

# SOD-123 Plastic-Encapsulate Diodes

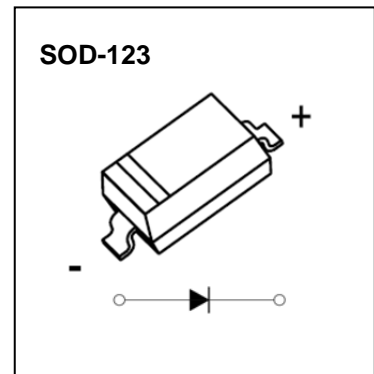
## B5817W-5819W SCHOTTKY BARRIER DIODE

### 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, if none,  
the normal device.

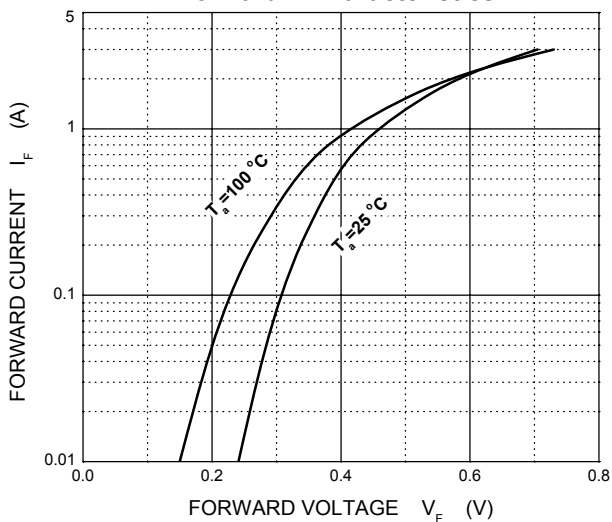
### Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

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
Junction temperature	$T_J$	125			°C
Storage Temperature	$T_{STG}$	-55~+150			°C

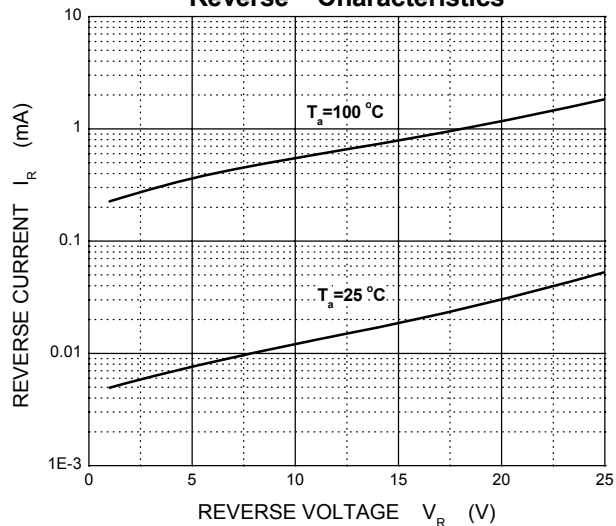
### ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R = 1mA$			
		B5817W	20		V
		B5818W	30		
		B5819W	40		
Reverse voltage leakage current	$I_R$	$V_R = 20V$			
		B5817W		1	mA
		B5818W			
		$V_R = 30V$			
		B5819W			
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

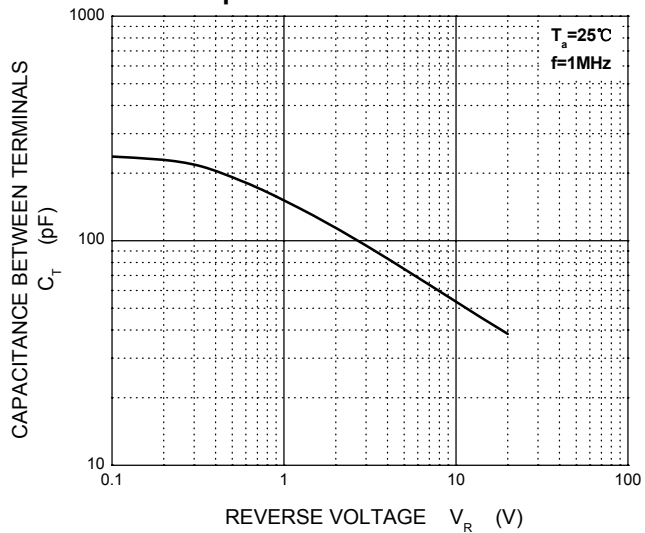
Forward Characteristics



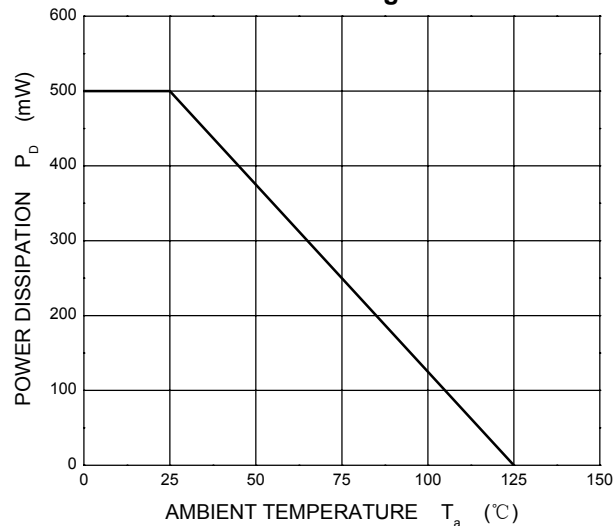
Reverse Characteristics



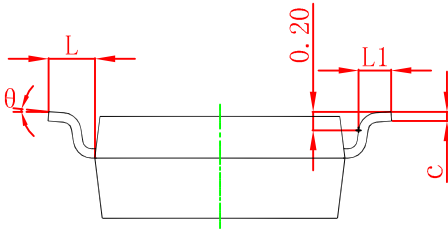
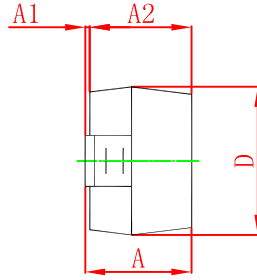
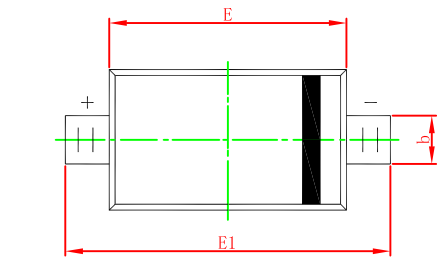
Capacitance Characteristics



Power Derating Curve

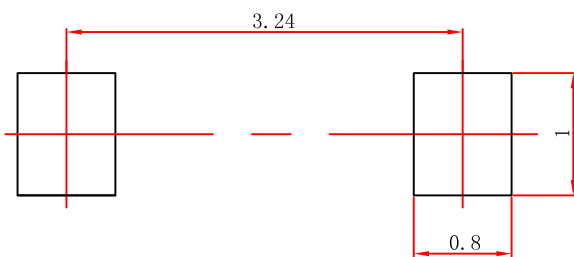


## SOD-123 Package Outline Dimensions



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

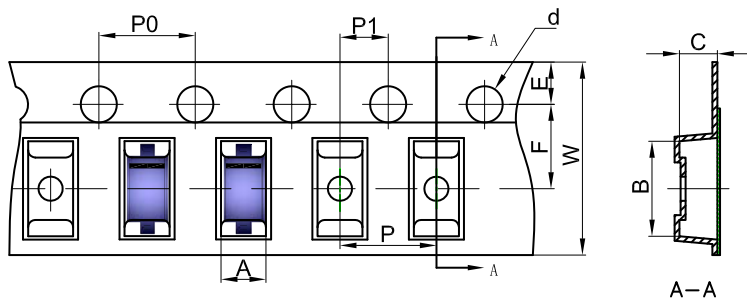


### Note:

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

# SOD-123 Tape and Reel

## SOD-123 Embossed Carrier Tape

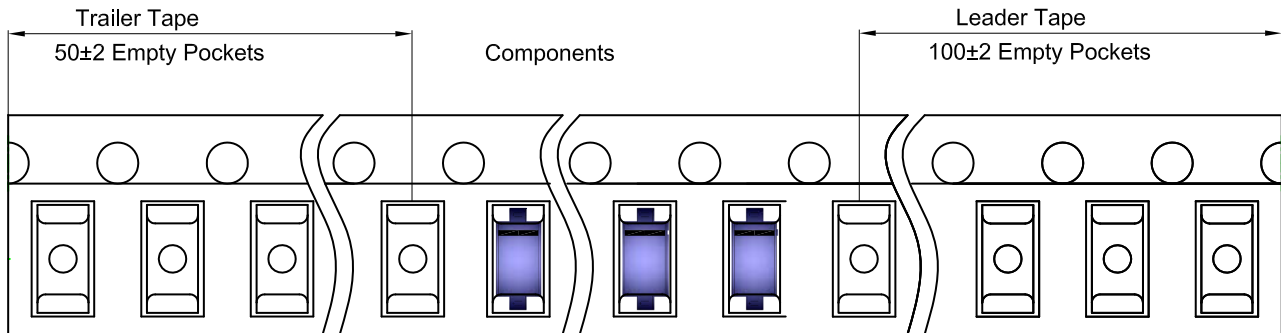


### Packaging Description:

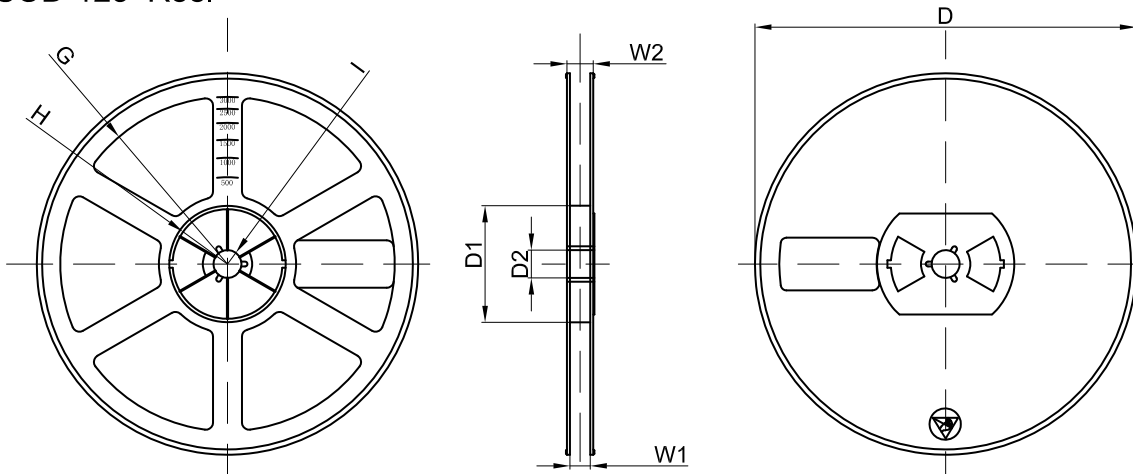
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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
3000 pcs