

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 $\pm 5\%$.
- ♦ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

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

Pinning

1.Cathode	2.Anode
	
	
SOD123FL	



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

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	1	W
Forward Voltage at $I_F = 10\text{ mA}$	V_F	0.9	V
Typical thermal resistance junction to ambient ⁽¹⁾	$R_{\theta JA}$	90	°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

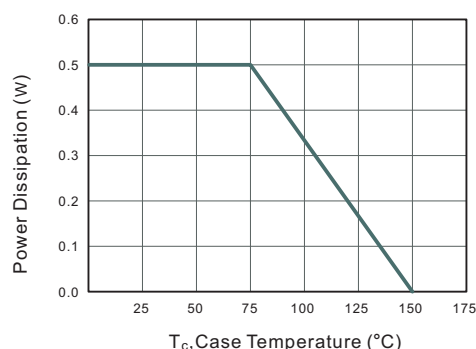
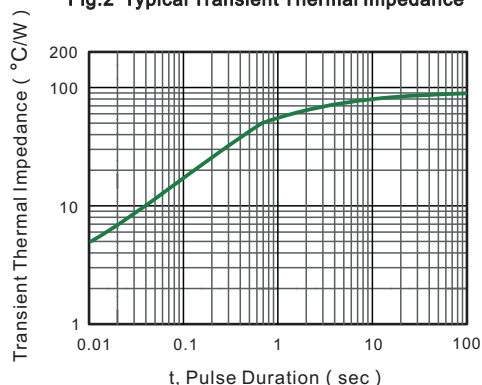


Fig.2 Typical Transient Thermal Impedance



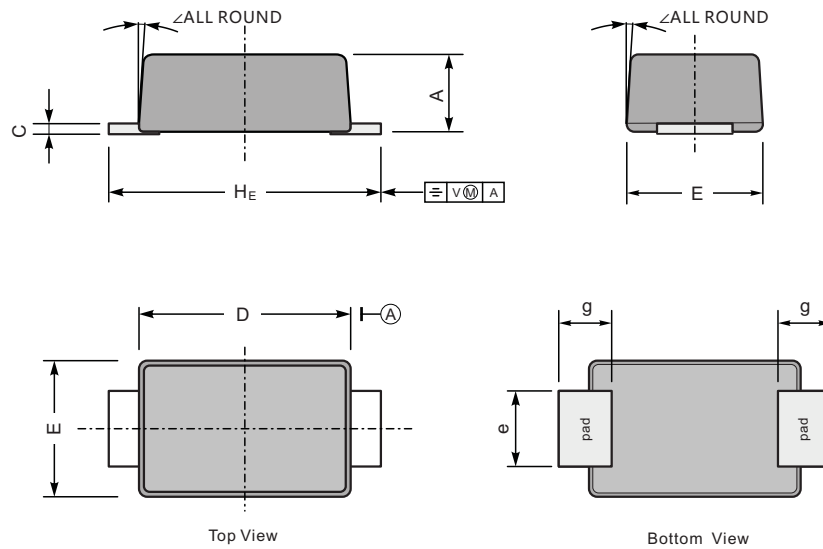
Characteristics at Ta = 25 C

Type	Marking	Zener Voltage Range ⁽¹⁾				Dynamic Impedance	Reverse Current		Admissible Zener Current
		V _{ZT} (at I _{ZT})			I _{ZT}	Z _{ZT} (at I _{ZT})	I _R	at V _R	
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)	I _{ZM} (mA)
MM1Z2V0L	4A	1.8	2.0	2.15	5	100	120	0.5	230
MM1Z2V2L	4B	2.08	2.2	2.33	5	100	120	0.7	210
MM1Z2V4L	4C	2.28	2.4	2.56	5	100	120	1	190
MM1Z2V7L	4D	2.5	2.7	2.9	5	110	120	1	170
MM1Z3V0L	4E	2.8	3.0	3.2	5	120	50	1	155
MM1Z3V3L	4F	3.1	3.3	3.5	5	130	20	1	140
MM1Z3V6L	4H	3.4	3.6	3.8	5	130	10	1	130
MM1Z3V9L	4J	3.7	3.9	4.1	5	130	5	1	120
MM1Z4V3L	4K	4.0	4.3	4.6	5	130	5	1	110
MM1Z4V7L	4M	4.4	4.7	5.0	5	130	2	1	100
MM1Z5V1L	4N	4.8	5.1	5.4	5	130	2	1.5	90
MM1Z5V6L	4P	5.2	5.6	6.0	5	80	1	2.5	85
MM1Z6V2L	4R	5.8	6.2	6.6	5	50	1	3.0	75
MM1Z6V8L	4X	6.4	6.8	7.2	5	30	0.5	3.5	70
MM1Z7V5L	4Y	7.0	7.5	7.9	5	30	0.5	4	63
MM1Z8V2L	4Z	7.7	8.2	8.7	5	30	0.5	5	57
MM1Z9V1L	5A	8.5	9.1	9.6	5	30	0.5	6	52
MM1Z10L	5B	9.4	10	10.6	5	30	0.1	7	47
MM1Z11L	5C	10.4	11	11.6	5	30	0.1	8	43
MM1Z12L	5D	11.4	12	12.7	5	35	0.1	9	40
MM1Z13L	5E	12.4	13	14.1	5	35	0.1	10	35
MM1Z15L	5F	13.8	15	15.6	5	40	0.1	11	32
MM1Z16L	5H	15.3	16	17.1	5	40	0.1	12	29
MM1Z18L	5J	16.8	18	19.1	5	45	0.1	13	26
MM1Z20L	5K	18.8	20	21.2	5	50	0.1	15	23
MM1Z22L	5M	2.08	22	23.3	5	55	0.1	17	21
MM1Z24L	5N	22.8	24	25.6	5	60	0.1	19	19
MM1Z27L	5P	25.1	27	28.9	5	70	0.1	21	17
MM1Z30L	5R	28	30	32	5	80	0.1	23	15
MM1Z33L	5X	31	33	35	5	80	0.1	25	14
MM1Z36L	5Y	34	36	38	5	90	0.1	27	13
MM1Z39L	5Z	37	39	41	2.5	100	2	30	12
MM1Z43L	6A	40	43	46	2.5	130	2	33	12
MM1Z47L	6B	44	47	50	2.5	150	2	36	10
MM1Z51L	6C	48	51	54	2	180	1	39	10
MM1Z56L	6D	52	56	60	2	180	1	43	8
MM1Z62L	6E	58	62	66	2	200	0.2	47	7
MM1Z68L	6F	64	68	72	2	250	0.2	52	6
MM1Z75L	6H	70	75	79	2	300	0.2	57	6

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

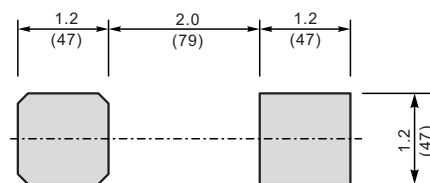
Package Outline SOD-123FL

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.3	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{(\text{mil})}$

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-123FL	Tape/Reel, 13" reel	10000	EIA-481-1
	Tape/Reel, 7" reel	3000	EIA-481-1