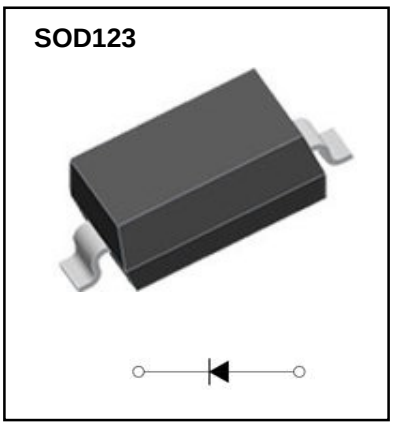
SOD123 Plastic-Encapsulate Diodes

Schottky Rectifier

Features

- V_R 20V-40V
- I_O 1A



Applications

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

Marking

- B5817W:SJ
  B5818W:SK
  B5819W:SL

Limiting Values (Absolute Maximum Rating)

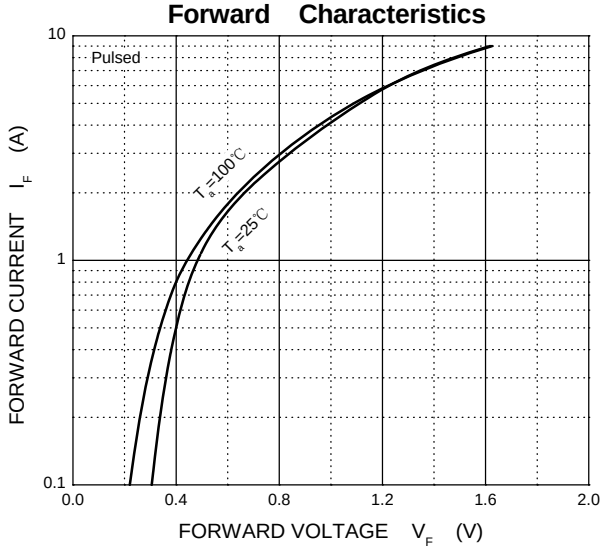
Parameter	Symbol	B5817W	B5818W	B5819W	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	20	30	40	V
Peak Repetitive Peak Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	I_O	1			A
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	$R_{\theta JA}$	200			℃/W
Junction temperature	T_J	125			℃
Storage Temperature	T_{STG}	-55~+150			℃

Electrical Characteristics (T_a=25℃ Unless otherwise specified)

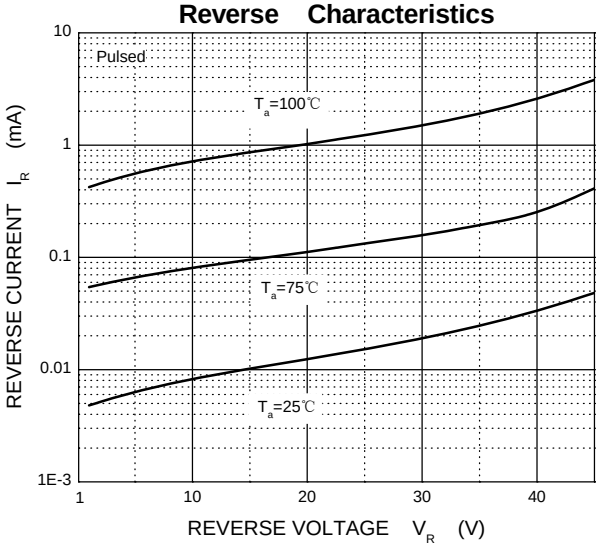
Parameter	Symbol	Test conditions		Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	I_R= 1mA	B5817W B5818W B5819W	20 30 40		V
Reverse voltage leakage current	I_R	V_R=20V V_R=30V V_R=40V	B5817W B5818W B5819W		1	mA
Forward voltage	V_F	B5817W	I_F=1A I_F=3A		0.45 0.75	V
		B5818W	I_F=1A I_F=3A		0.55 0.875	V
		B5819W	I_F=1A I_F=3A		0.6 0.9	V
Diode capacitance	C_D	V_R=4V, f=1MHz			120	pF

Typical Characteristics

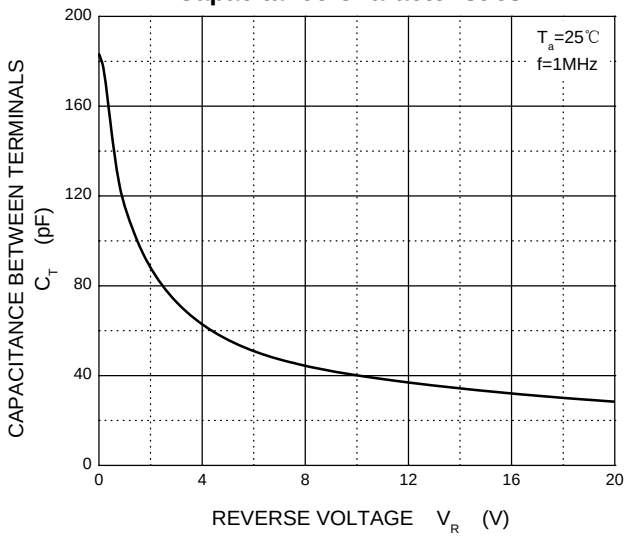
Forward Characteristics



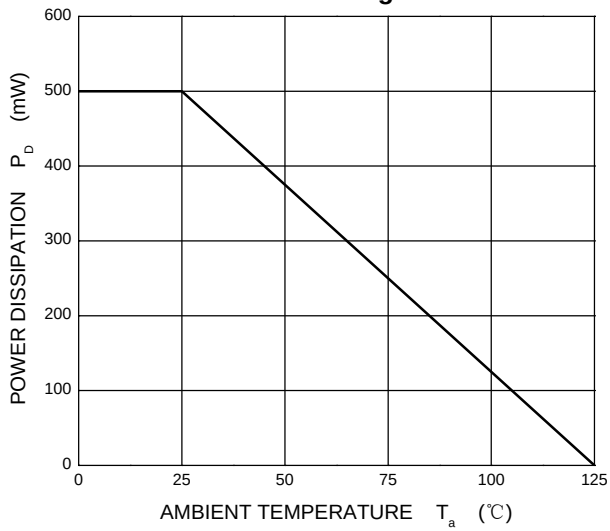
Reverse Characteristics



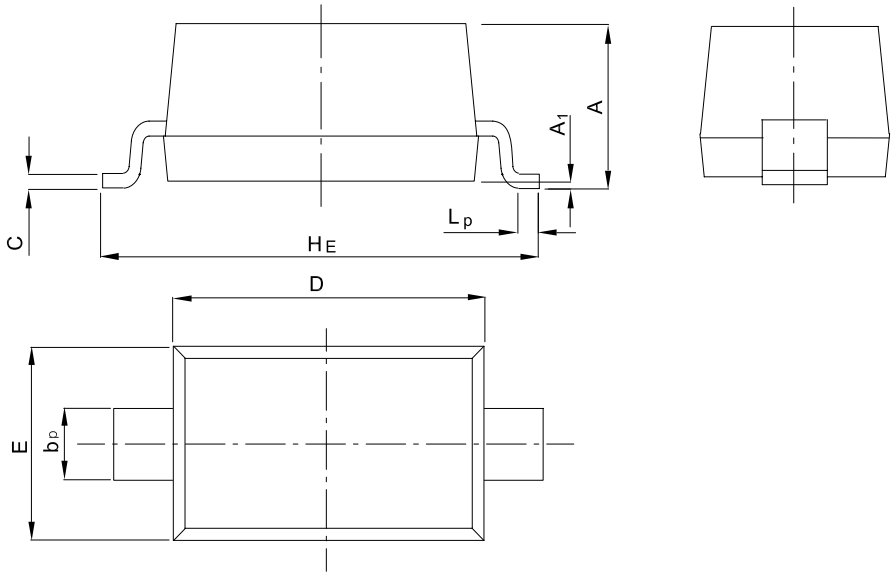
Capacitance Characteristics



Power Derating Curve

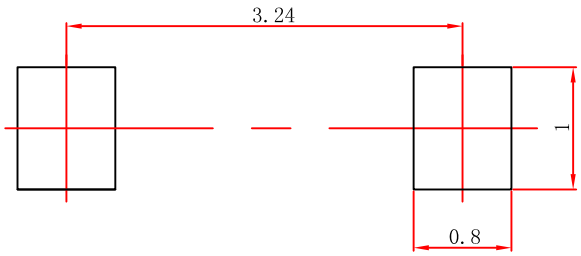


SOD-123 Package Outline Dimensions



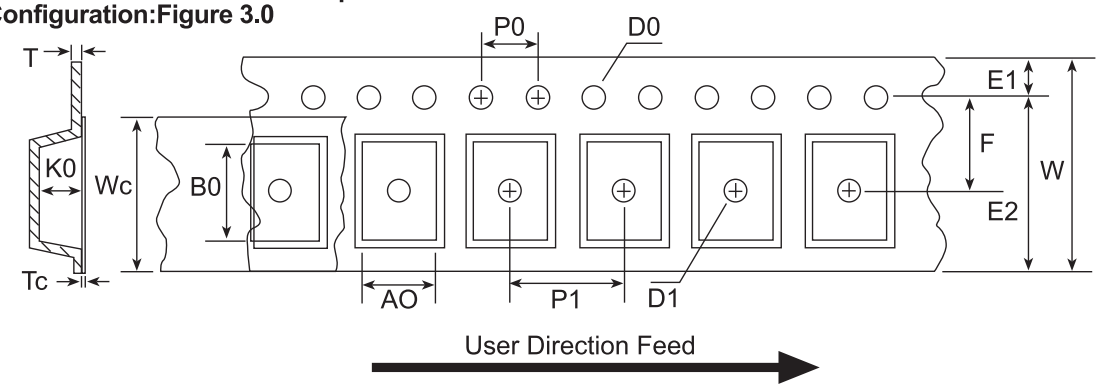
UNIT	A	bp	C	D	E	HE	A1	Lp
mm	1.20 0.90	0.60 0.50	0.135 0.100	2.75 2.55	1.65 1.55	3.85 3.55	0.10 0.01	0.50 0.20

SOD-123 Suggested Pad Layout



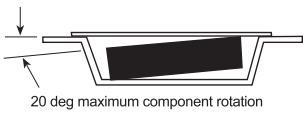
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

SOD123 Embossed Carrier Tape
Configuration:Figure 3.0

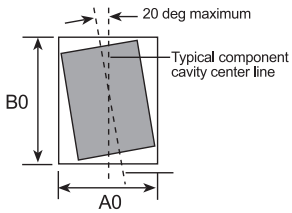


Dimensions are millimeter														
Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
SOD123 (8mm)	1.85 +/-0.10	3.94 +/-0.10	8.0 +/-0.3	1.50 +/-0.125	1.125 +/-0.125	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.10	4.0 +/-0.10	1.50 +/-0.10	0.20 +/-0.020	5.2 +/-0.20	0.06 +/-0.02

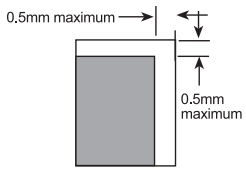
Notes:A0,B0 and K0 dimensions are detemined with respect to the EW Jedec RS-481 rotational and lateral movement requirements (see sketches A,B and C).



Sketch A (Side or Front Sectional View)
Component Rotation

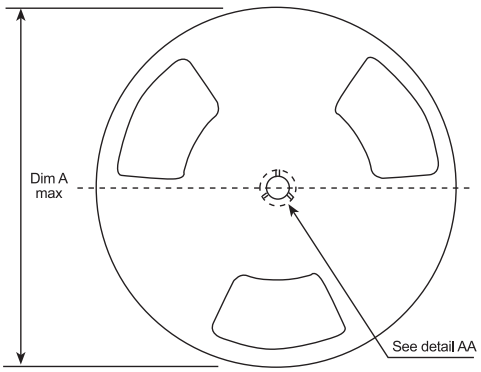


Sketch B (Top View)
Component Rotation

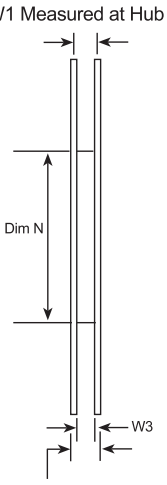


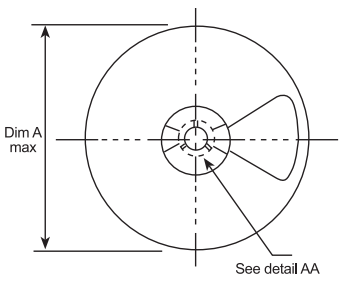
Sketch C (Top View)
Component lateral movement

SOD123 Reel Configuration:Figure 4.0

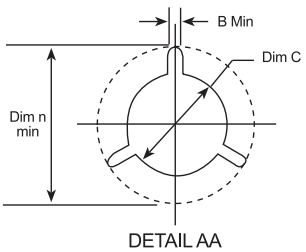


13"Diameter Option





7"Diameter Option



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