



Silicon Planar Zener Diodes

**FEATURES**

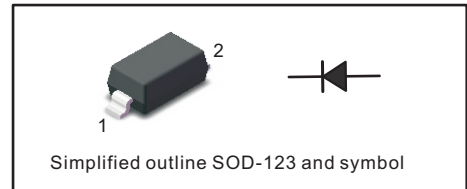
- Total power dissipation: Max. 500mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately  $\pm 2\%$

**MECHANICAL DATA**

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

**PINNING**

PIN	DESCRIPTION
1	Cathode
2	Anode

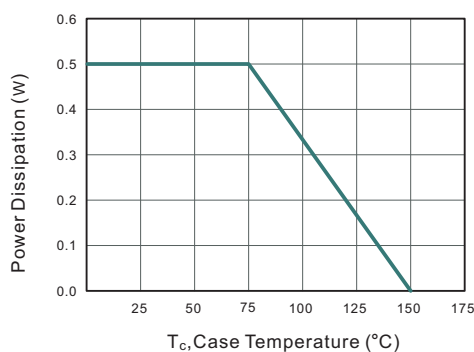


**Absolute Maximum Ratings And Characteristics ( Ta = 25 °C )**

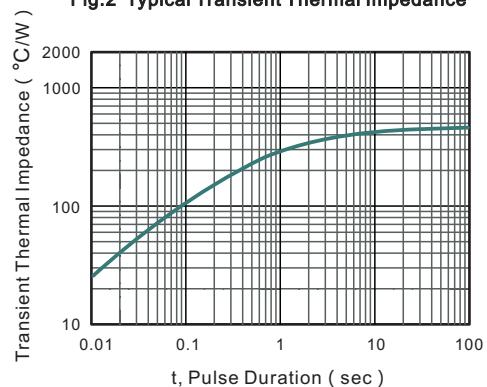
Parameter	Symbol	Value	Unit
Power Dissipation	$P_{tot}$	500	mW
Forward Voltage at $I_F = 10 \text{ mA}$	$V_F$	0.9	V
Typical thermal resistance junction to ambient <sup>(1)</sup>	$R_{\theta JA}$	340	$^{\circ}\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150	$^{\circ}\text{C}$

(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.

**Fig.1 Maximum Continuous Power Derating**



**Fig.2 Typical Transient Thermal Impedance**





Characteristics at Ta = 25°C

Type	Marking	Zener Voltage Range <sup>(1)</sup>			I <sub>ZT</sub> (mA)	Dynamic Impedance Z <sub>ZT</sub> ( at I <sub>ZT</sub> ) Max (Ω)	Reverse Current	
		V <sub>ZT</sub> ( at I <sub>ZT</sub> )					I <sub>R</sub> Max ( μA )	at V <sub>R</sub> ( V )
		Min ( V )	Nom ( V )	Max ( V )				
MM1Z2V0B	4A	1.96	2	2.04	5	100	120	0.5
MM1Z2V2B	4B	2.16	2.2	2.24	5	100	120	0.7
MM1Z2V4B	4C	2.35	2.4	2.45	5	100	120	1
MM1Z2V7B	4D	2.65	2.7	2.75	5	110	120	1
MM1Z3V0B	4E	2.94	3	3.06	5	120	50	1
MM1Z3V3B	4F	3.23	3.3	3.37	5	130	20	1
MM1Z3V6B	4H	3.53	3.6	3.67	5	130	10	1
MM1Z3V9B	4J	3.82	3.9	3.98	5	130	5	1
MM1Z4V3B	4K	4.21	4.3	4.39	5	130	5	1
MM1Z4V7B	4M	4.61	4.7	4.79	5	130	2	1
MM1Z5V1B	4N	5	5.1	5.20	5	130	2	1.5
MM1Z5V6B	4P	5.49	5.6	5.71	5	80	1	2.5
MM1Z6V2B	4R	6.08	6.2	6.32	5	50	1	3
MM1Z6V8B	4X	6.66	6.8	6.94	5	30	0.5	3.5
MM1Z7V5B	4Y	7.35	7.5	7.65	5	30	0.5	4
MM1Z8V2B	4Z	8.04	8.2	8.36	5	30	0.5	5
MM1Z9V1B	5A	8.92	9.1	9.28	5	30	0.5	6
MM1Z10B	5B	9.8	10	10.2	5	30	0.1	7
MM1Z11B	5C	10.78	11	11.22	5	30	0.1	8
MM1Z12B	5D	11.76	12	12.24	5	35	0.1	9
MM1Z13B	5E	12.74	13	13.26	5	35	0.1	10
MM1Z15B	5F	14.7	15	15.3	5	40	0.1	11
MM1Z16B	5H	15.68	16	16.32	5	40	0.1	12
MM1Z18B	5J	17.64	18	18.36	5	45	0.1	13
MM1Z20B	5K	19.6	20	20.4	5	50	0.1	15
MM1Z22B	5M	21.56	22	22.44	5	55	0.1	17
MM1Z24B	5N	23.52	24	24.48	5	60	0.1	19
MM1Z27B	5P	26.46	27	27.54	5	70	0.1	21
MM1Z30B	5R	29.4	30	30.6	5	80	0.1	23
MM1Z33B	5X	32.34	33	33.66	5	80	0.1	25
MM1Z36B	5Y	35.28	36	36.72	5	90	0.1	27
MM1Z39B	5Z	38.22	39	39.78	2.5	100	2	30
MM1Z43B	6A	42.14	43	43.86	2.5	130	2	33
MM1Z47B	6B	46.06	47	47.94	2.5	150	2	36
MM1Z51B	6C	49.98	51	52.02	2.5	180	1	39
MM1Z56B	6D	54.88	56	57.12	2.5	180	1	43
MM1Z62B	6E	60.76	62	63.24	2.5	200	0.2	47
MM1Z68B	6F	66.64	68	69.36	2.5	250	0.2	52
MM1Z75B	6H	73.5	75	76.5	2.5	300	0.2	57

( 1 ) V<sub>ZT</sub> is tested with pulses (20 ms)



**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

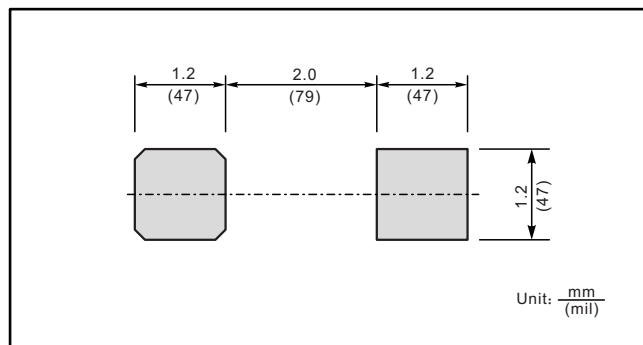
SOD-123



SOD-123 mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	L <sub>1</sub>	b	A <sub>1</sub>	∠
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**



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