

# MSKSEMI

SEMICONDUCTOR



ESD



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MOV



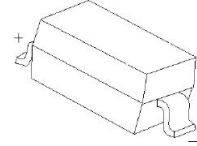
GDT



PLED

Product data sheet

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

**SOD-323**


**MARKING:** B5817WS-MS: SJ  
 B5818WS-MS:SK  
 B5819WS-MS: SL

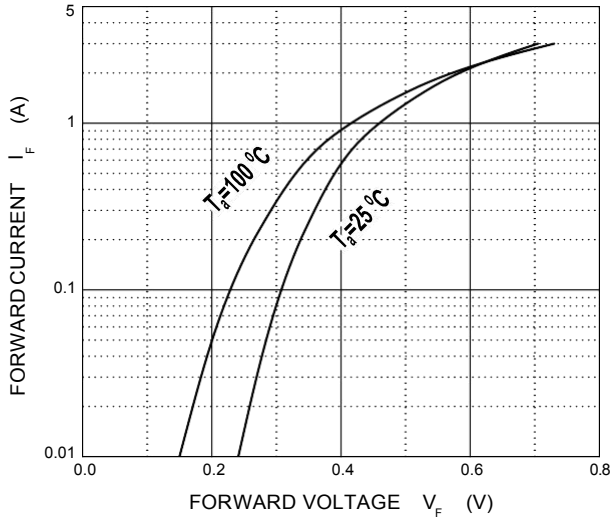

**Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C**

Parameter	Symbol	B5817WS-MS	B5818WS-MS	B5819WS-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	$P_d$	250			mW
Thermal resistance junction to ambient	$R_{\theta JA}$	400			°C/W
Junction temperature	$T_J$	125			°C
Storage temperature	$T_{STG}$	-55~+150			°C

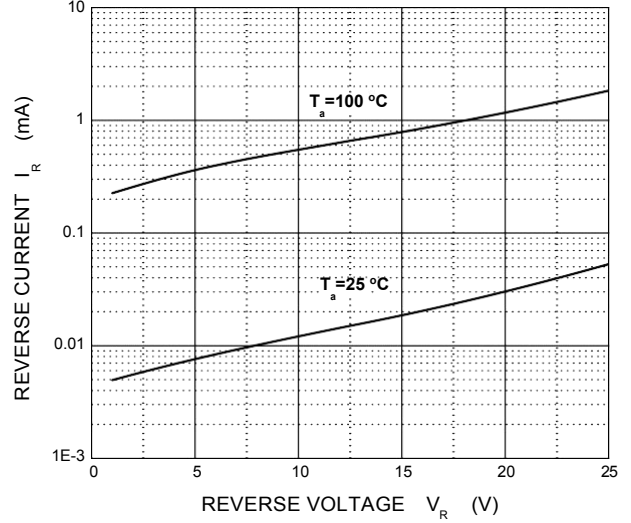
**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=1mA$ B5817WS-MS B5818WS-MS B5819WS-MS	20 30 40		V
Reverse voltage leakage current	$I_R$	$V_R=20V$ B5817WS-MS $V_R=30V$ B5818WS-MS $V_R=40V$ B5819WS-MS		1	mA
Forward voltage	$V_F$	B5817WS-MS $I_F=1A$		0.45	V
		$I_F=3A$		0.75	
		B5818WS-MS $I_F=1A$		0.55	V
$I_F=3A$		0.875			
B5819WS-MS $I_F=1A$		0.6	V		
$I_F=3A$		0.9			
Diode capacitance	$C_D$	$V_R=4V, f=1MHz$		120	pF

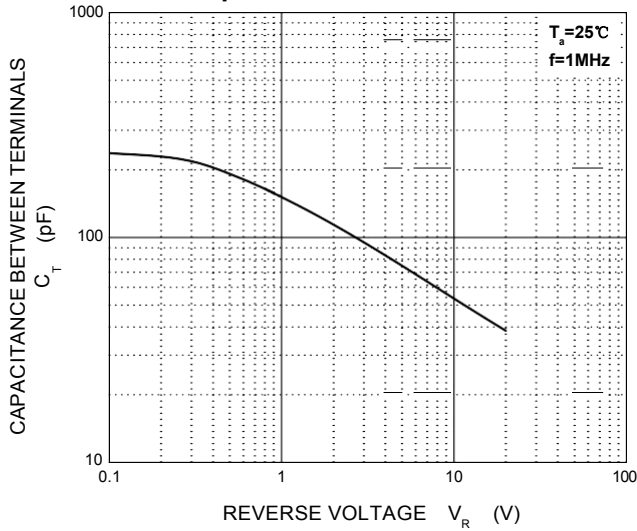
**Forward Characteristics**



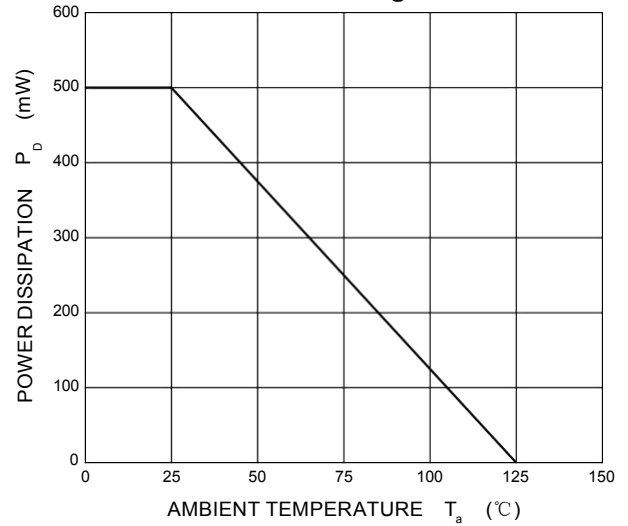
**Reverse Characteristics**



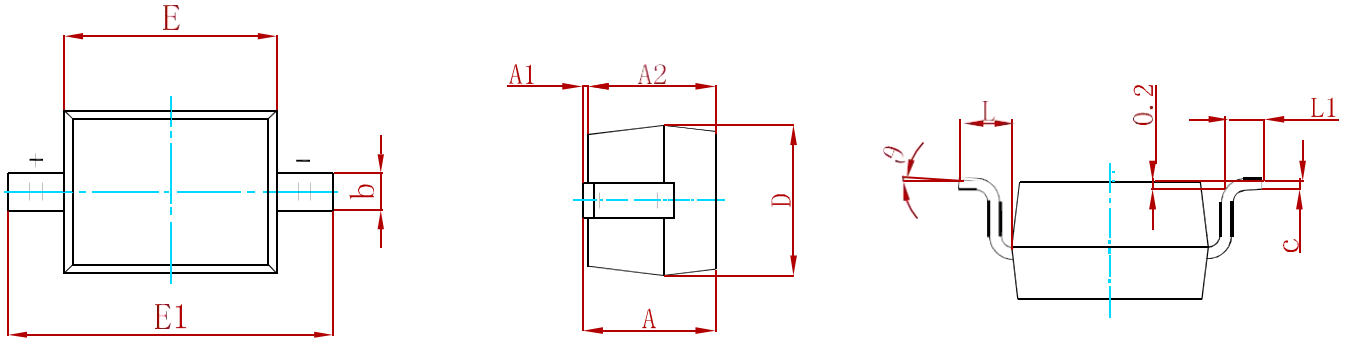
**Capacitance Characteristics**



**Power Derating Curve**

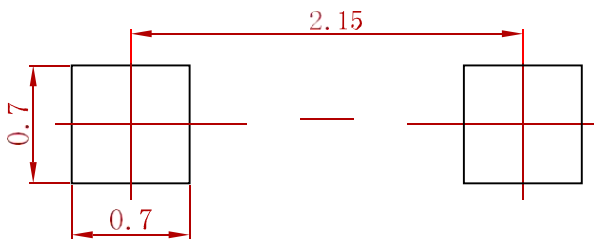


**PACKAGE MECHANICAL DATA**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
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
B5817WS-MS	SOD-323	3000
B5818WS-MS	SOD-323	3000
B5819WS-MS	SOD-323	3000

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