

FEATURES

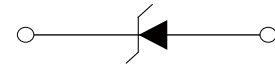
- Low Positive Pressure Drop
- Meet AEC-Q101 Requirements



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	B5817WQ	B5818WQ	B5819WQ	Unit
Marking		QSJ	QSK	QSL	
Peak Repetitive Reverse Voltage	V_{RRM}	20	30	40	V
Working Peak Reverse Voltage	V_{RWM}	20	30	40	V
DC Reverse Voltage	V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Forward Current	I_F	1			A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	25			A
Power Dissipation	P_D	450			mW
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	220			$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-65-+125			$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Test Conditions	B5817WQ		B5818WQ		B5819WQ		Unit
			Min.	Max.	Min.	Max.	Min.	Max.	
Forward Voltage	V _F	I _F =0.1A		0.32		0.35		0.40	V
		I _F =1A		0.45		0.55		0.60	
		I _F =3A(t<5μs)		0.75		0.875		0.95	
Reverse breakdown voltage	V _(BR)	I _R =1mA	20		30		40		V
Instantaneous Reverse Current	I _{RM}	V _R =V _{RRM}	1						mA
Junction capacitance	C _j	V _R =4V, f=1MHz	120						pF

CHARACTERISTIC CURVES

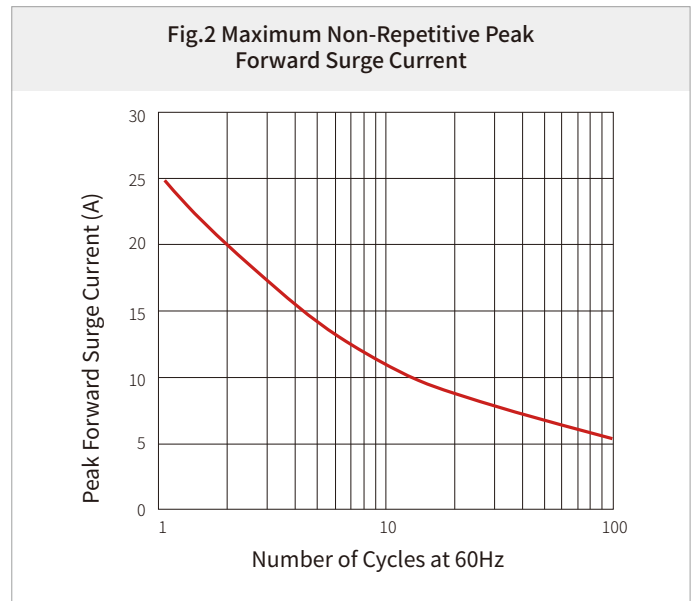
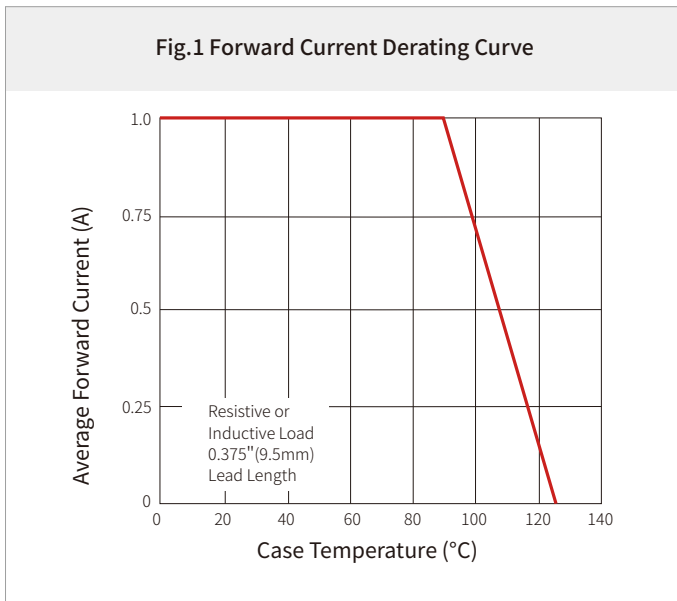


Fig.3 Typical Instantaneous Forward Characteristics

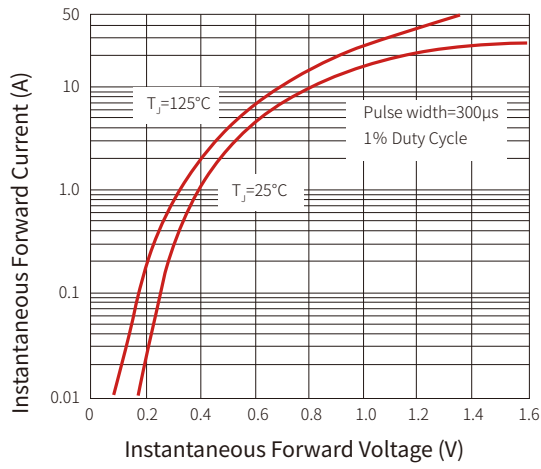


Fig.4 Typical Reverse Characteristics

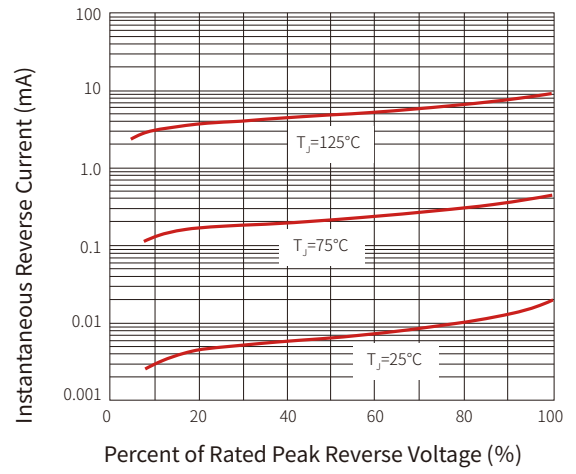


Fig.5 Typical Junction Capacitance

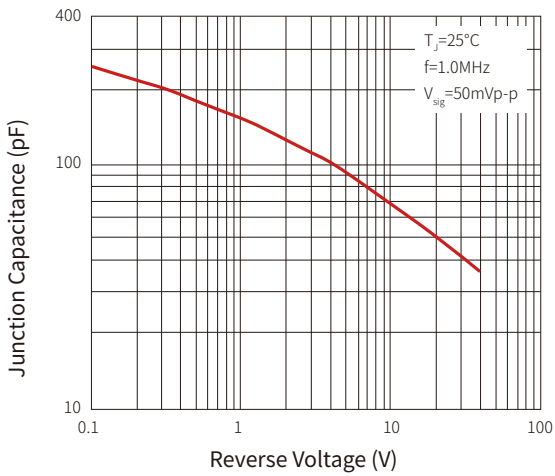
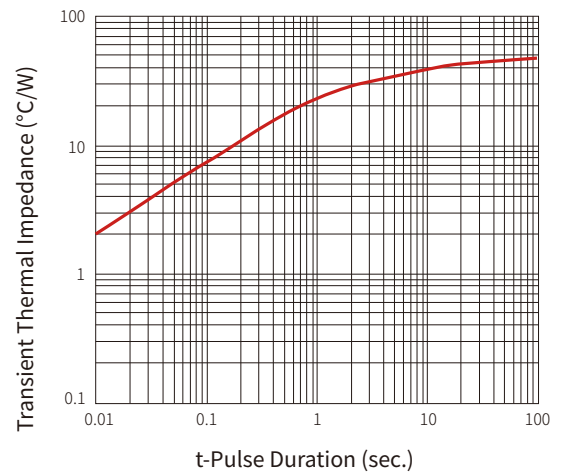
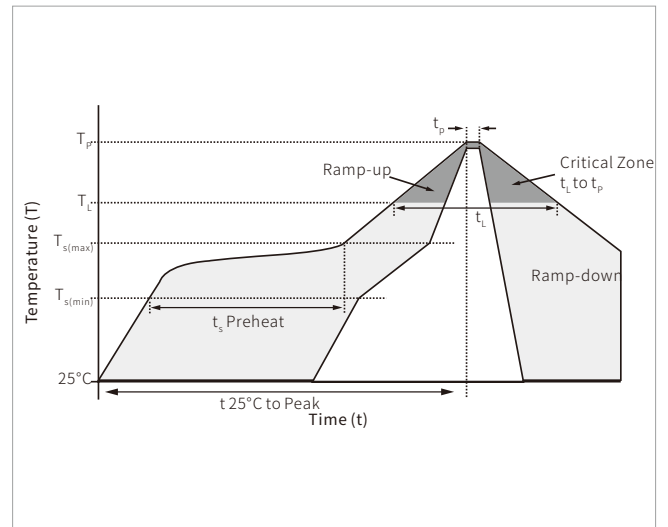


Fig.6 Typical Transient Thermal Impedance

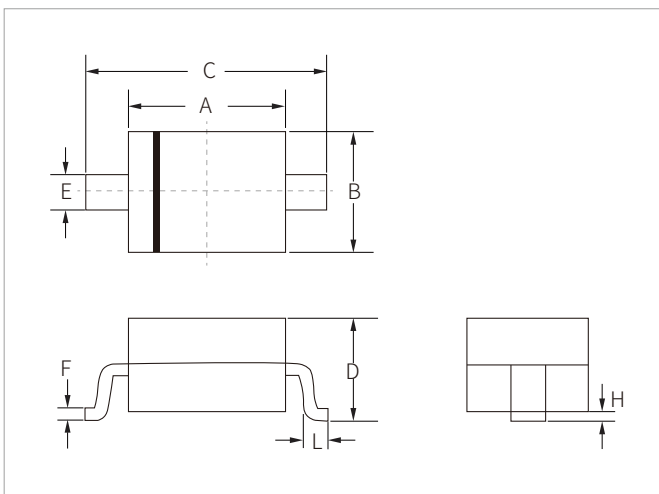


SOLDERING PARAMETERS

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

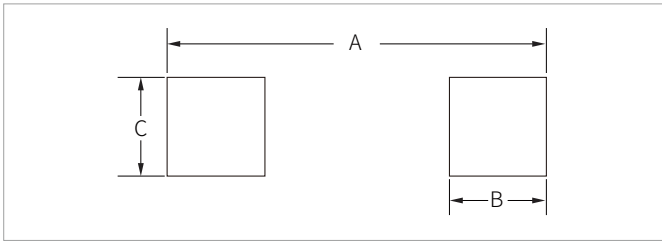


SOD-123 PACKAGE INFORMATION



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
B5817WQ-B5819WQ	SOD-123	3000PCS	7"

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