

SOD123 Plastic-Encapsulate Diodes

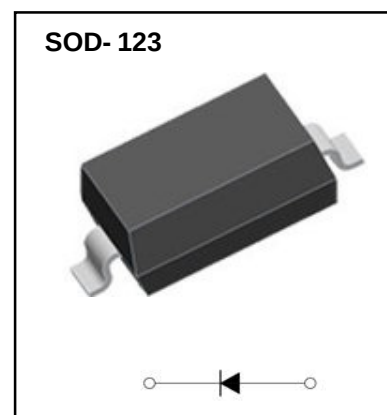
Small Signal Fast Switching Diodes

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

Applications

- Extreme fast switches



Limiting Values (Absolute Maximum Rating)

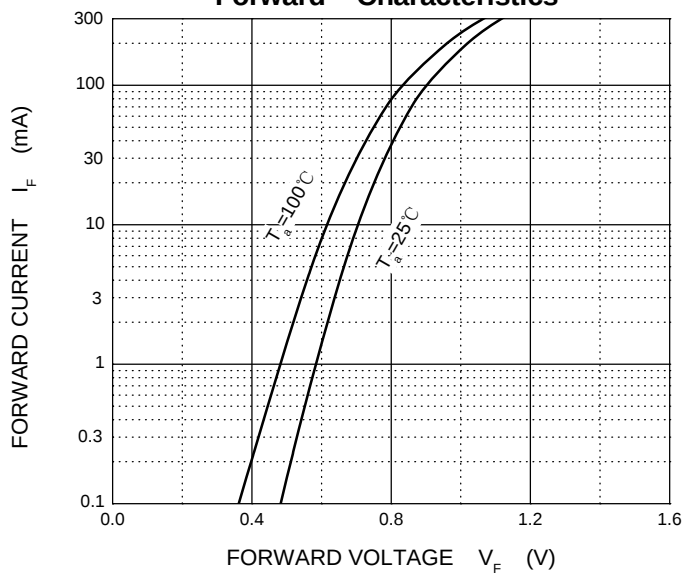
Parameter	Symbol	Limit	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	71	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	2.0	A
Power Dissipation	P_d	350	mW
1N4148W BAV16W		400	
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	°C/W
Junction Temperature	T_j	-55~+150	°C
Storage Temperature	T_{STG}	-55~+150	°C

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

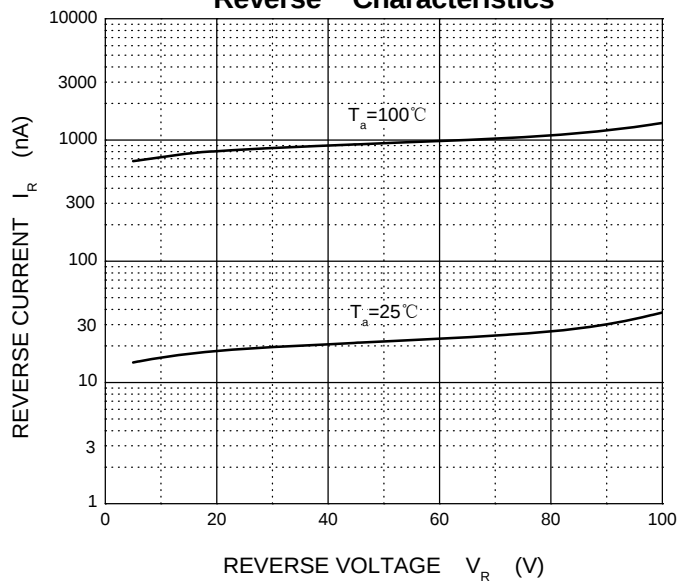
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	V_{F1}			0.715	V	$I_F=1\text{mA}$
	V_{F2}			0.855	V	$I_F=10\text{mA}$
	V_{F3}			1.0	V	$I_F=50\text{mA}$
	V_{F4}			1.25	V	$I_F=150\text{mA}$
Reverse current	I_{R1}			1	μA	$V_R=75\text{V}$
	I_{R2}			25	nA	$V_R=20\text{V}$
Capacitance between terminals	C_T			2	pF	$V_R=0\text{V}, f=1\text{MHz}$
Reverse recovery time	t_{rr}			4	ns	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1I_R, R_L=100\Omega$

Typical Characteristics

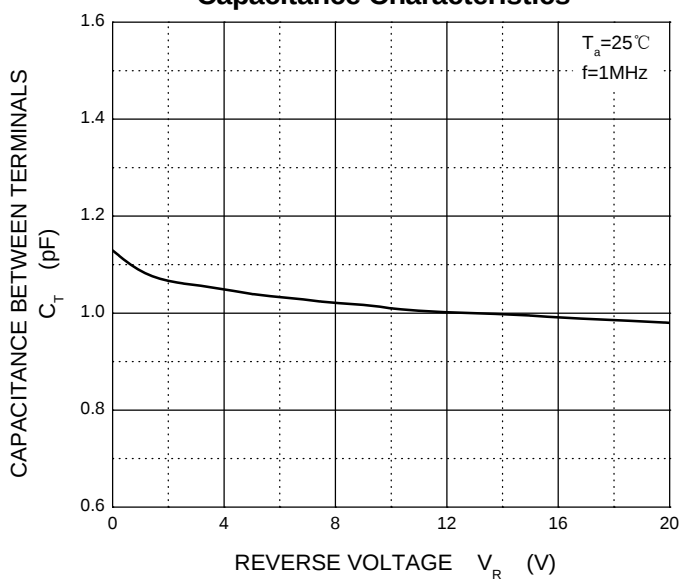
Forward Characteristics



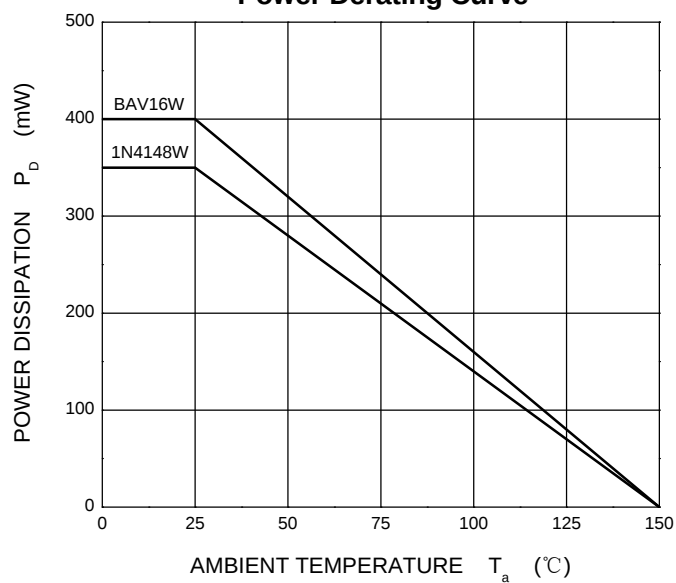
Reverse Characteristics



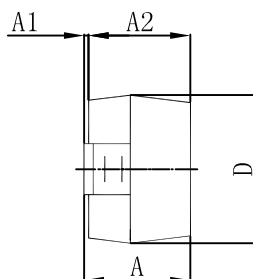
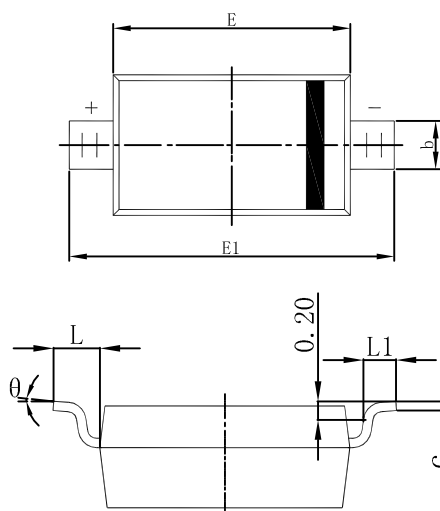
Capacitance Characteristics



Power Derating Curve

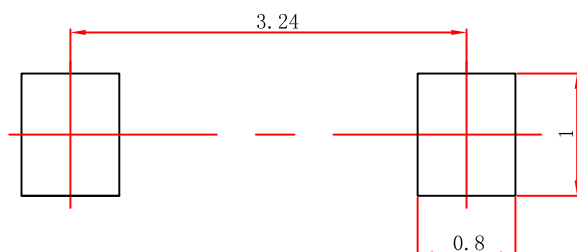


SOD-123 Package Outline Dimensions



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	1.800	0.059	0.070
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



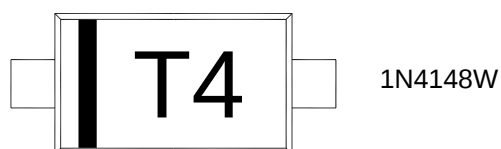
Note:

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

Ordering Information

Part Number	Package	Shipping Quantity
BAV16W-1N4148W	SOD-123	3000/tape&Reel

Marking Diagram



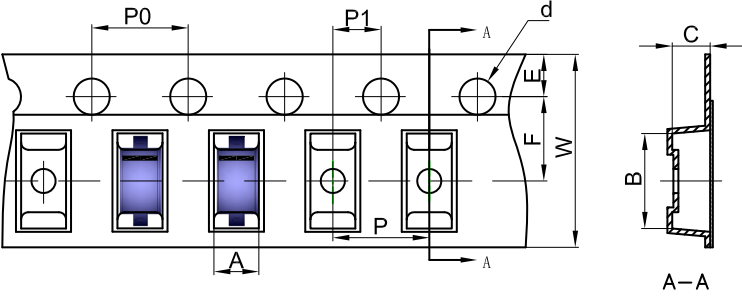
1N4148W



BAV16W

Reel Taping Specifications For Surface Mount Devices-SOD-123

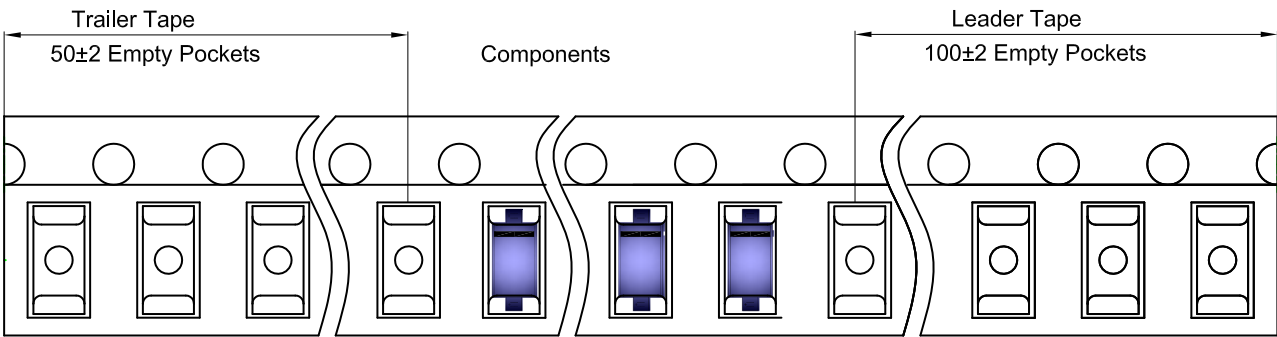
SOD-123 Embossed Carrier Tape



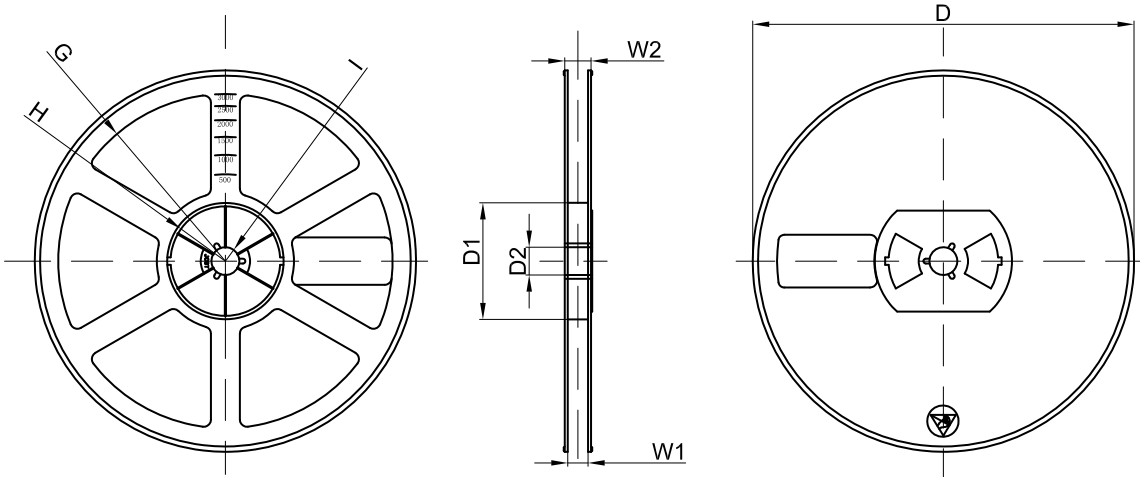
Packaging Description:
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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	