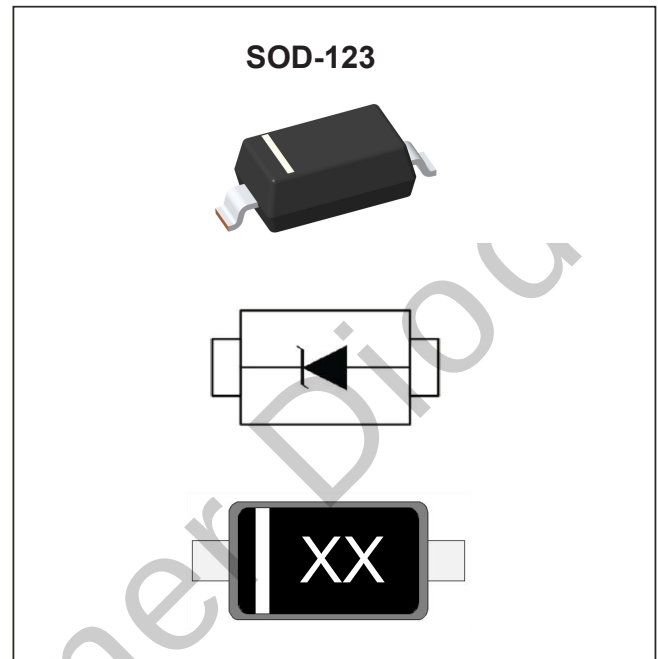


Features

- 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-123
- Terminals: Solderable per MIL-STD-750, Method 2026



Absolute Maximum Ratings And Characteristics ($T_a = 25^\circ\text{C}$)

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	$^\circ\text{C/W}$
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

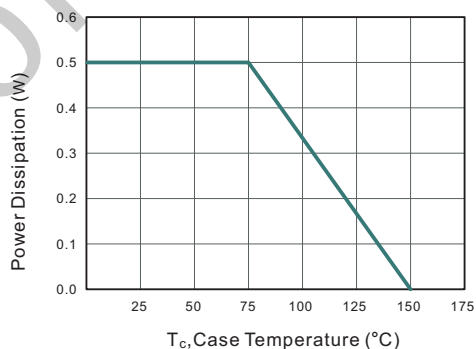
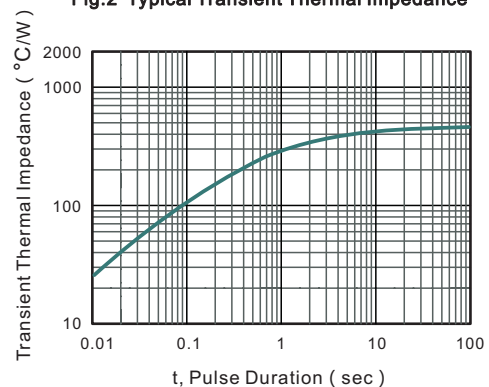


Fig.2 Typical Transient Thermal Impedance



Silicon Planar Zener Diode with wide reverse voltage range

Characteristics at Ta = 25°C

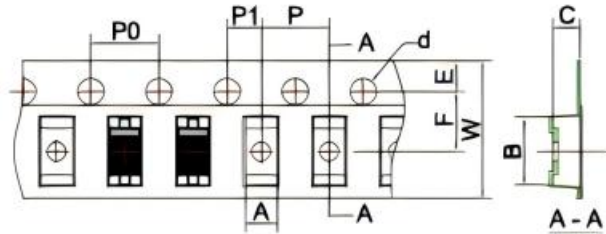
Type	Marking	Zener Voltage Range ⁽¹⁾				Dynamic Impedance	Reverse Current	
		V _{ZT} (at I _{ZT})			I _{ZT}	Z _{ZT} (at I _{ZT})	I _R	at V _R
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max(μA)	(V)
MM1Z2V0	4A	1.8	2.0	2.15	5	100	120	0.5
MM1Z2V2	4B	2.08	2.2	2.33	5	100	120	0.7
MM1Z2V4	4C	2.28	2.4	2.56	5	100	120	1
MM1Z2V7	4D	2.5	2.7	2.9	5	110	120	1
MM1Z3V0	4E	2.8	3.0	3.2	5	120	50	1
MM1Z3V3	4F	3.1	3.3	3.5	5	130	20	1
MM1Z3V6	4H	3.4	3.6	3.8	5	130	10	1
MM1Z3V9	4J	3.7	3.9	4.1	5	130	5	1
MM1Z4V3	4K	4	4.3	4.6	5	130	5	1
MM1Z4V7	4M	4.4	4.7	5	5	130	2	1
MM1Z5V1	4N	4.8	5.1	5.4	5	130	2	1.5
MM1Z5V6	4P	5.2	5.6	6	5	80	1	2.5
MM1Z6V2	4R	5.8	6.2	6.6	5	50	1	3
MM1Z6V8	4X	6.4	6.8	7.2	5	30	0.5	3.5
MM1Z7V5	4Y	7	7.5	7.9	5	30	0.5	4
MM1Z8V2	4Z	7.7	8.2	8.7	5	30	0.5	5
MM1Z9V1	5A	8.5	9.1	9.6	5	30	0.5	6
MM1Z10	5B	9.4	10	10.6	5	30	0.1	7
MM1Z11	5C	10.4	11	11.6	5	30	0.1	8
MM1Z12	5D	11.4	12	12.7	5	35	0.1	9
MM1Z13	5E	12.4	13	14.1	5	35	0.1	10
MM1Z15	5F	13.8	15	15.6	5	40	0.1	11
MM1Z16	5H	15.3	16	17.1	5	40	0.1	12
MM1Z18	5J	16.8	18	19.1	5	45	0.1	13
MM1Z20	5K	18.8	20	21.2	5	50	0.1	15
MM1Z22	5M	20.8	22	23.3	5	55	0.1	17
MM1Z24	5N	22.8	24	25.6	5	60	0.1	19
MM1Z27	5P	25.1	27	28.9	5	70	0.1	21
MM1Z30	5R	28	30	32	5	80	0.1	23
MM1Z33	5X	31	33	35	5	80	0.1	25
MM1Z36	5Y	34	36	38	5	90	0.1	27
MM1Z39	5Z	37	39	41	2.5	100	2	30
MM1Z43	6A	40	43	46	2.5	130	2	33
MM1Z47	6B	44	47	50	2.5	150	2	36
MM1Z51	6C	48	51	54	2.5	180	1	39
MM1Z56	6D	52	56	60	2.5	180	1	43
MM1Z62	6E	58	62	66	2.5	200	0.2	47
MM1Z68	6F	64	68	72	2.5	250	0.2	52
MM1Z75	6H	70	75	79	2.5	300	0.2	57

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

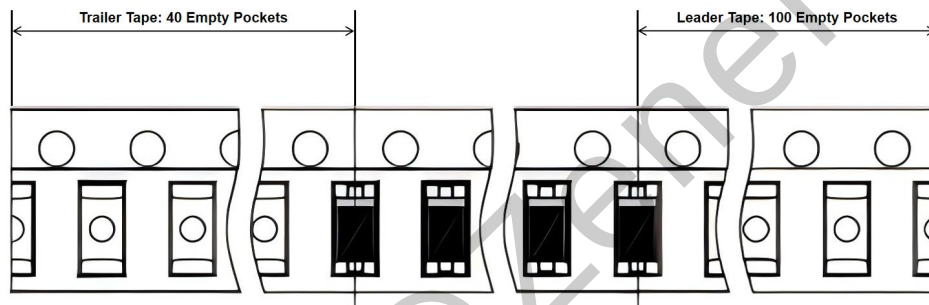
Silicon Planar Zener Diode with wide reverse voltage range

Package Information

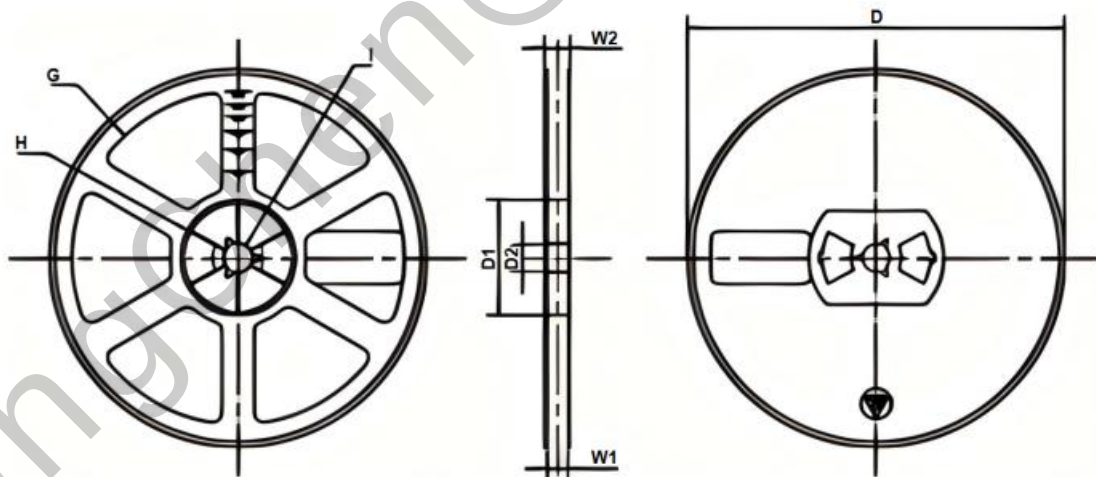
Carrier Dimension(mm)



Dimensions are in millimeter										
Pkg Type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.94	1.57	1.55	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	±0.05	±0.05	±0.05	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.06/-0.1



Reel Dimension(mm)



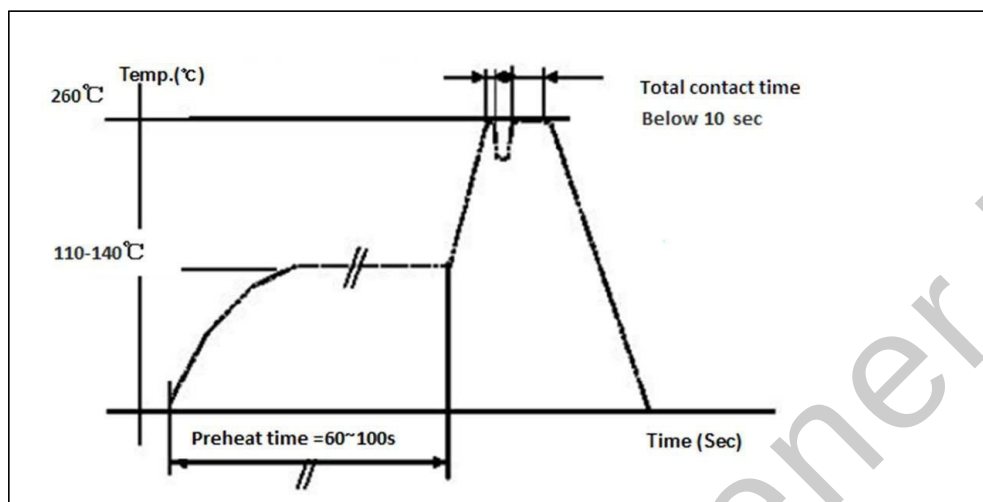
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

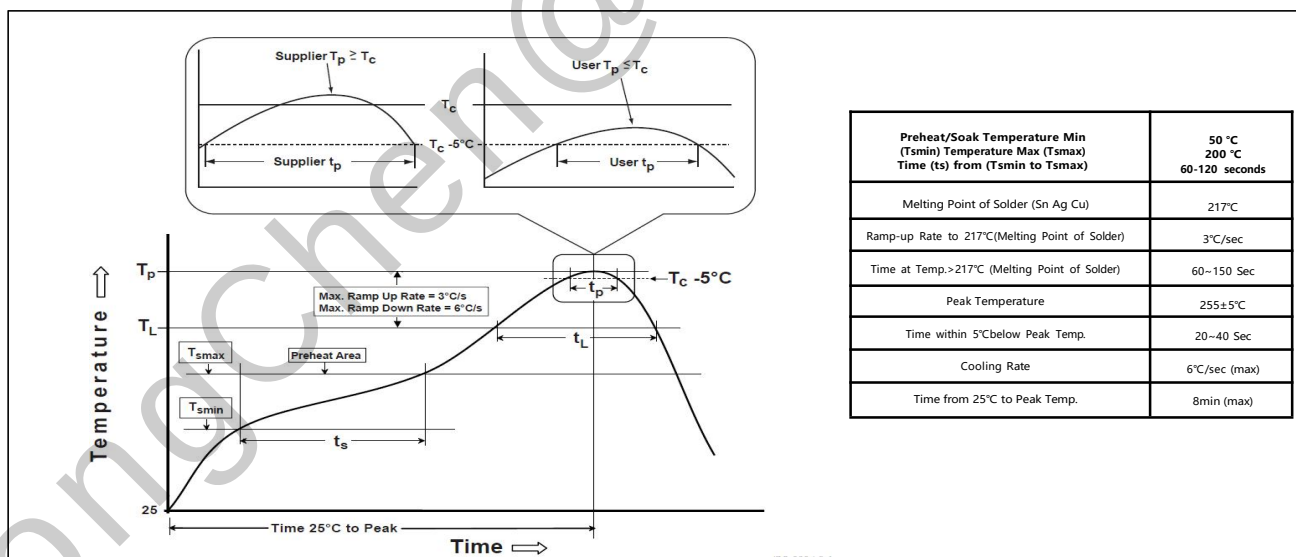
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOD123	7'	178	3	210*208*203	45	440*400*230	180

Recommended Soldering Profile for Rectifier Diodes (Pb Free)

a) Wave Soldering Profile



b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020

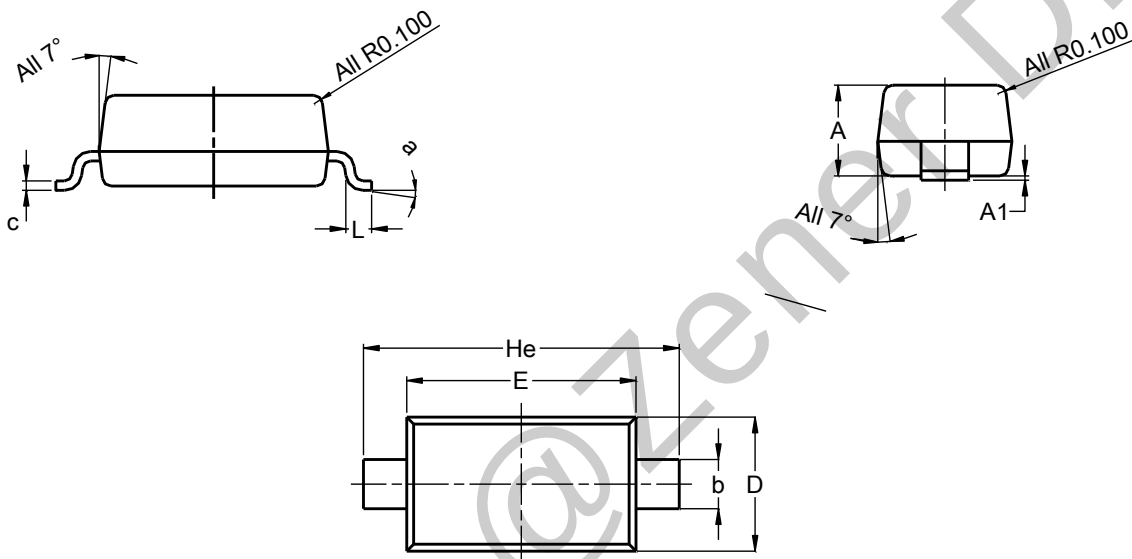


c) Manual Soldering

When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

Outline Drawing

SOD123

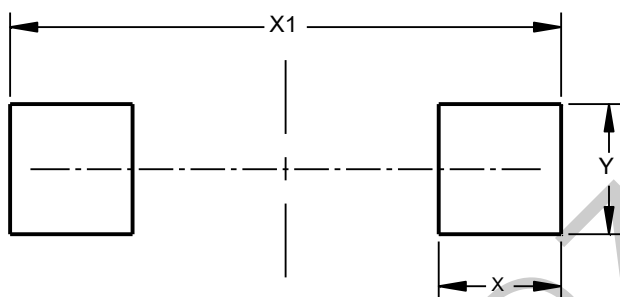


SOD123			
Dim	Min	Max	Typ
A	1.00	1.35	1.05
A1	0.00	0.10	0.05
b	0.52	0.62	0.57
c	0.10	0.15	0.11
D	1.40	1.70	1.55
E	2.55	2.85	2.65
He	3.55	3.85	3.65
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Dimensions in inches and (millimeters)

Suggested Soldering Pad Layout

SOD123



Dimensions	Value (in mm)
X	0.900
X1	4.050
Y	0.950

Dimensions in inches and (millimeters)

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