



Silicon Planar Zener Diodes

FEATURES

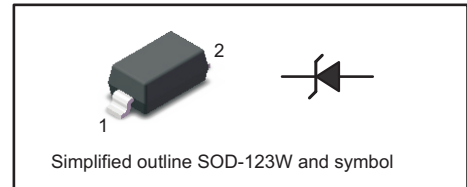
- Total power dissipation: Max. 500mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately $\pm 5\%$

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)
MM1Z2V0W	4A	1.8	2.0	2.15	5	100	120	0.5
MM1Z2V2W	4B	2.08	2.2	2.33	5	100	120	0.7
MM1Z2V4W	4C	2.28	2.4	2.56	5	100	120	1
MM1Z2V7W	4D	2.5	2.7	2.9	5	110	120	1
MM1Z3V0W	4E	2.8	3.0	3.2	5	120	50	1
MM1Z3V3W	4F	3.1	3.3	3.5	5	130	20	1
MM1Z3V6W	4H	3.4	3.6	3.8	5	130	10	1
MM1Z3V9W	4J	3.7	3.9	4.1	5	130	5	1
MM1Z4V3W	4K	4	4.3	4.6	5	130	5	1
MM1Z4V7W	4M	4.4	4.7	5	5	130	2	1
MM1Z5V1W	4N	4.8	5.1	5.4	5	130	2	1.5
MM1Z5V6W	4P	5.2	5.6	6	5	80	1	2.5
MM1Z6V2W	4R	5.8	6.2	6.6	5	50	1	3
MM1Z6V8W	4X	6.4	6.8	7.2	5	30	0.5	3.5
MM1Z7V5W	4Y	7	7.5	7.9	5	30	0.5	4
MM1Z8V2W	4Z	7.7	8.2	8.7	5	30	0.5	5
MM1Z9V1W	5A	8.5	9.1	9.6	5	30	0.5	6
MM1Z10W	5B	9.4	10	10.6	5	30	0.1	7
MM1Z11W	5C	10.4	11	11.6	5	30	0.1	8
MM1Z12W	5D	11.4	12	12.7	5	35	0.1	9
MM1Z13W	5E	12.4	13	14.1	5	35	0.1	10
MM1Z15W	5F	13.8	15	15.6	5	40	0.1	11
MM1Z16W	5H	15.3	16	17.1	5	40	0.1	12
MM1Z18W	5J	16.8	18	19.1	5	45	0.1	13
MM1Z20W	5K	18.8	20	21.2	5	50	0.1	15
MM1Z22W	5M	20.8	22	23.3	5	55	0.1	17
MM1Z24W	5N	22.8	24	25.6	5	60	0.1	19
MM1Z27W	5P	25.1	27	28.9	5	70	0.1	21
MM1Z30W	5R	28	30	32	5	80	0.1	23
MM1Z33W	5X	31	33	35	5	80	0.1	25
MM1Z36W	5Y	34	36	38	5	90	0.1	27
MM1Z39W	5Z	37	39	41	2.5	100	2	30
MM1Z43W	6A	40	43	46	2.5	130	2	33
MM1Z47W	6B	44	47	50	2.5	150	2	36
MM1Z51W	6C	48	51	54	2.5	180	1	39
MM1Z56W	6D	52	56	60	2.5	180	1	43
MM1Z62W	6E	58	62	66	2.5	200	0.2	47
MM1Z68W	6F	64	68	72	2.5	250	0.2	52
MM1Z75W	6H	70	75	79	2.5	300	0.2	57

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



Fig.1 Maximum Continuous Power Derating

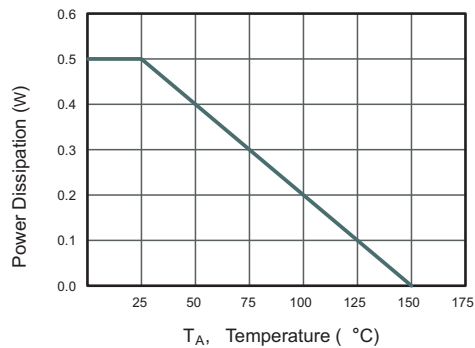


Fig.2 Typical Transient Thermal Impedance

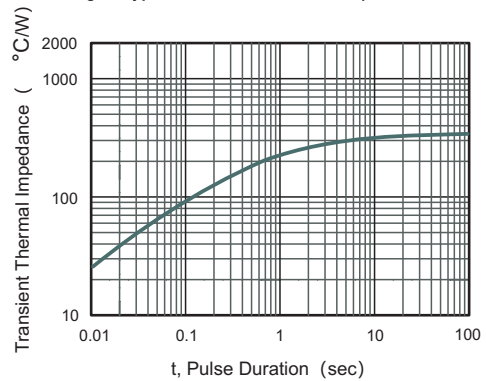


Fig.3 Zener voltage vs zener current

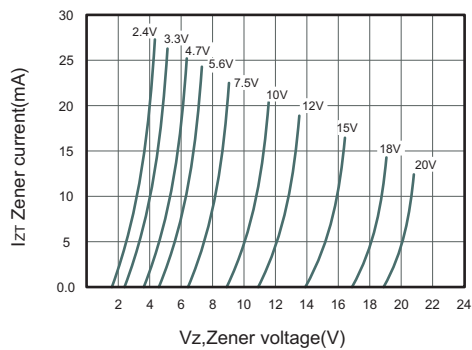


Fig.4 Zener voltage vs zener current

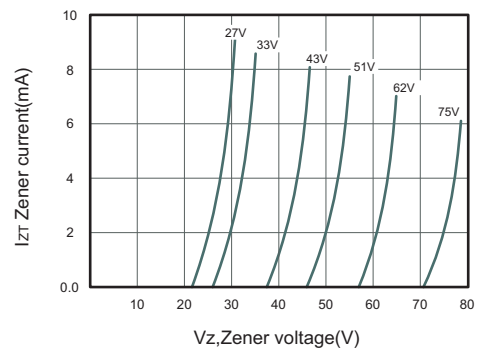
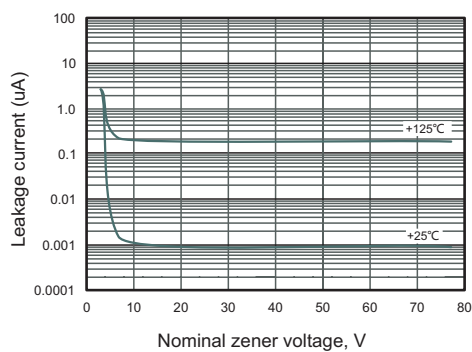


Fig.5 Typical leakage current

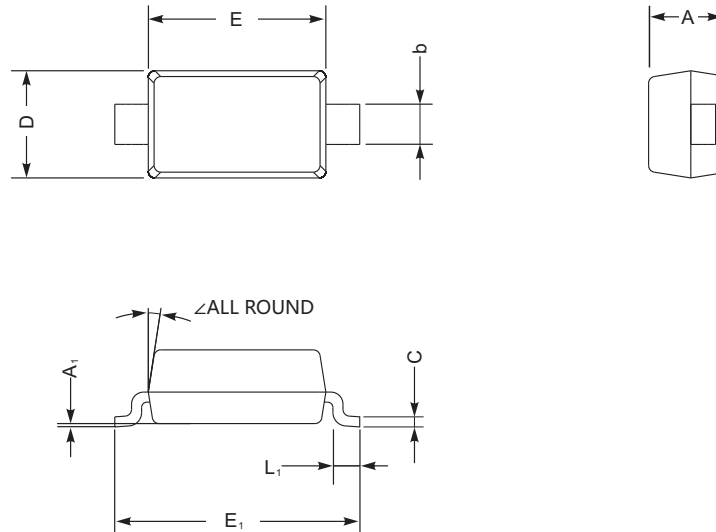




PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

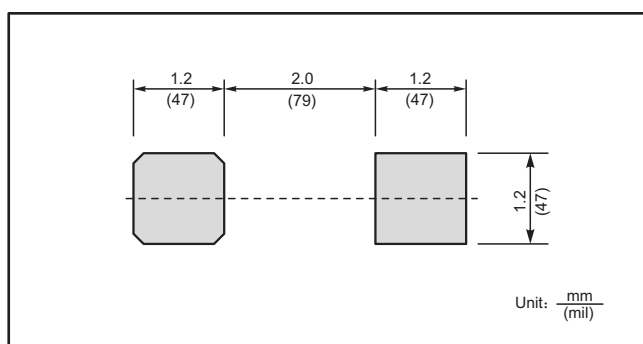
SOD-123W



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



Marking description

