

Silicon Planar Zener Diodes

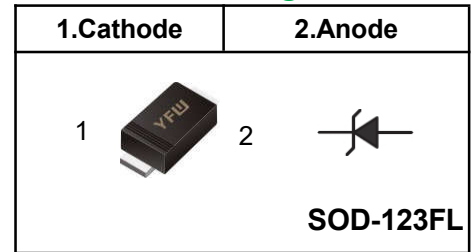
FEATURES

- ◆ 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



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

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	0.5	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	$^{\circ}\text{C/W}$
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

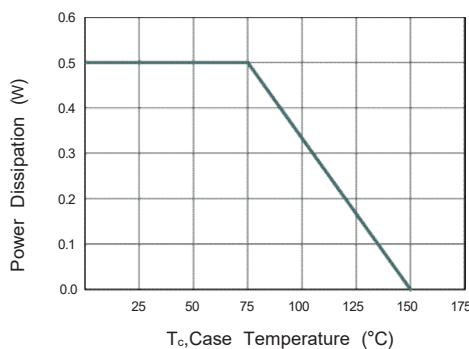
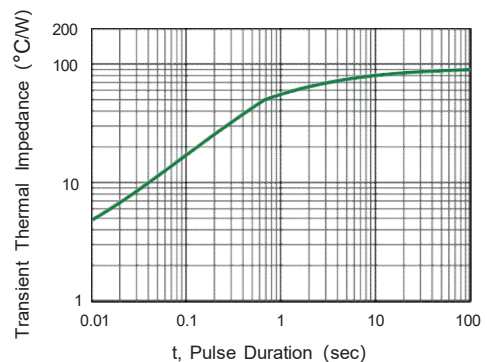


Fig.2 Typical Transient Thermal Impedance



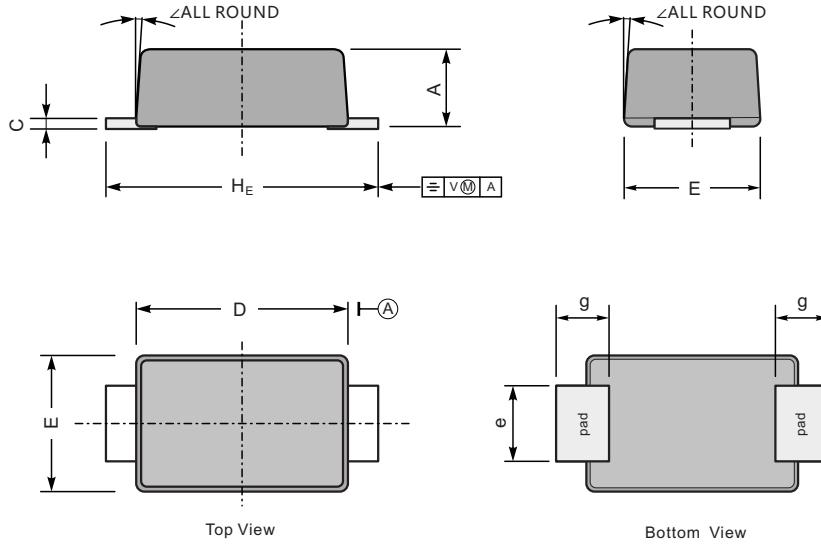
Characteristics at Ta = 25 °C

Type	Marking	Zener Voltage Range ⁽¹⁾			I _{ZT} (mA)	Dynamic Impedance	Reverse Current		Admissible Zener Current I _{ZM} (mA)
		V _{ZT} (at I _{ZT})				Z _{ZT} (at I _{ZT})	I _R	at V _R	
		Min (V)	Nom (V)	Max (V)		Max (Ω)	Max (μA)	(V)	
MM1Z2V0	4A	1.8	2.0	2.15	5	100	120	0.5	230
MM1Z2V2	4B	2.08	2.2	2.33	5	100	120	0.7	210
MM1Z2V4	4C	2.28	2.4	2.56	5	100	120	1	190
MM1Z2V7	4D	2.5	2.7	2.9	5	110	120	1	170
MM1Z3V0	4E	2.8	3.0	3.2	5	120	50	1	155
MM1Z3V3	4F	3.1	3.3	3.5	5	130	20	1	140
MM1Z3V6	4H	3.4	3.6	3.8	5	130	10	1	130
MM1Z3V9	4J	3.7	3.9	4.1	5	130	5	1	120
MM1Z4V3	4K	4.0	4.3	4.6	5	130	5	1	110
MM1Z4V7	4M	4.4	4.7	5.0	5	130	2	1	100
MM1Z5V1	4N	4.8	5.1	5.4	5	130	2	1.5	90
MM1Z5V6	4P	5.2	5.6	6.0	5	80	1	2.5	85
MM1Z6V2	4R	5.8	6.2	6.6	5	50	1	3.0	75
MM1Z6V8	4X	6.4	6.8	7.2	5	30	0.5	3.5	70
MM1Z7V5	4Y	7.0	7.5	7.9	5	30	0.5	4	63
MM1Z8V2	4Z	7.7	8.2	8.7	5	30	0.5	5	57
MM1Z9V1	5A	8.5	9.1	9.6	5	30	0.5	6	52
MM1Z10	5B	9.4	10	10.6	5	30	0.1	7	47
MM1Z11	5C	10.4	11	11.6	5	30	0.1	8	43
MM1Z12	5D	11.4	12	12.7	5	35	0.1	9	40
MM1Z13	5E	12.4	13	14.1	5	35	0.1	10	35
MM1Z15	5F	13.8	15	15.6	5	40	0.1	11	32
MM1Z16	5H	15.3	16	17.1	5	40	0.1	12	29
MM1Z18	5J	16.8	18	19.1	5	45	0.1	13	26
MM1Z20	5K	18.8	20	21.2	5	50	0.1	15	23
MM1Z22	5M	2.08	22	23.3	5	55	0.1	17	21
MM1Z24	5N	22.8	24	25.6	5	60	0.1	19	19
MM1Z27	5P	25.1	27	28.9	5	70	0.1	21	17
MM1Z30	5R	28	30	32	5	80	0.1	23	15
MM1Z33	5X	31	33	35	5	80	0.1	25	14
MM1Z36	5Y	34	36	38	5	90	0.1	27	13
MM1Z39	5Z	37	39	41	2.5	100	2	30	12
MM1Z43	6A	40	43	46	2.5	130	2	33	12
MM1Z47	6B	44	47	50	2.5	150	2	36	10
MM1Z51	6C	48	51	54	2	180	1	39	10
MM1Z56	6D	52	56	60	2	180	1	43	8
MM1Z62	6E	58	62	66	2	200	0.2	47	7
MM1Z68	6F	64	68	72	2	250	0.2	52	6
MM1Z75	6H	70	75	79	2	300	0.2	57	6

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

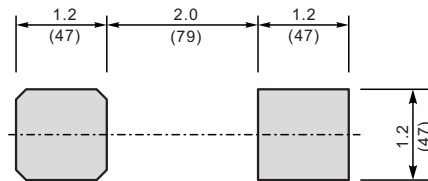
Package Outline SOD-123FL

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	g	H _E	\angle
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