B5817W/B5818W/B5819W

Schottky Barrier Diode

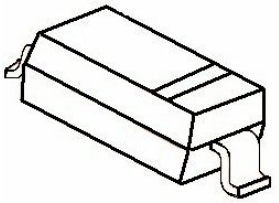
Features

- High Current Capability
- Low Forward Voltage Drop

Mechanical Data

- SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Epoxy UL: 94V-0
- Mounting Position: Any

SOD-123



Marking: B5817W: SJ
B5818W: SK
B5819W: SL

Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameters	Symbol	B5817W	B5818W	B5819W	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC blocking voltage	V_{DC}	20	30	40	V
Maximum average forward rectified current	I_{FM}	1.0			A
Peak forward surge current 8.3 ms single half sine-wave	I_{FSM}	10			A
Typical thermal resistance	$R_{\theta JA}$	250			℃/W
Power Dissipation	PD	500			mW
Operating junction temperature range	T_J	-40-+125			℃
Storage temperature range	T_{STG}	-50-+150			℃

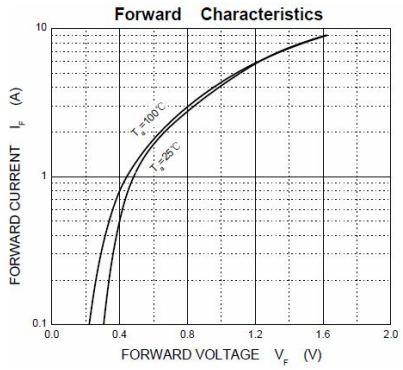
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

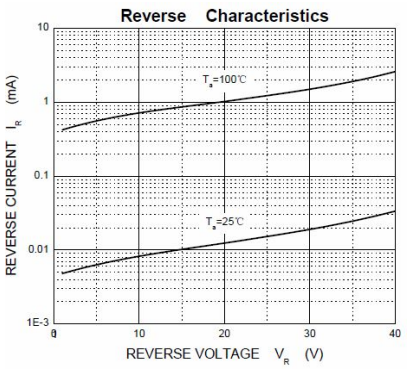
Parameters	Symbol	Test conditions	B5817W	B5818W	B5819W	Unit
Maximum forward voltage	V_F	IF = 1.0A IF = 3.0A	0.450 0.750	0.550 0.875	0.600 0.900	V
Maximum reverse breakdown voltage	VR	IR=1mA	20	30	40	V
Maximum reverse current	I_R	VR=20V B5817W VR=30V B5818W VR=40V B5819W	1.0			mA
Type junction capacitance	Cj	VR = 4.0V, f = 1MHz	120			pF

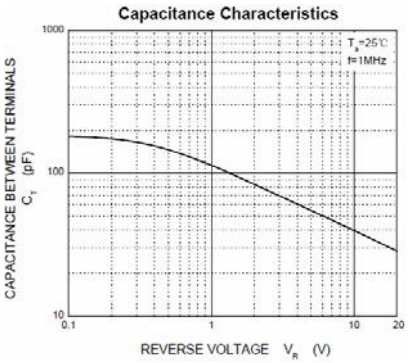
B5817W/B5818W/B5819W

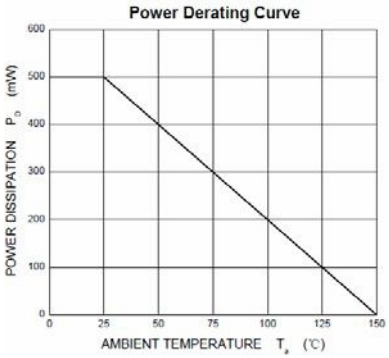
Schottky Barrier Diode

Characteristic Curves

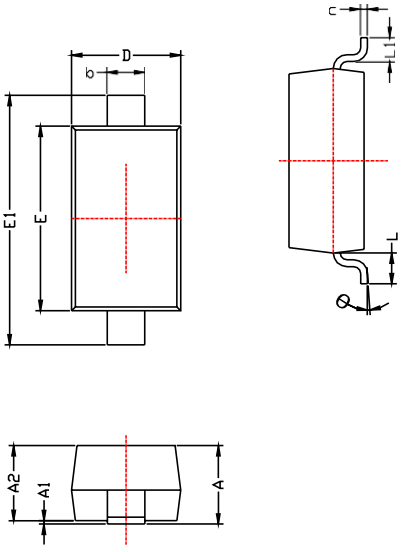








SOD-123 PACKAGE OUTLINE Plastic surface mounted package



Symbol	MIN (mm)	MAX (mm)
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.20
D	1.550	1.750
E	2.600	2.800
E1	3.600	3.900
L	0.600 REF	
L1	0.250	0.450
θ	0	8

Ordering Information

Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOD-123	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220

Recommended Reflow Soldering Profile

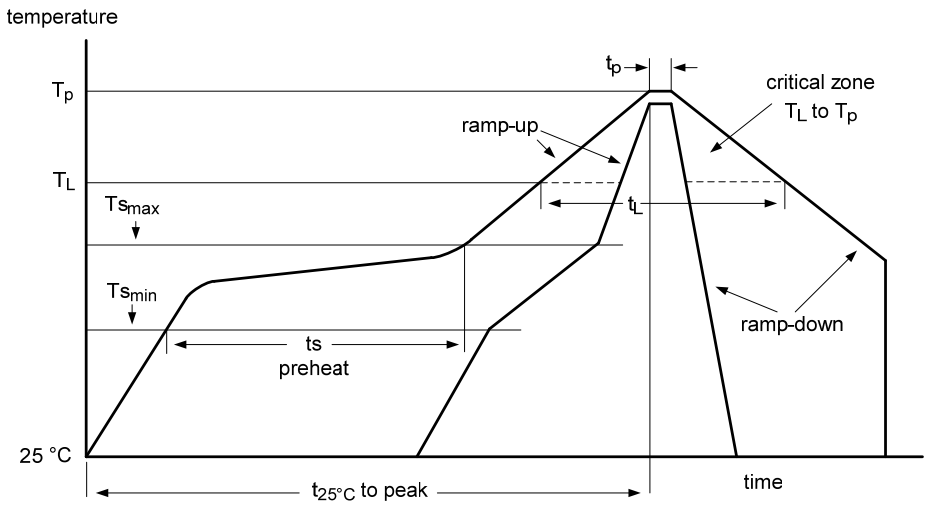
Limiting Values*

The below temperature profile for moisture sensitivity characterization is based on the IPC/JEDEC joint industry standard: J-STD-020D-01.

Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (T_{smax} to T_p)	3 °C/s maximum	3 °C/s maximum
Preheat		
Temperature minimum (T_{smin})	100 °C	150 °C
Temperature maximum (T_{smax})	150 °C	200 °C
Time (t_{smin} to t_{smax})	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature (T_L)	183 °C	217 °C
Time (t_L)	60 s to 150 s	60 s to 150 s
Peak/classification temperature (T_p)	235 °C	260 °C
Number of allowed reflow cycles	3	3
Time within 5 °C of actual peak temperature (t_p)	10 s to 30 s	20 s to 40 s
Ramp-down rate	6 °C/s maximum	6 °C/s maximum
Time 25 °C to peak temperature	6 minutes maximum	8 minutes maximum

* Pb-free assembly data on base of SnAg3.8Cu0.7 (SAC).

Reflow Soldering Profile



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