

SOD123 Plastic-Encapsulate Diodes

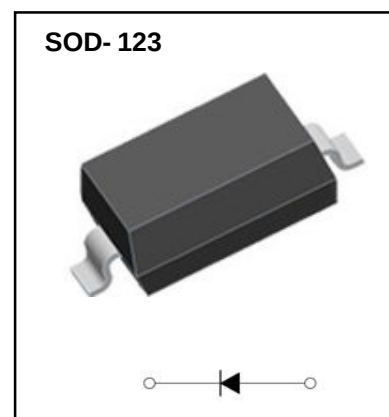
Small Signal Fast Switching Diodes

Features

- Low Reverse Current
- Surface Mount Package Ideally Suited for Automatic Insertion
- Fast Switching Speed
- For General Purpose Switching Applications

Applications

- Extreme fast switches



Limiting Values (Absolute Maximum Rating)

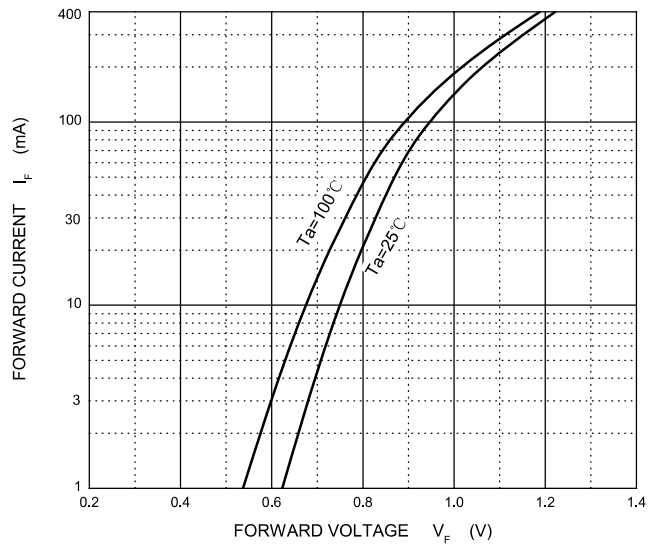
Symbol	Parameter	Value			Unit
		BAV19W	BAV20W	BAV21W	
V_{RM}	Non-Repetitive Peak Reverse Voltage	120	200	250	V
V_{RRM}	Peak Repetitive Reverse Voltage	100	150	200	V
V_{RWM}	Working Peak Reverse Voltage				
$V_{R(RMS)}$	RMS Reverse Voltage	71	106	141	V
I_O	Average Rectified Output Current	200			mA
I_{FSM}	Non-repetitive Peak Forward Surge Current @ $t=8.3ms$	2.0			A
P_D	Power Dissipation	500			mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250			°C/W
T_J	Junction Temperature	150			°C
T_{stg}	Storage Temperature	-55~+150			°C

ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}C$ unless otherwise specified)

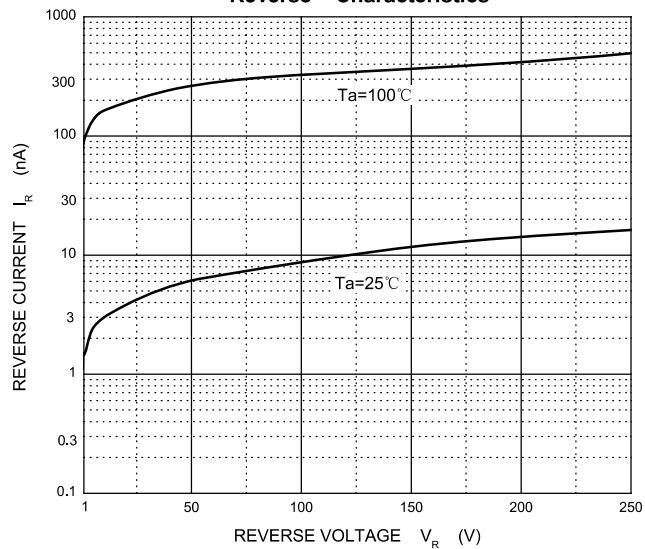
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Reverse current	I_R	$V_R=100V$	BAV19W			0.1	uA
		$V_R=150V$	BAV20W			0.1	
		$V_R=200V$	BAV21W			0.1	
Forward voltage	V_F	$I_F=100mA$				1	V
		$I_F=200mA$				1.25	
Total capacitance	C_{tot}	$V_R=0V, f=1MHz$				5	pF
Reverse recovery time	t_{rr}	$I_F=I_R=30mA, I_{rr}=0.1 \cdot I_R, R_L=100\Omega$				50	ns

Typical Characteristics

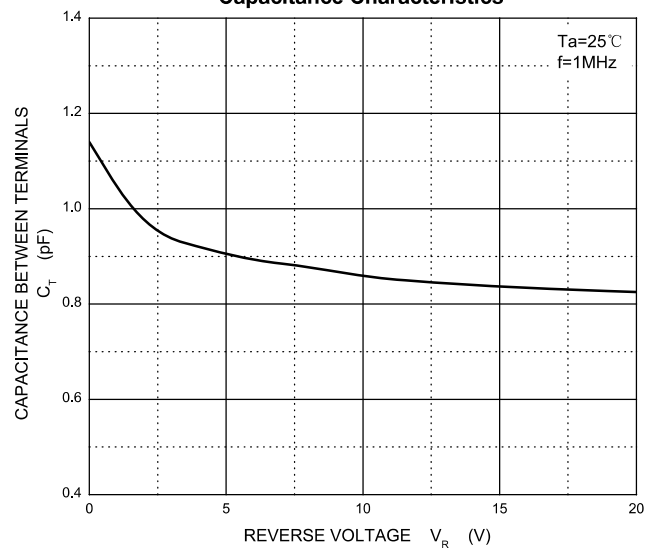
Forward Characteristics



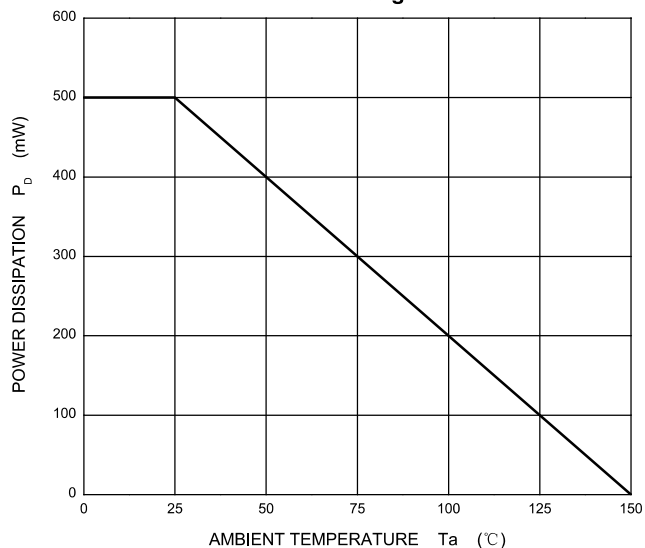
Reverse Characteristics



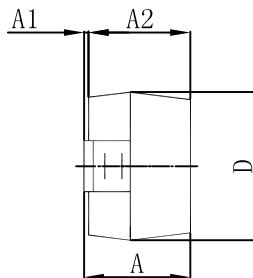
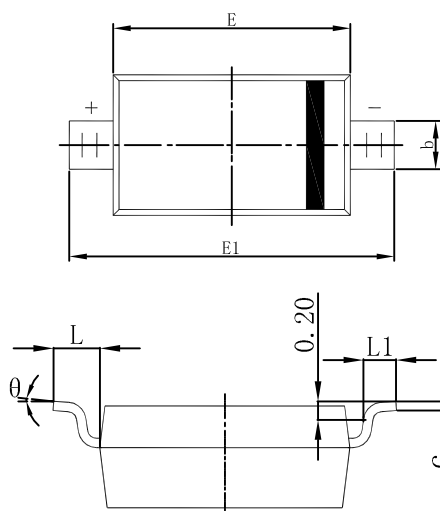
Capacitance Characteristics



Power Derating Curve

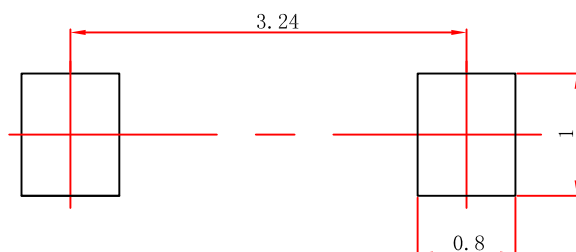


SOD-123 Package Outline Dimensions



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



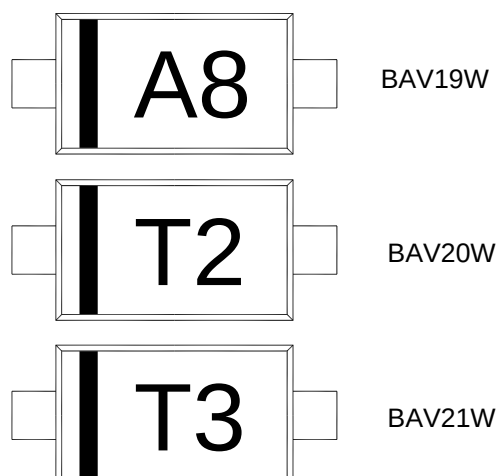
Note:

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

Ordering Information

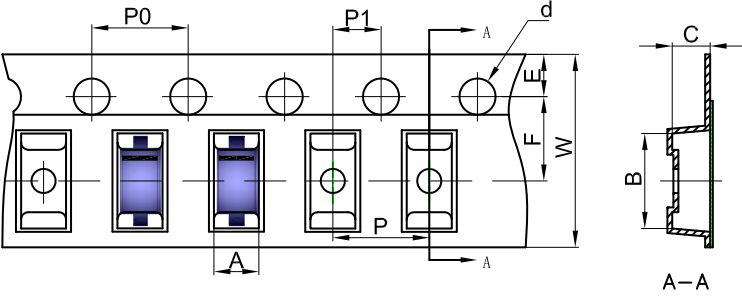
Part Number	Package	Shipping Quantity
BAV19W-BAV21W	SOD-123	3000/tape&Reel

Marking Diagram



Reel Taping Specifications For Surface Mount Devices-SOD-123

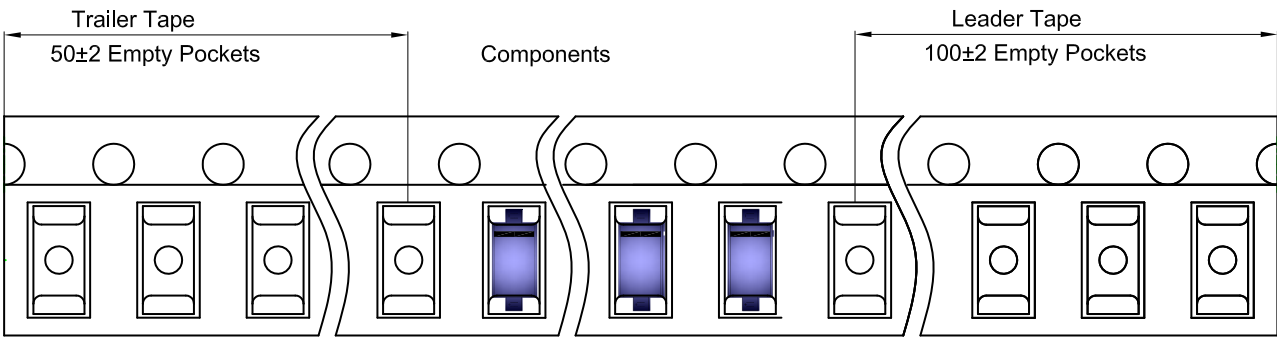
SOD-123 Embossed Carrier Tape



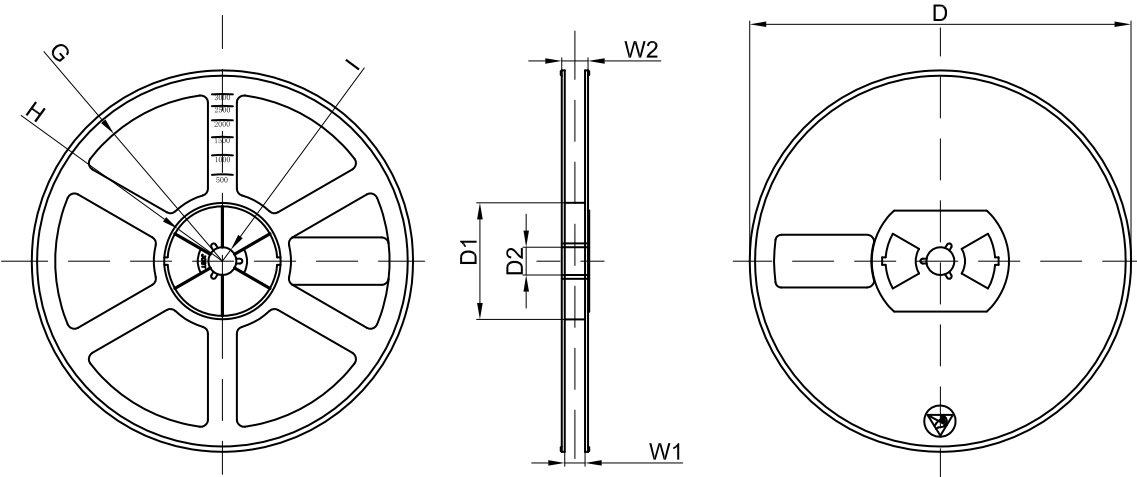
Packaging Description:
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent.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