HIGH DIODE

SOD323 Plastic-Encapsulate Diodes

Schottky Rectifier

Features

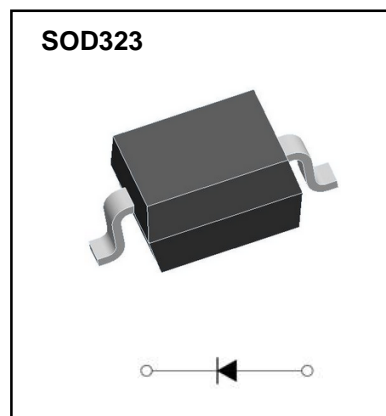- V_R 20V-40V
- I_O 1A

Applications

- Low Voltage Rectification
- Low Power Consumption Applications
- High Efficiency DC/DC Conversion
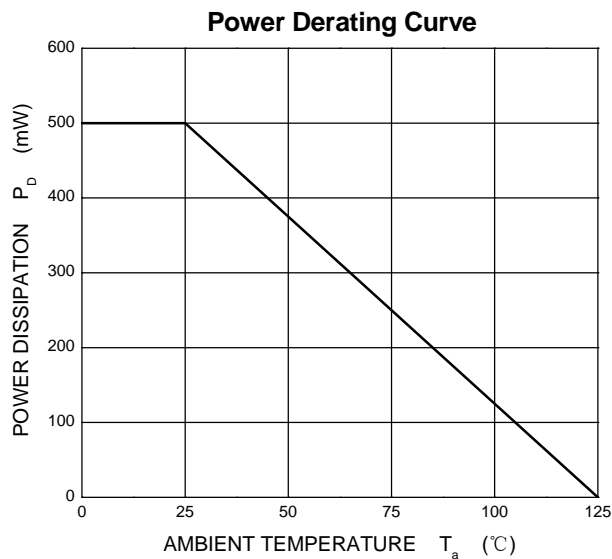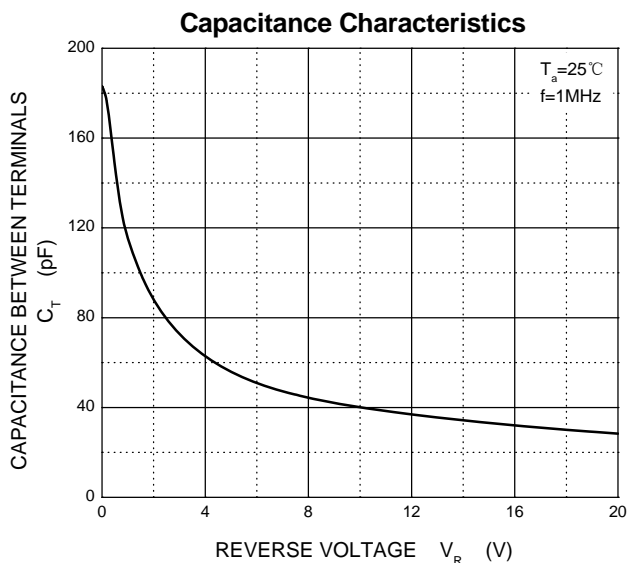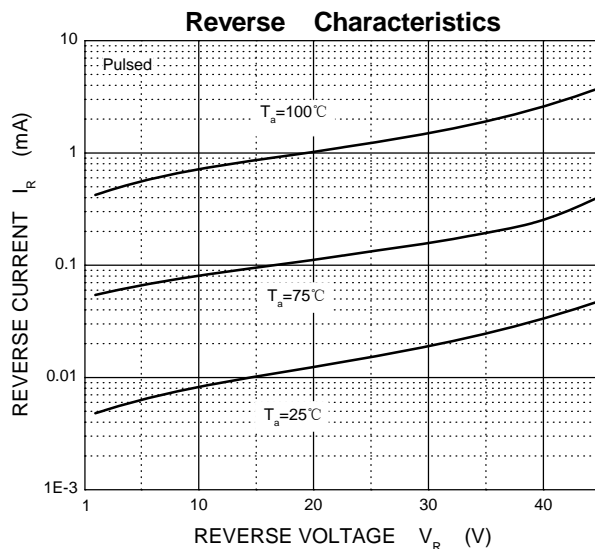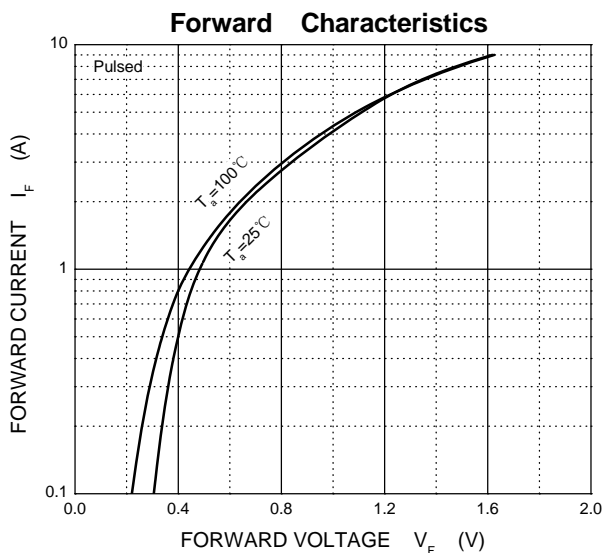
Marking

- B5817WS:SJ
  B5818WS:SK
  B5819WS:SL

SOD323

Limiting Values (Absolute Maximum Rating)

Parameter	Symbol	B5817WS	B5818WS	B5819WS	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	20	30	40	V
Peak Repetitive Peak Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	I_O		1		A
Non-repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}		9		A
Repetitive Peak Forward Current	I_{FRM}		1.5		A
Power Dissipation	Pd		500		mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$		400		℃/W
Junction temperature	T_J		125		℃
Storage Temperature	T_{STG}		-55~+150		℃

Electrical Characteristics (T_a=25℃ Unless otherwise specified）

Parameter	Symbol	Test conditions	Min	Max	Unit

Reverse breakdown voltage	$V_{(BR)}$	I_R= 1mA
		    B5817WS
		    B5818WS
		    B5819WS
			20
			30
			40
					V

Reverse voltage leakage current	I_R	V_R=20V B5817WS V_R=30V B5818WS V_R=40V B5819WS		1	mA
Forward voltage	V_F	B5817WS I_F=1A I_F=3A		0.45 0.75	V
		B5818WS I_F=1A I_F=3A		0.55 0.875	V
		B5819WS I_F=1A I_F=3A		0.6 0.9	V
Diode capacitance	C_D	V_R=4V, f=1MHz		120	pF

Typical Characteristics

Forward Characteristics

Pulsed

FORWARD CURRENT I_F (A) vs FORWARD VOLTAGE V_F (V)

T_a=100℃

T_a=25℃

Reverse Characteristics

Pulsed

REVERSE CURRENT I_R (mA) vs REVERSE VOLTAGE V_R (V)

T_a=100℃

T_a=75℃

T_a=25℃

Capacitance Characteristics

CAPACITANCE BETWEEN TERMINALS C_T (pF) vs REVERSE VOLTAGE V_R (V)

T_a=25℃
f=1MHz

Power Derating Curve

POWER DISSIPATION P_D (mW) vs AMBIENT TEMPERATURE T_a (℃)

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SOD323　Package Outline Dimensions
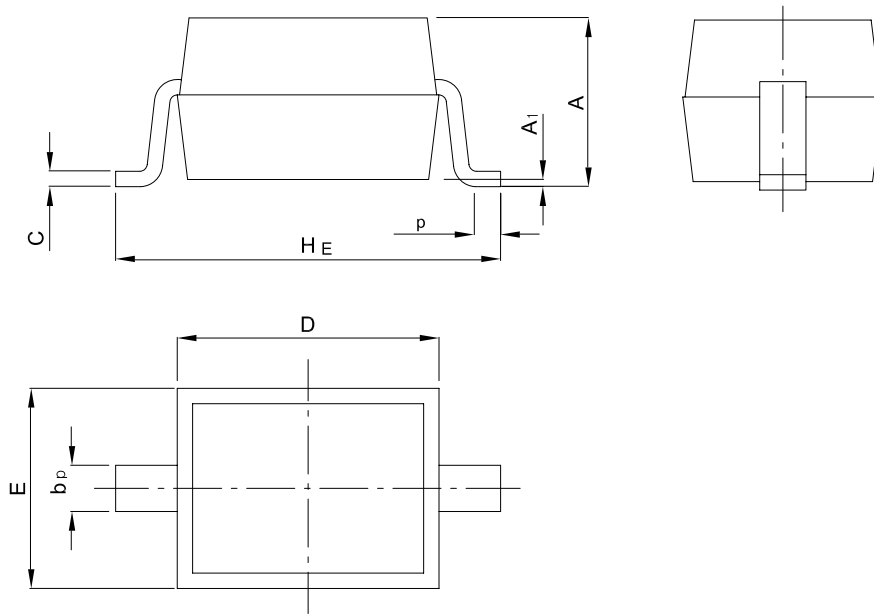
| UNIT	A	b_p	C	D	E	H_E	A_1	L_p
mm	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50
	0.80	0.25	0.10	1.60	1.15	2.30	0.01	0.20

SOD323　Suggested Pad Layout
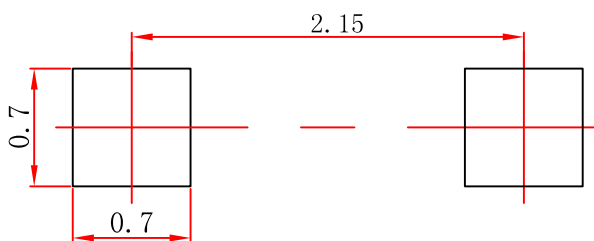
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

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SOD323 Embossed Carrier Tape Configuration:Figure 3.0

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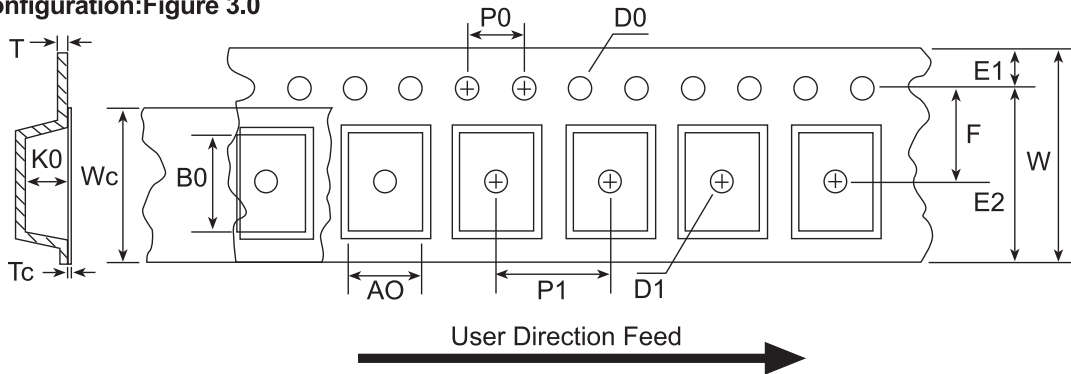
Dimensions are millimeter													
Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
SOD323 (8mm)	1.46 +/-0.10	2.9 +/-0.10	8.0 +/-0.3	1.50 +/-0.125	1.125 +/-0.125	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.10	4.0 +/-0.10	1.25 +/-0.10	0.25 +/-0.020	5.2 +/-0.20	0.06 +/-0.02

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

20 deg maximum component rotation

Sketch A (Side or Front Sectional View)
Component Rotation

20 deg maximum

Typical component cavity center line

B0

A0

Sketch B (Top View)
Component Rotation

0.5mm maximum

0.5mm maximum

Sketch C (Top View)
Component lateral movement
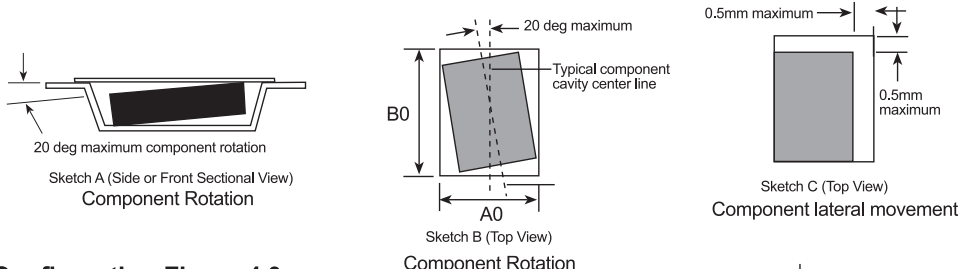
SOD323 Reel Configuration:Figure 4.0

W1 Measured at Hub

Dim A max

Dim N

Dim A max

See detail AA

13"Diameter Option

See detail AA

7"Diameter Option

W3

W2 max Measured at Hub

B Min

Dim C

Dim n min

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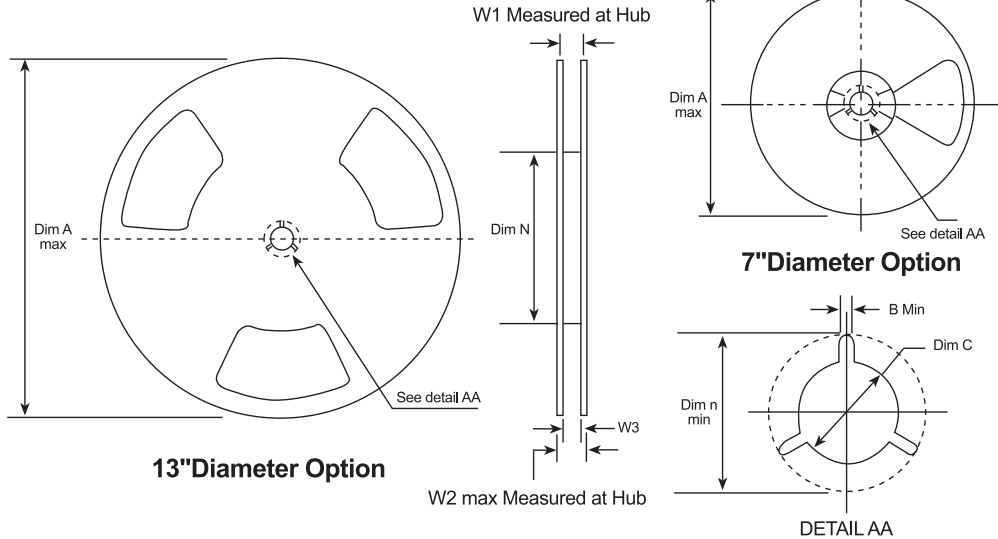
Dimensions are in inches and millimeter								
Type Size	Reel Option	Dim A	Dim B	Dim C	Dim D	Dim N	Dim W1	Dim W2	Dim W3 (LSL-USL)
8mm	7" Dia	7.00 177.8	0.059 1.5	512+0.020/-0.008 13+0.5/-0.2	0.795 20.0	2.165 55	0.331+0.059/-0.000 8.4+1.5/0	0.567 14.4	0.311-0.429 7.9-10.9
8mm	13" Dia	13.00 330	0.059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

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