

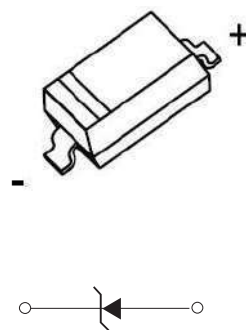
SOD-123 Plastic-Encapsulate Diodes

ZENER DIODE

Features

- Planar Die Construction
- **500mW** Power Dissipation on Ceramic PCB
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- Available in Lead Free Version

SOD-123



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

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_s	- 55 to + 150	$^{\circ}\text{C}$

Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	340	$^{\circ}\text{C/W}$
Forward Voltage at $I_F = 10\text{ mA}$	V_F	0.9	V

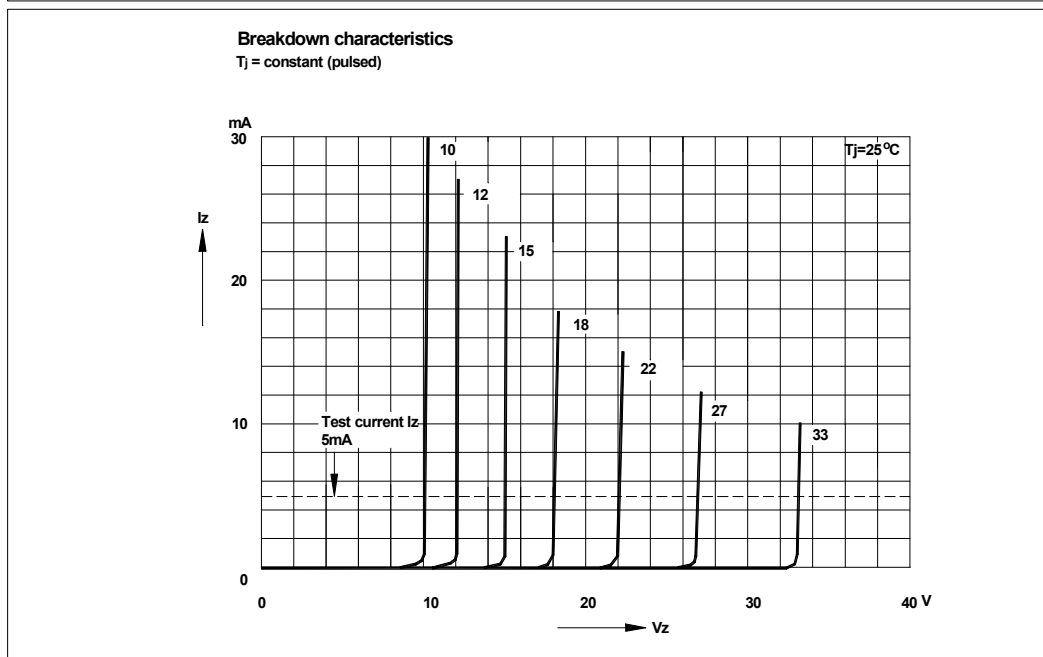
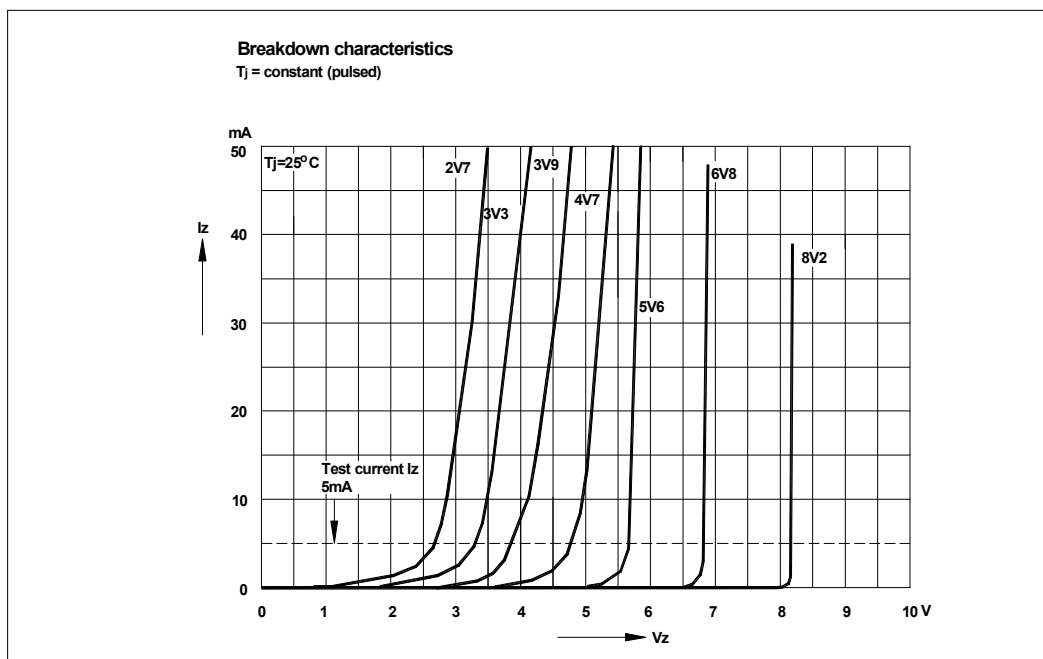
Characteristics at $T_a = 25^\circ\text{C}$

Type	Marking Code	Zener Voltage Range ¹⁾			Dynamic Impedance ²⁾		Reverse Leakage Current	
		V_{znom} V	I_{ZT} mA	for V_{ZT} V	Z_{ZT} (Max.) Ω	at I_Z mA	I_R (Max.) μA	at V_R V
MMSZ2V0	4A	2.0	5	1.8...2.15	100	5	120	0.5
MMSZ2V2	4B	2.2	5	2.08...2.33	100	5	120	0.7
MMSZ2V4	4C WX	2.4	5	2.28...2.56	100	5	120	1
MMSZ2V7	4D W1	2.7	5	2.5...2.9	110	5	120	1
MMSZ3V0	4E W2	3.0	5	2.8...3.2	120	5	50	1
MMSZ3V3	4F W3	3.3	5	3.1...3.5	130	5	20	1
MMSZ3V6	4H W4	3.6	5	3.4...3.8	130	5	10	1
MMSZ3V9	4J W5	3.9	5	3.7...4.1	130	5	5	1
MMSZ4V3	4K W6	4.3	5	4...4.6	130	5	5	1
MMSZ4V7	4M W7	4.7	5	4.4...5	130	5	2	1
MMSZ5V1	4N W8	5.1	5	4.8...5.4	130	5	2	1.5
MMSZ5V6	4P W9	5.6	5	5.2...6	80	5	1	2.5
MMSZ6V2	4R WA	6.2	5	5.8...6.6	50	5	1	3
MMSZ6V8	4X WB	6.8	5	6.4...7.2	30	5	0.5	3.5
MMSZ7V5	4Y WC	7.5	5	7...7.9	30	5	0.5	4
MMSZ8V2	4Z WD	8.2	5	7.7...8.7	30	5	0.5	5
MMSZ9V1	5A WE	9.1	5	8.5...9.6	30	5	0.5	6
MMSZ10	5B WF	10	5	9.4...10.6	30	5	0.1	7
MMSZ11	5C WG	11	5	10.4...11.6	30	5	0.1	8
MMSZ12	5D WH	12	5	11.4...12.7	35	5	0.1	9
MMSZ13	5E WI	13	5	12.4...14.1	35	5	0.1	10
MMSZ15	5F WJ	15	5	13.8...15.6	40	5	0.1	11
MMSZ16	5H WK	16	5	15.3...17.1	40	5	0.1	12
MMSZ18	5J WL	18	5	16.8...19.1	45	5	0.1	13
MMSZ20	5K WM	20	5	18.8...21.2	50	5	0.1	15
MMSZ22	5M WN	22	5	20.8...23.3	55	5	0.1	17
MMSZ24	5N WO	24	5	22.8...25.6	60	5	0.1	19
MMSZ27	5P WP	27	5	25.1...28.9	70	2	0.1	21
MMSZ30	5R WQ	30	5	28...32	80	2	0.1	23
MMSZ33	5X WR	33	5	31...35	80	2	0.1	25
MMSZ36	5Y WS	36	5	34...38	90	2	0.1	27
MMSZ39	5Z WT	39	2.5	37...41	100	2	2	30
MMSZ43	6A WU	43	2.5	40...46	130	2	2	33
MMSZ47	6B	47	2.5	44...50	150	2	2	36
MMSZ51	6C	51	2.5	48...54	180	2	1	39
MMSZ56	6D	56	2.5	52...60	180	2	1	43
MMSZ62	6E	62	2.5	58...66	200	2	0.2	47
MMSZ68	6F	68	2.5	64...72	250	2	0.2	52
MMSZ75	6H	75	2.5	70...79	300	2	0.2	57

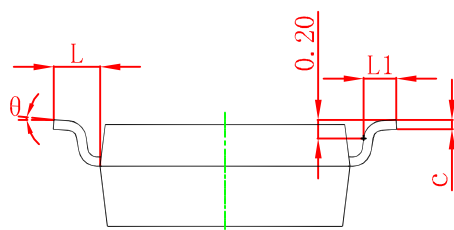
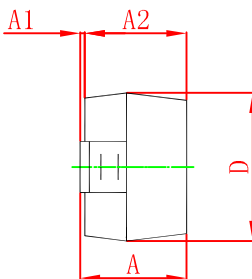
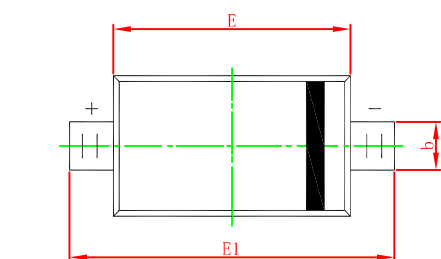
¹⁾ V_Z is tested with pulses (20 ms).

²⁾ Z_{ZT} is measured at I_Z by given a very small A.C. current signal.

Typical Characteristics

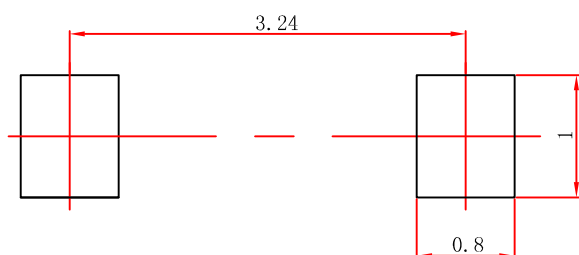


SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 Suggested Pad Layout

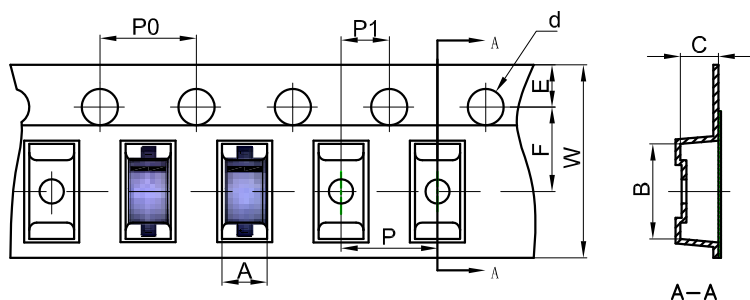


Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

SOD-123 Tape and Reel

SOD-123 Embossed Carrier Tape

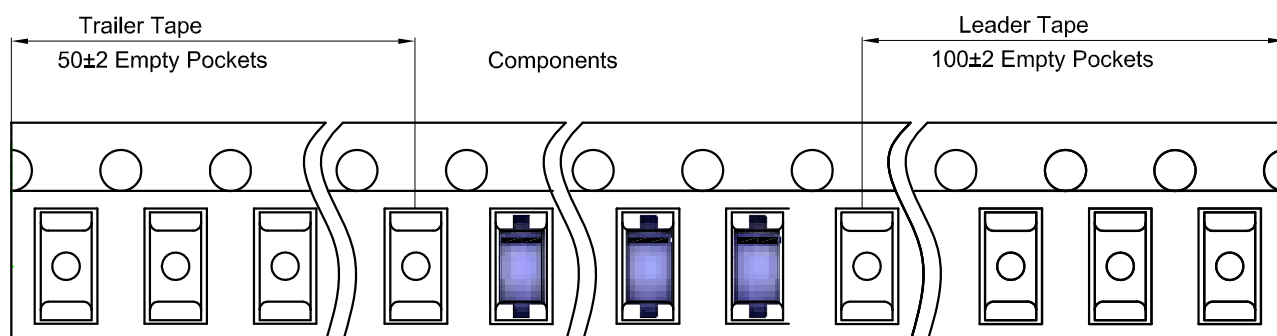


Packaging Description:

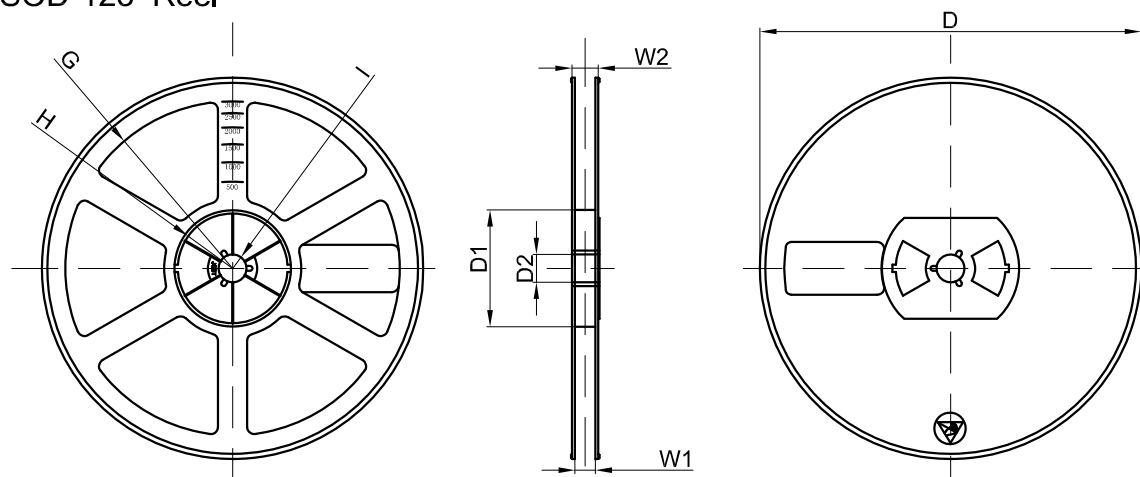
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOD-123 Tape Leader and Trailer



SOD-123 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	