



SOD-123 Plastic-Encapsulate Diodes

B5817W-5819W SCHOTTKY BARRIER DIODE

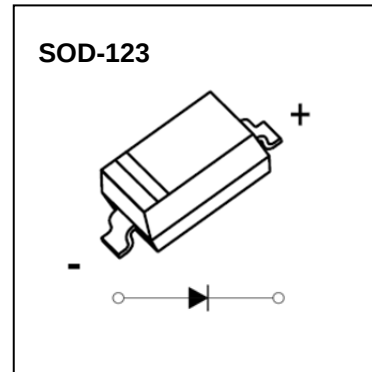
FEATURES

For use in low voltage, high frequency inverters
Free wheeling, and polarity protection applications.

MARKING:

B5817W:SJ	B5818W:SK	B5819W:SL

The marking bar indicates the cathode
Solid dot = Green molding compound device.



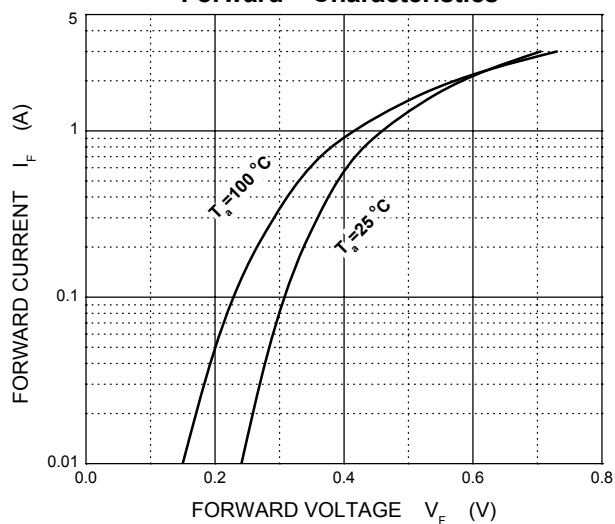
Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

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	P_D	500			mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200			°C/W
Operating Junction Temperature Range	T_J	-40 ~ +125			°C
Storage Temperature Range	T_{STG}	-55 ~ +150			°C

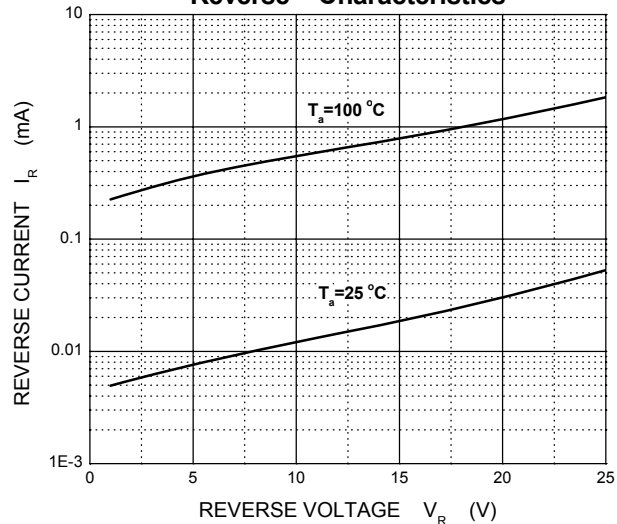
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

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 $I_F = 1A$		0.45	V
		$I_F = 3A$		0.75	
		B5818W $I_F = 1A$		0.55	V
		$I_F = 3A$		0.875	
		B5819W $I_F = 1A$		0.6	V
		$I_F = 3A$		0.9	
Diode capacitance	C_D	$V_R = 4V, f = 1MHz$		120	pF

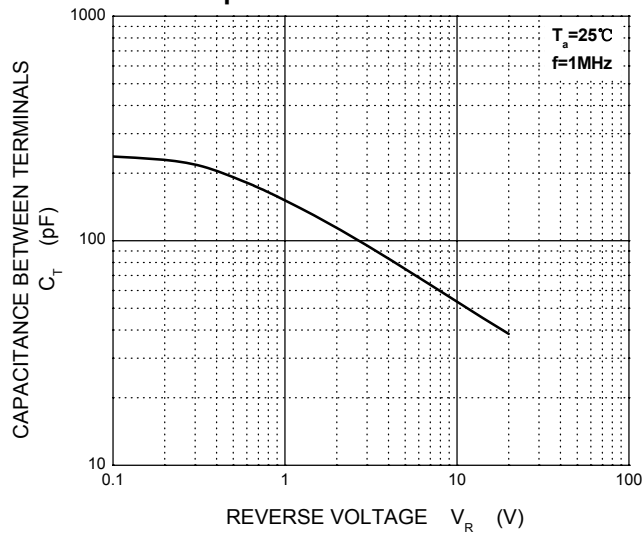
Forward Characteristics



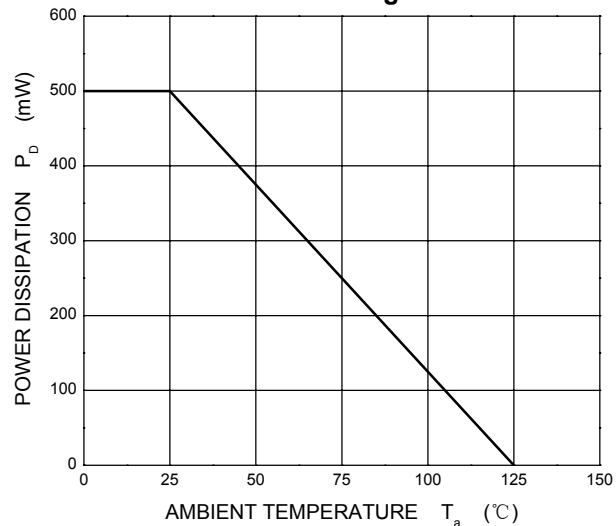
Reverse Characteristics



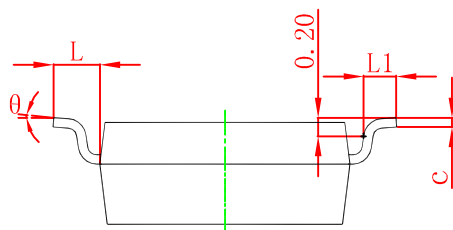
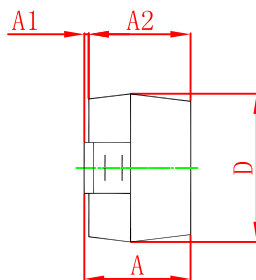
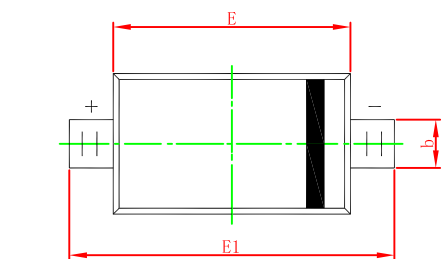
Capacitance Characteristics



Power Derating Curve



SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

SOD-123 Embossed Carrier Tape



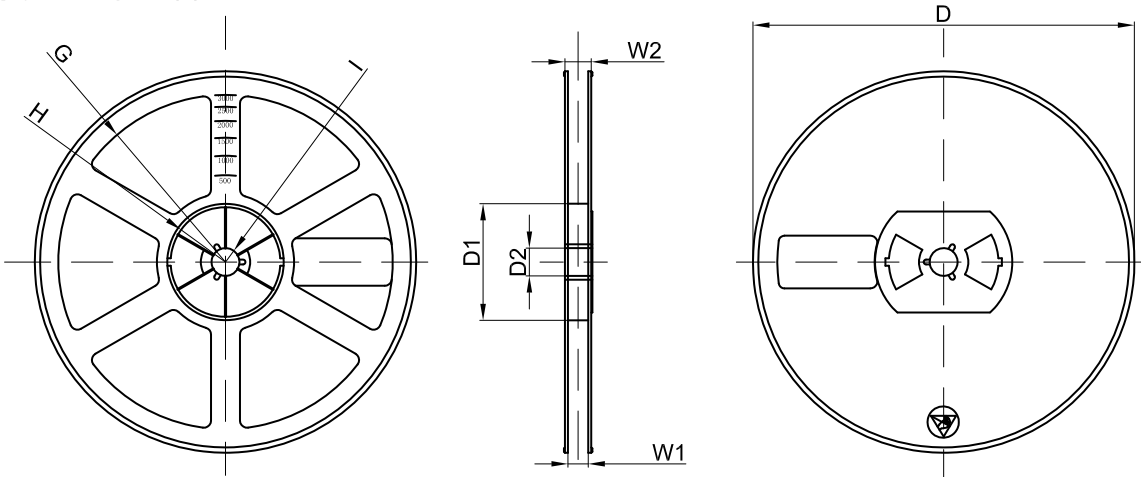
Packaging Description:
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOD-123 Tape Leader and Trailer



SOD-123 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	