

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT

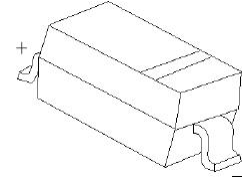


PLED

Product data sheet

**FEATURES**

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

**SOD-123**


**MARKING:** B5817W-MS: SJ  
 B5818W-MS:SK  
 B5819W-MS: SL

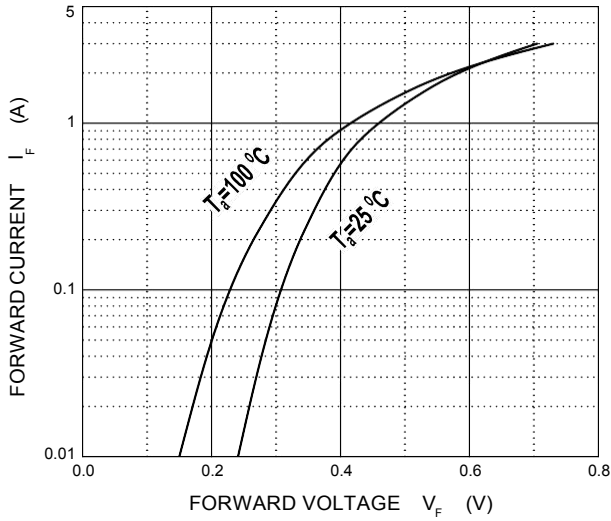

**Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C**

Parameter	Symbol	B5817W-MS	B5818W-MS	B5819W-MS	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
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

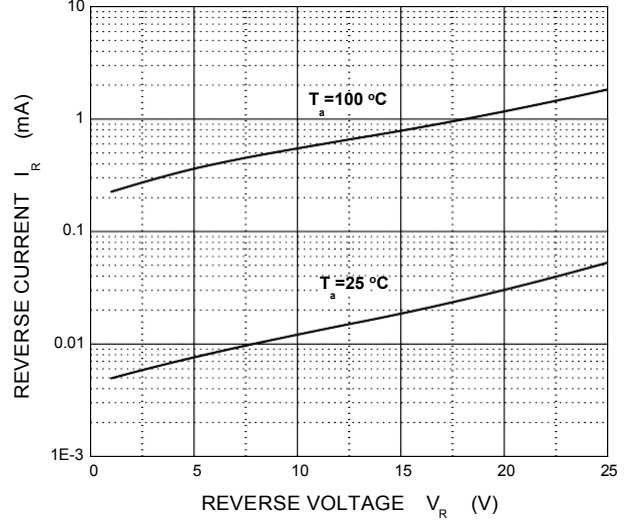
**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R = 1mA$ B5817W-MS B5818W-MS B5819W-MS	20 30 40		V
Reverse voltage leakage current	$I_R$	$V_R = 20V$ B5817W-MS $V_R = 30V$ B5818W-MS $V_R = 40V$ B5819W-MS		1	mA
Forward voltage	$V_F$	B5817W-MS $I_F = 1A$		0.45	V
		$I_F = 3A$		0.75	
		B5818W-MS $I_F = 1A$		0.55	V
$I_F = 3A$		0.875			
B5819W-MS $I_F = 1A$		0.6	V		
$I_F = 3A$		0.9			
Diode capacitance	$C_D$	$V_R = 4V, f = 1MHz$		120	pF

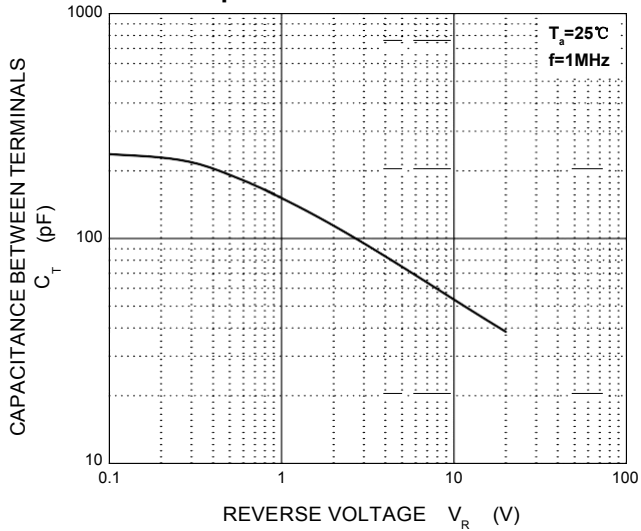
**Forward Characteristics**



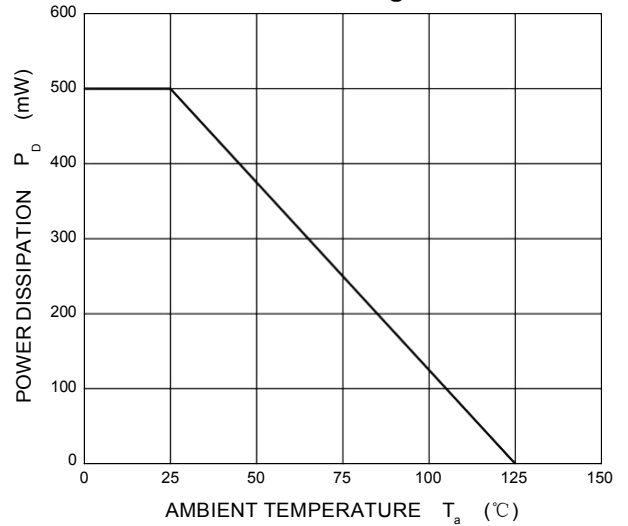
**Reverse Characteristics**



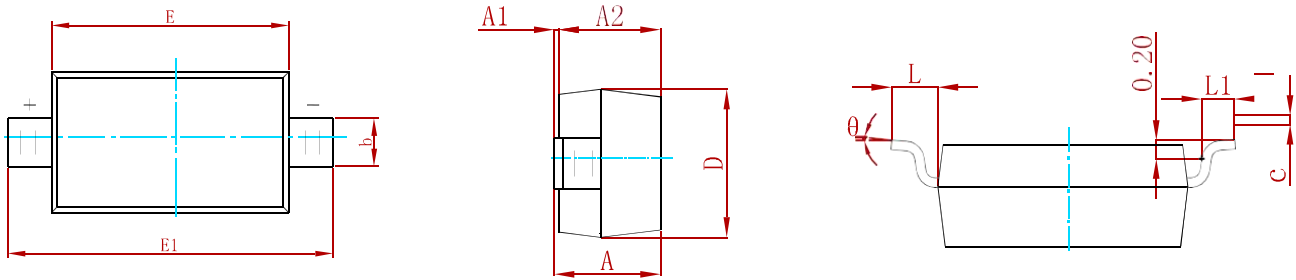
**Capacitance Characteristics**



**Power Derating Curve**

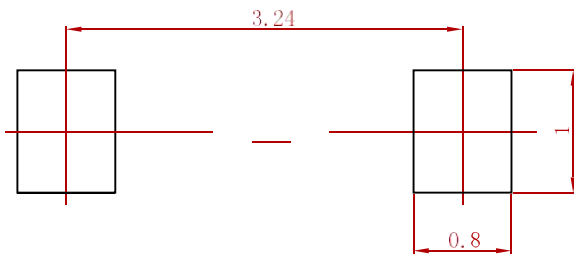


**PACKAGE MECHANICAL DATA**



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°

**Suggested Pad Layout**



- Note:**
1. Controlling dimension: in millimeters.
  2. General tolerance: ± 0.05mm.
  3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

P/N	PKG	QTY
B5817W-MS	SOD-123	3000
B5818W-MS	SOD-123	3000
B5819W-MS	SOD-123	3000

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