

Silicon Planar Zener Diodes

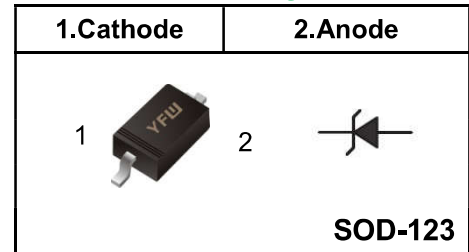
FEATURES

- ◆ Total power dissipation: Max. 500mW.
- ◆ Wide zener reverse voltage range 2.0 V to 75 V.
- ◆ Small plastic package suitable for surface mounted design.
- ◆ Tolerance approximately ± 2%.
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SOD-123
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 15mg / 0.00048oz

Pinning



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

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	500	mW
Forward Voltage at IF = 10 mA	V_F	0.9	V
Typical thermal resistance junction to ambient ⁽¹⁾	R_{θJA}	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.

Fig.1 Maximum Continuous Power Derating

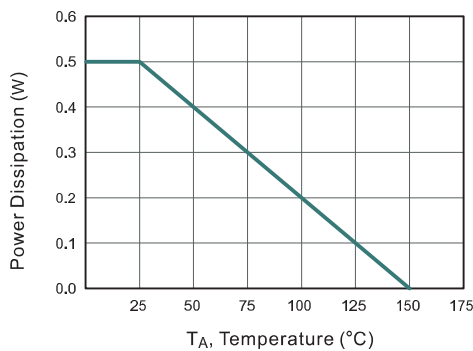
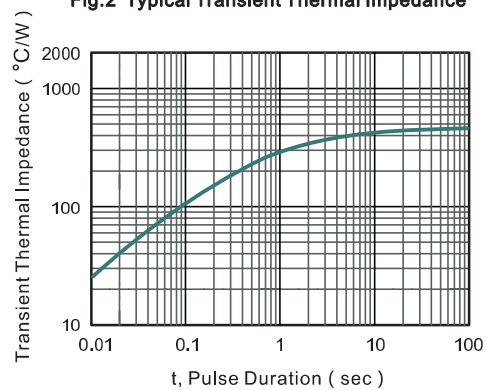


Fig.2 Typical Transient Thermal Impedance



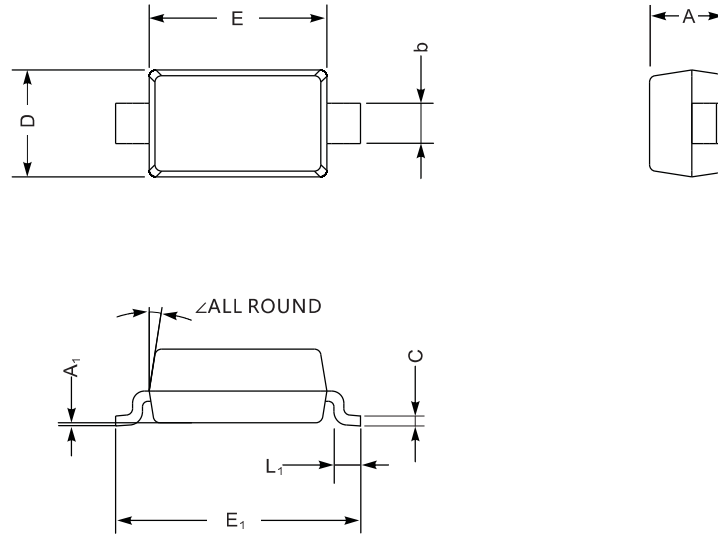
Characteristics at Ta = 25°C

Type	Marking	Zener Voltage Range ⁽¹⁾			I _{ZT} (mA)	Dynamic Impedance Z _{ZT} (at I _{ZT}) Max (Ω)	Reverse Current	
		V _{ZT} (at I _{ZT})					I _R Max (μA)	at V _R (V)
		Min (V)	Nom (V)	Max (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)

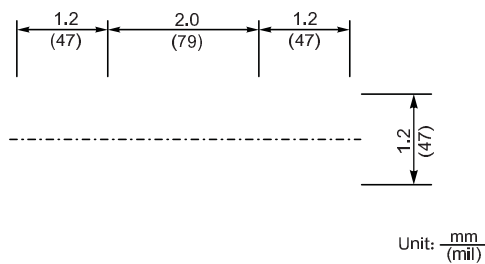
Package Outline SOD-123

Plastic surface mounted package; 2 leads



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



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-123	Tape/Reel, 7" reel	3000	EIA-481-1