

## SOD323 Plastic-Encapsulate Diodes

### Small Signal Fast Switching Diodes

#### Features

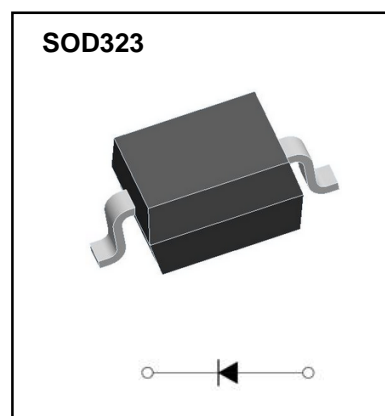
- Low Reverse Current
- Surface Mount Package Ideally Suited for Automatic Insertion
- Fast Switching Speed
- For General Purpose Switching Applications

#### Applications

- Extreme fast switches

#### Marking

- BAV19WS: A8
- BAV20WS: T2
- BAV21WS: T3



#### Limiting Values (Absolute Maximum Rating)

Symbol	Parameter	Value			Unit
		BAV19WS	BAV20WS	BAV21WS	
$V_{RM}$	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	250			mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	500			°C/W
$T_j$	Junction Temperature	150			°C
$T_{stg}$	Storage Temperature	-55~+150			°C

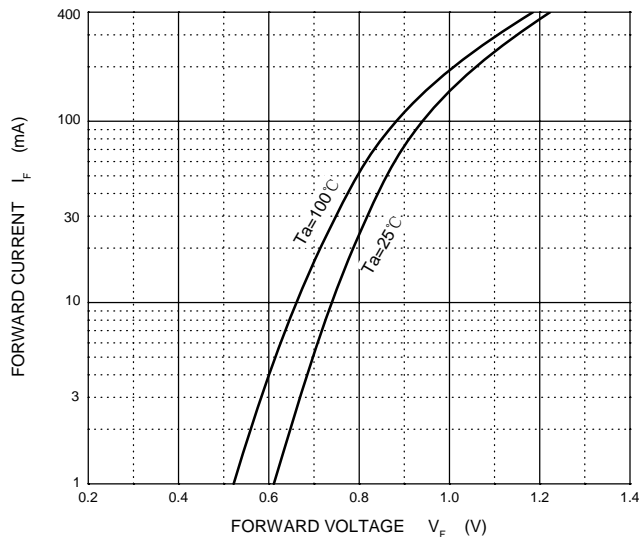
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#### Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

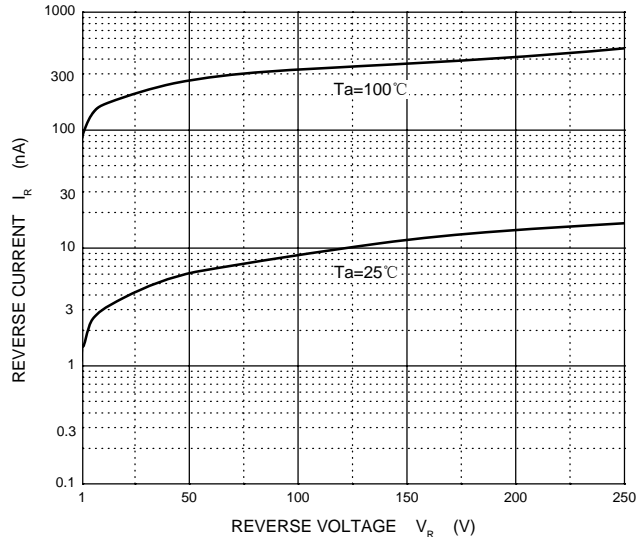
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse current	$I_R$	$V_R=100\text{V}$	BAV19WS		0.1	uA
		$V_R=150\text{V}$	BAV20WS		0.1	
		$V_R=200\text{V}$	BAV21WS		0.1	
Forward voltage	$V_F$	$I_F=100\text{mA}$			1	V
		$I_F=200\text{mA}$			1.25	
Total capacitance	$C_{tot}$	$V_R=0\text{V}, f=1\text{MHz}$			5	pF
Reverse recovery time	$t_{rr}$	$I_F=I_R=30\text{mA}, I_{rr}=0.1 \cdot I_R, R_L=100\Omega$			50	ns

# Typical Characteristics

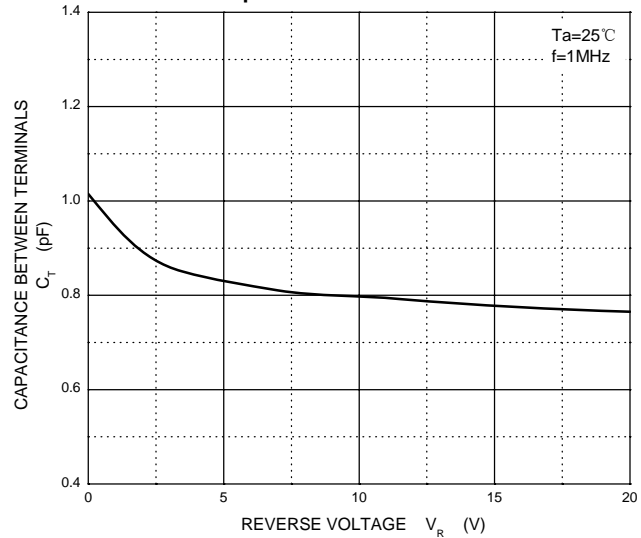
**Forward Characteristics**



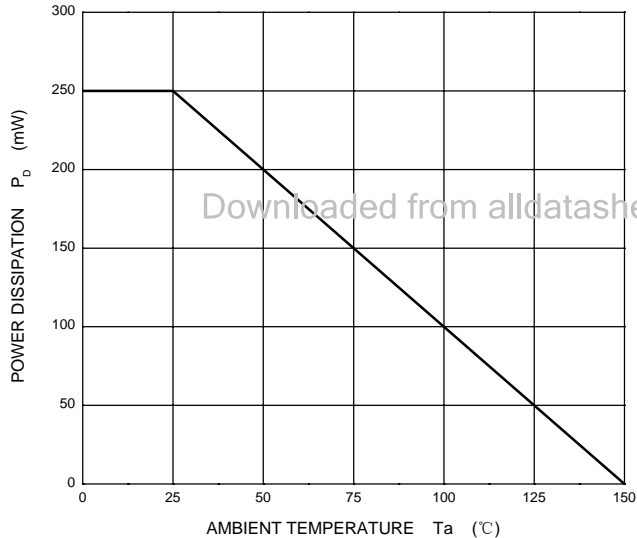
**Reverse Characteristics**



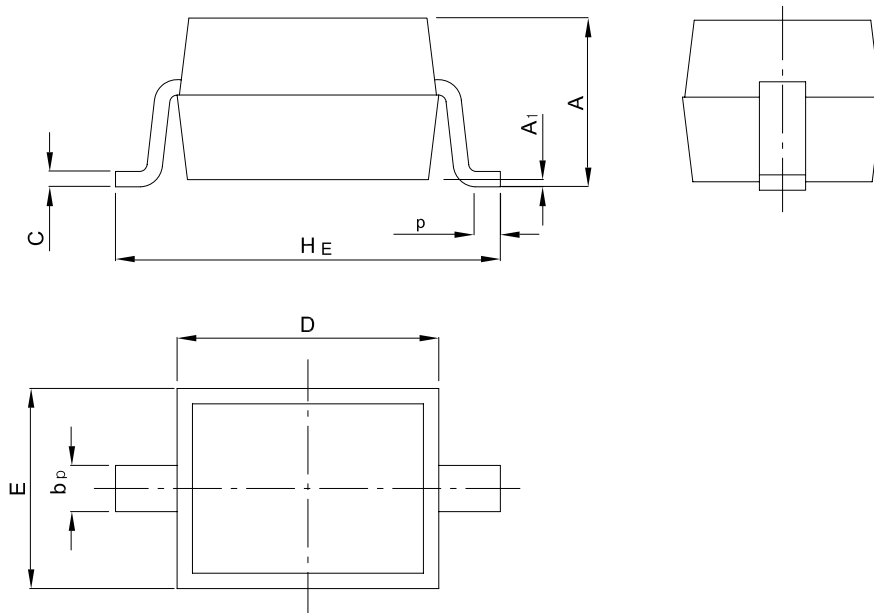
**Capacitance Characteristics**



**Power Derating Curve**



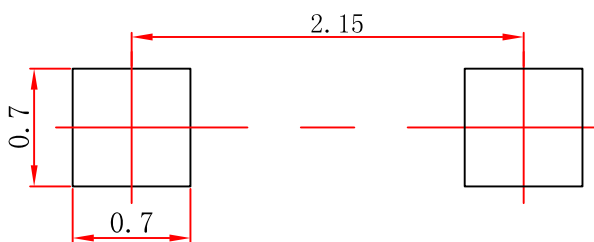
## SOD323 Package Outline Dimensions



UNIT	A	bp	C	D	E	HE	A1	Lp
mm	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50
	0.90	0.25	0.10	1.60	1.15	2.30	0.01	0.20

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## SOD323 Suggested Pad Layout



### Note:

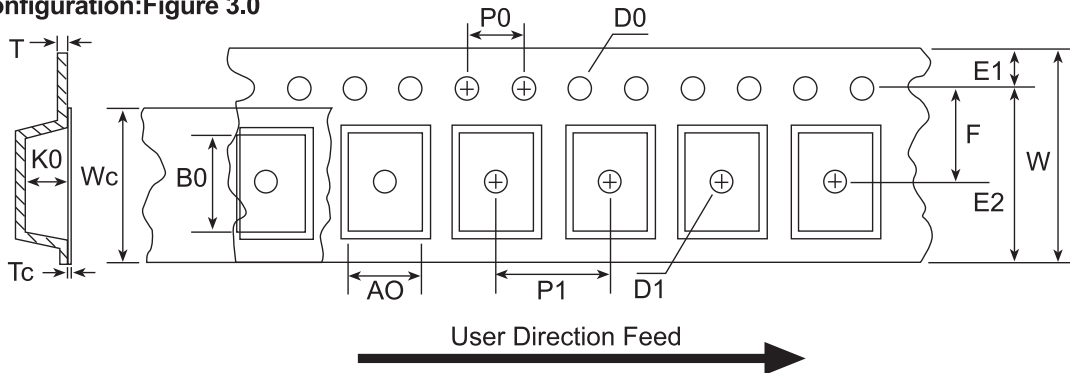
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

### NOTICE

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# Reel Taping Specifications For Surface Mount Devices-SOD323

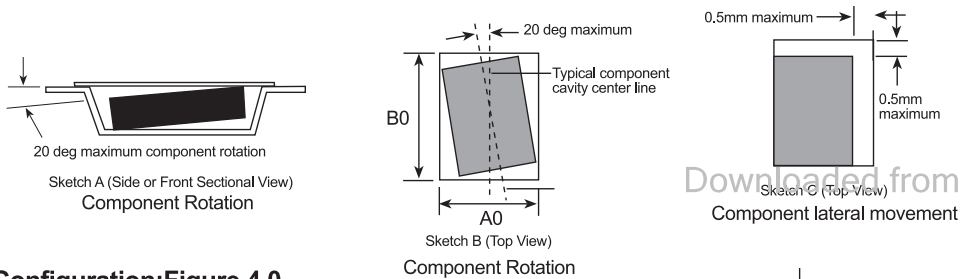
## SOD323 Embossed Carrier Tape Configuration: Figure 3.0



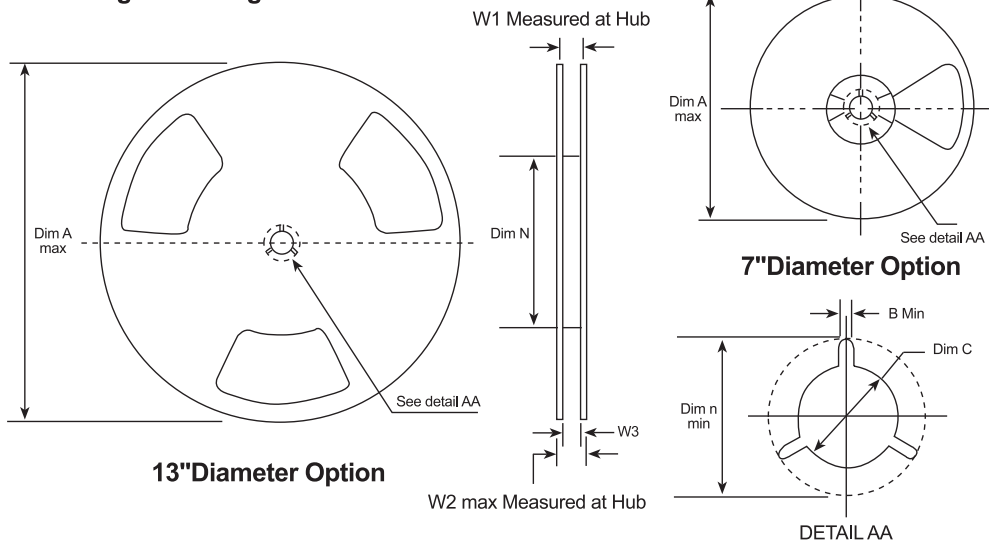
Dimensions are millimeter

Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
SOD323 (8mm)	1.46 +/-0.10	2.9 +/-0.10	8.0 +/-0.3	1.50 +/-0.125	1.125 +/-0.125	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.10	4.0 +/-0.10	1.25 +/-0.10	0.25 +/-0.020	5.2 +/-0.20	0.06 +/-0.02

Notes: A0, B0 and K0 dimensions are determined with respect to the EW Jecdec RS-481 rotational and lateral movement requirements (see sketches A, B and C).



## SOD323 Reel Configuration: Figure 4.0



Dimensions are in inches and millimeter

Type Size	Reel Option	Dim A	Dim B	Dim C	Dim D	Dim N	Dim W1	Dim W2	Dim W3 (LSL-USL)
8mm	7" Dia	7.00 177.8	0.059 1.5	512+0.020/-0.008 13+0.5/-0.2	0.795 20.0	2.165 55	0.331+0.059/-0.000 8.4+1.5/0	0.567 14.4	0.311-0.429 7.9-10.9
8mm	13" Dia	13.00 330	0.059 1.5	512+0.020/-0.008 13+0.5/-0.2	0.795 20.0	4.00 100	0.331+0.059/-0.000 8.4+1.5/0	0.567 14.4	0.311-0.429 7.9-10.9