

SOD323 Plastic-Encapsulate Diodes

Small Signal Fast Switching Diodes

Features

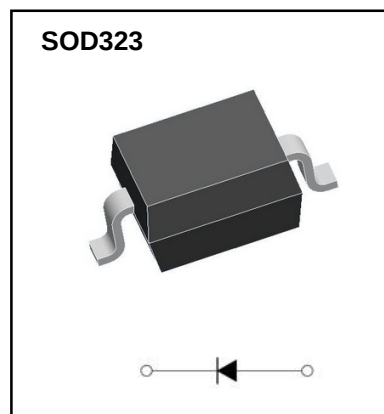
- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion

Applications

- Extreme fast switches

Marking

- BAT42WS:X8
- BAT43WS:Y9



Limiting Values (Absolute Maximum Rating)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Reverse Voltage	V_R	30	V
Average Rectified Output Current	I_O	100	mA
Forward Continuous Current	I_{FM}	200	mA
Repetitive Peak Forward Current at $t < 1$ s	I_{FRM}	500	mA
Non-repetitive Peak Forward Surge Current at $t < 10$ ms	I_{FSM}	2	A
Power Dissipation	P_{tot}	200	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_j	- 55 to + 125	°C
Storage Temperature Range	T_{Stg}	- 55 to + 125	°C

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

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(BR)R}$	30	-	V
Reverse Current at $V_R = 25$ V	I_R	-	500	nA
Forward Voltage at $I_F = 200$ mA at $I_F = 10$ mA at $I_F = 50$ mA at $I_F = 2$ mA at $I_F = 15$ mA	V_F	- - - 0.26 -	1 0.4 0.65 0.33 0.45	V
Total Capacitance at $V_R = 1$ V, $f = 1$ MHz	C_T	-	10	pF
Reverse Recovery Time at $I_F = I_R = 10$ mA, $I_{RR} = 0.1 \times I_R$, $R_L = 100 \Omega$	t_{rr}	-	5	ns

Typical Characteristics

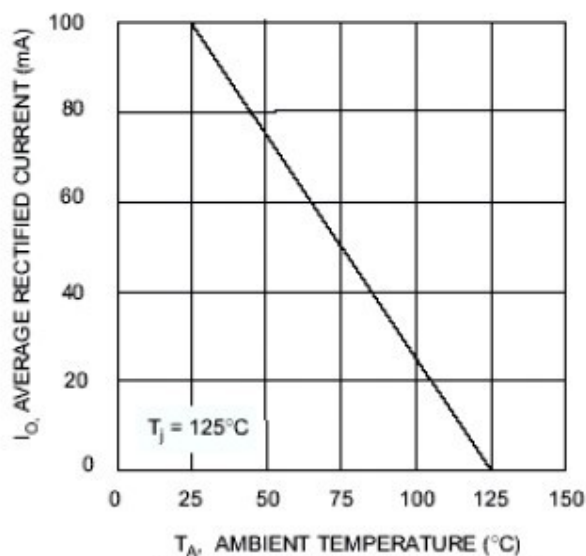


Fig. 1 Forward Current Derating Curve

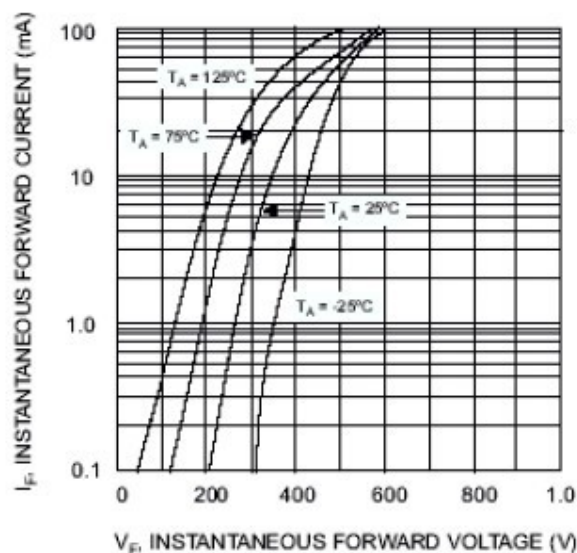


Fig. 2 Typical Forward Characteristics

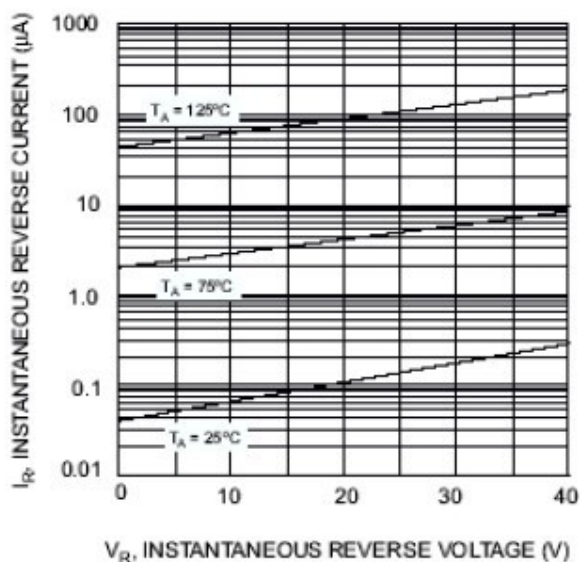


Fig. 3 Typical Reverse Characteristics

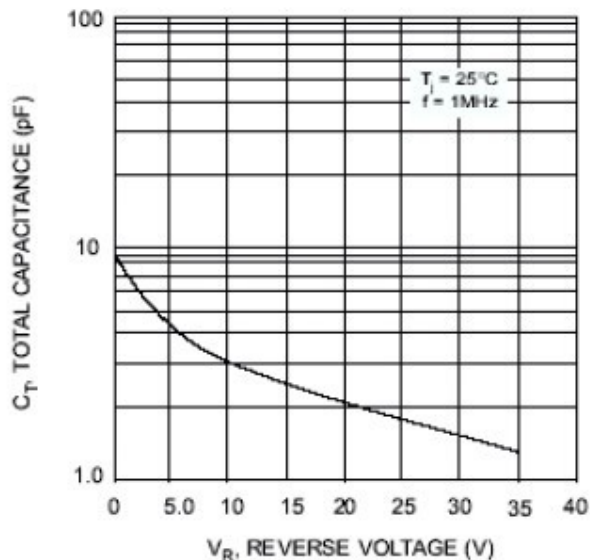
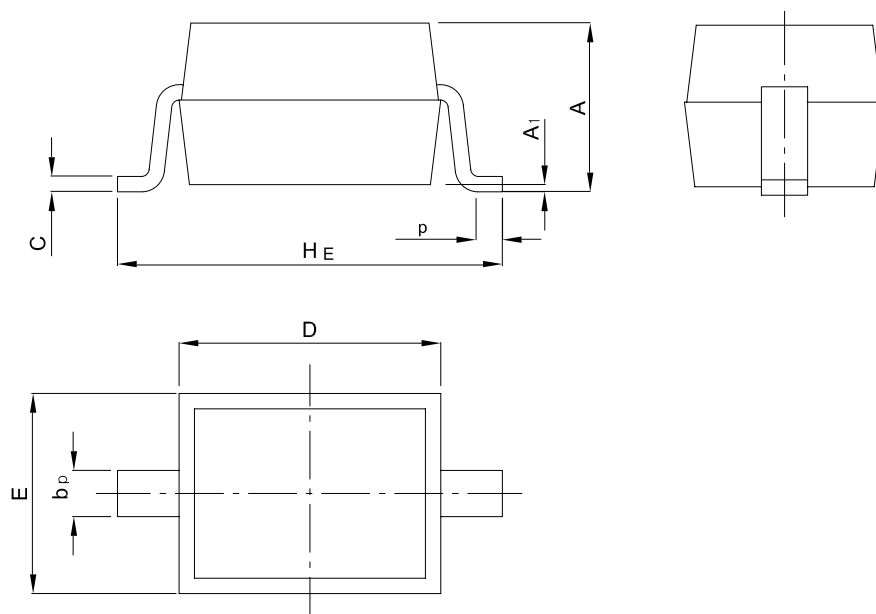


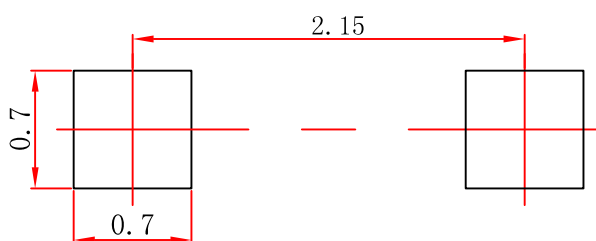
Fig. 4 Total Capacitance vs. Reverse Voltage

SOD323 Package Outline Dimensions



UNIT	A	b _p	C	D	E	H _E	A ₁	L _p
mm	1.20 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30	0.10 0.01	0.50 0.20

SOD323 Suggested Pad Layout



Note:

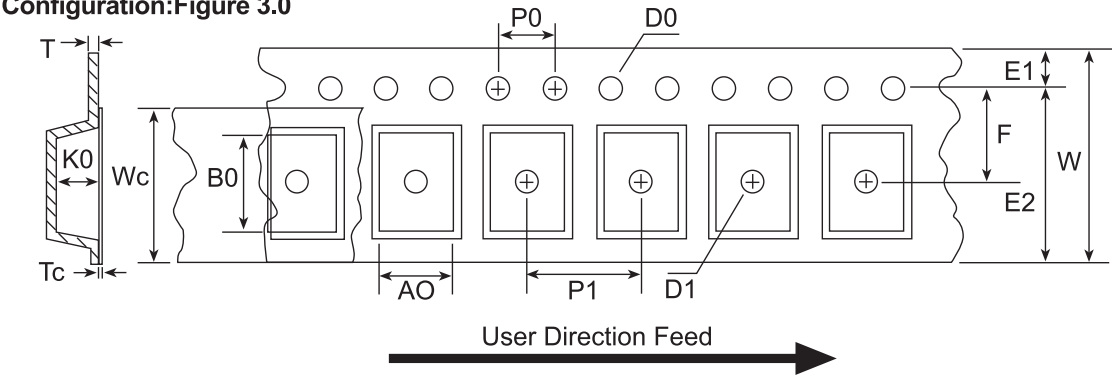
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

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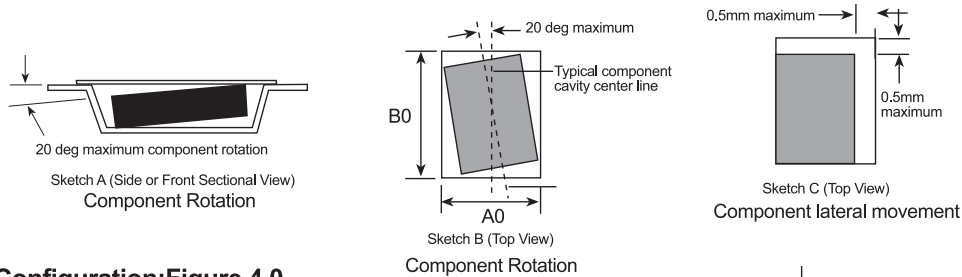
Reel Taping Specifications For Surface Mount Devices–SOD323

SOD323 Embossed Carrier Tape
Configuration:Figure 3.0

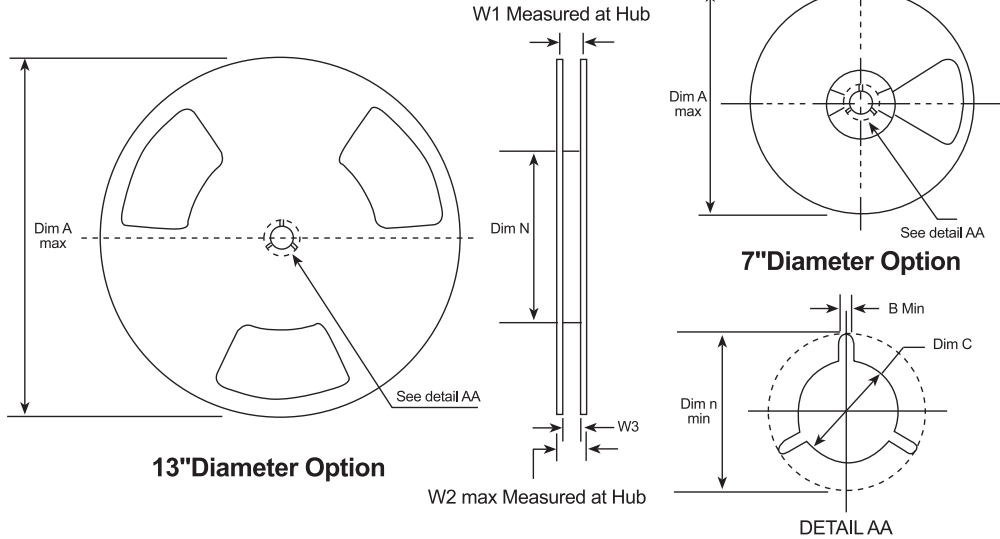


Dimensions are millimeter														
Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
SOD323 (8mm)	1.46 +/-0.10	2.9 +/-0.10	8.0 +/-0.3	1.50 +/-0.125	1.125 +/-0.125	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.10	4.0 +/-0.10	1.25 +/-0.10	0.25 +/-0.020	5.2 +/-0.20	0.06 +/-0.02

Notes:A0,B0 and K0 dimensions are determined with respect to the EW Jeced 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