

FEATURES

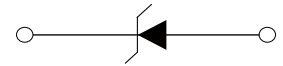
- High Current Capability
- Low Forward Voltage Drop



SOD-123

MECHANICAL DATA

- SOD-123 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Parameter	Symbol	B5817W	B5818W	B5819W	Unit
Marking		SJ	SK	SL	
Peak Repetitive Reverse Voltage	V_{RRM}	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	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}	25			A
Power Dissipation	P_D	500			mW
typical thermal resistance	$R_{\theta JA}$	250			$^\circ\text{C}/\text{W}$
Operating junction temperature	T_J	125			$^\circ\text{C}$
Storage temperature range	T_{STG}	-50+150			$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Test Conditions	B5817W	B5818W	B5819W	Unit
Maximum forward voltage	V_F	$I_F=1.0\text{A}$	0.450	0.550	0.600	V
		$I_F=3.0\text{A}$	0.750	0.875	0.900	V
Reverse breakdown voltage	V_R	$I_R=1\text{mA}$	20	30	40	V
Reverse Leakage Current	I_R	B5817W $V_R=20\text{V}$	1.0			mA
		B5818W $V_R=30\text{V}$	1.0			mA
		B5819W $V_R=40\text{V}$	1.0			mA
Type junction capacitance	C_j	$V_R=4.0\text{V}, f=1\text{MHz}$	120			pF

CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

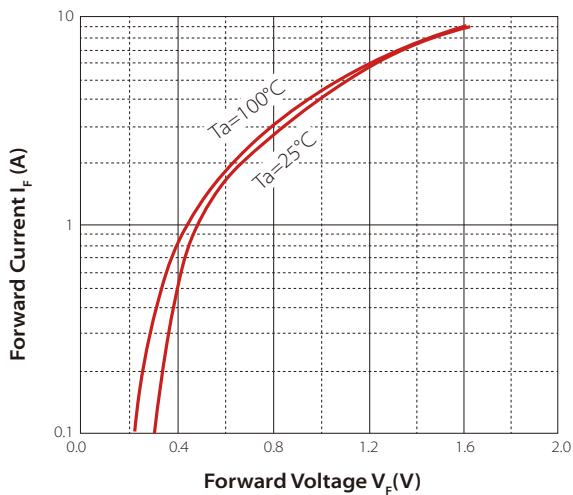


Fig.2 Reverse Characteristics

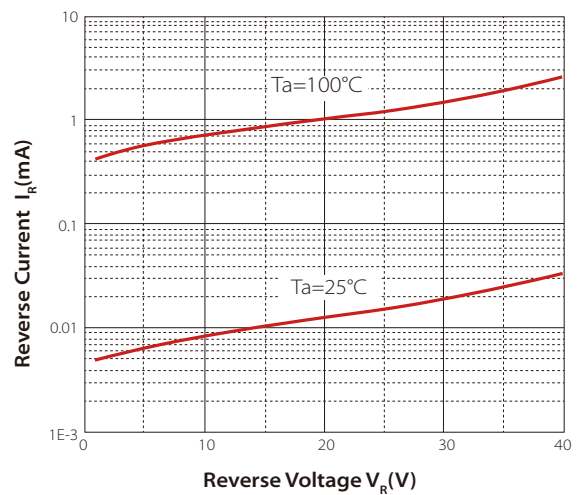
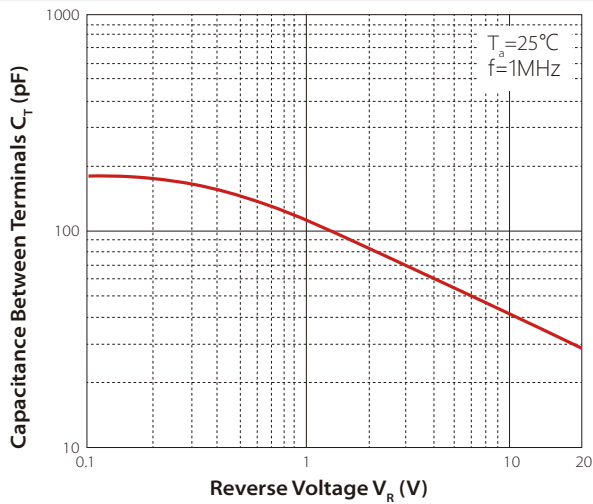
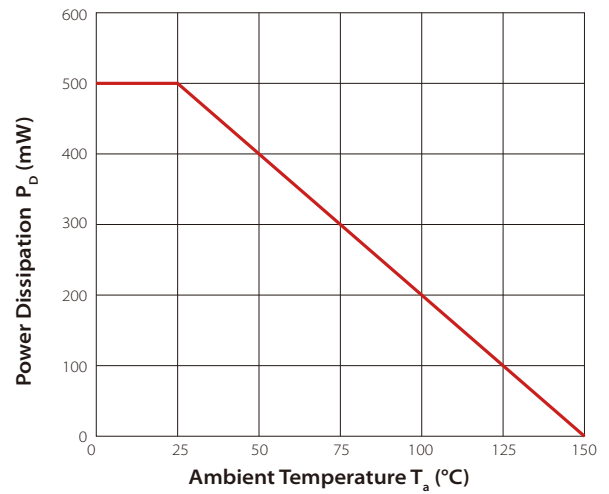
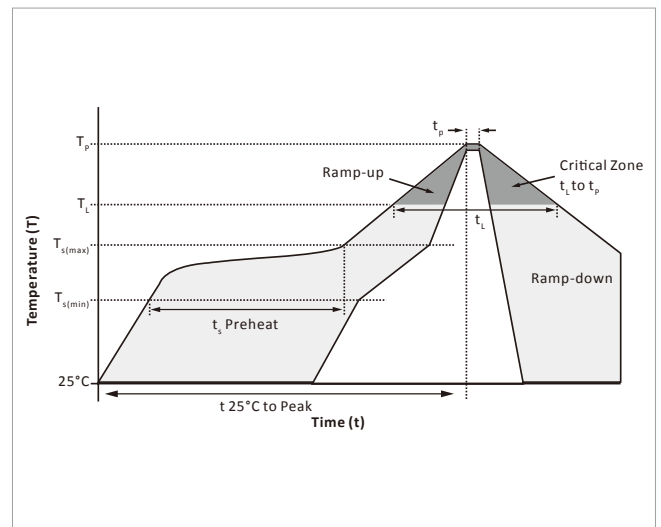


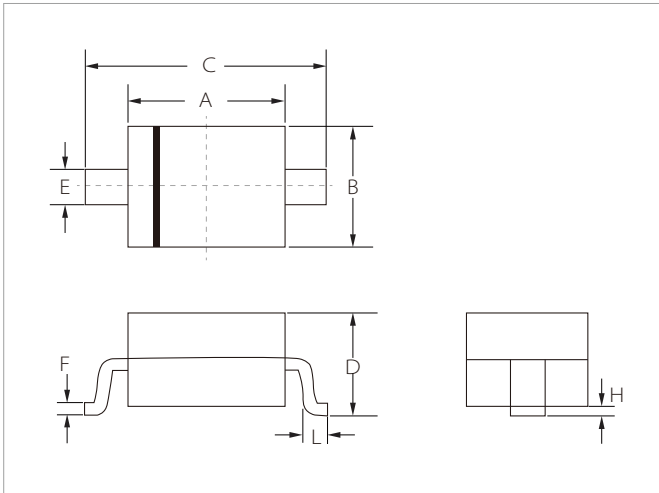
Fig.3 Capacitance Characteristics

Fig.4 Power Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

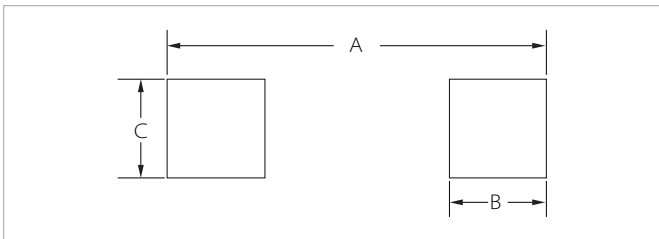


SOD-123 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	2.80	0.102	0.110
B	1.50	1.70	0.059	0.067
C	3.55	3.85	0.140	0.152
D	1.05	1.25	0.041	0.049
E	0.45	0.65	0.018	0.026
F	0.08	0.15	0.003	0.006
H	0.00	0.10	0.000	0.004
L	0.25	0.45	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.00	4.30	0.157	0.169
B	0.75	0.85	0.030	0.033
C	0.95	1.05	0.037	0.041

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
B5817W-B5819W	SOD-123	3000PCS	7"

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