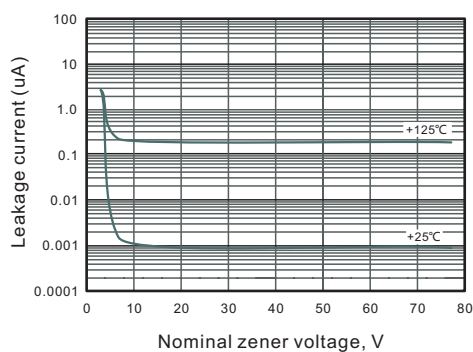


Fig.5 Typical leakage current

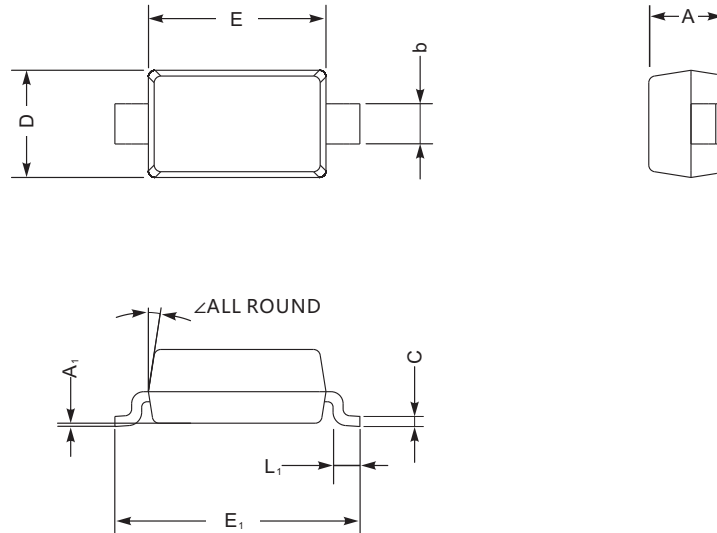




PACKAGE OUTLINE

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

