

Surface Mount Schottky Barrier Diodes

 Lead(Pb)-Free

Features:

- *Low Forward Voltage
- *Very Small Conduction Losses
- *Schottky Barrier Diodes Encapsulated in a SOD-323 Package

Description:

These schottky barrier diodes are designed for high speed switching applications circuit protection, and voltage clamping, Extremely low forward voltage reduces conduction loss, Miniature surface mount package is excellent for hand held and portable applications where space is limited.

**SMALL SIGNAL
SCHOTTKY DIODES
1.0 AMPERES
20-40 VOLTS**

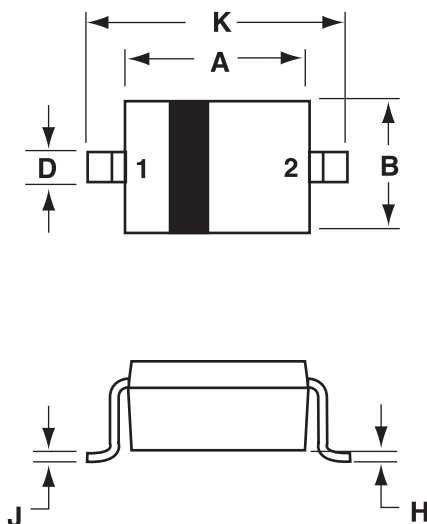
1. CATHODE
2. ANODE



SOD-323

SOD-323 Outline Dimensions

Unit:mm



Dim	MILLMETERS	
	Min	Max
A	1.60	1.80
B	1.15	1.35
C	0.80	1.00
D	0.25	0.40
E	0.15REF	
H	0.00	0.10
J	0.089	0.377
K	2.30	2.70

Maximum Ratings ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	B5817WS	B5819WS	Unit
Peak Repetitive Reverse Voltage	V_{RRM}			
Working Peak Reverse Voltage	V_{RWM}	20	40	V
DC Blocking Voltage	V_R			
Average Rectified Output Current	$V_{R(RMS)}$	14	28	V
RMS Reverse Voltage	I_{FAV}	1.0		A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimpose on rated load (JEDEC Method)	I_{FSM}	4.0		A
Power Dissipation	P_D	200		mW
Typical thermal Resistance junction to Ambient Note (1)	$R_{\theta JA}$	625		$^{\circ}\text{C/W}$
Operating & Storage Temperature Range	T_J T_{STG}	-55 to +150		$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	B5817W	B5819W	Unit
Minimum Reverse Breakdown Voltage ⁽²⁾ ($I_R=1\text{mA}$)	$V_{(BR)R}$	20	40	V
Forward Voltage Note ⁽²⁾ $I_F=1\text{A}$ $T_j=25^{\circ}\text{C}$ $I_F=3\text{A}$ $T_j=25^{\circ}\text{C}$	V_F	0.45 0.75	0.60 0.90	V
Reverse Current Note ⁽²⁾ $V_R=20\text{V}$, $T_j=25^{\circ}\text{C}$ $V_R=40\text{V}$, $T_j=25^{\circ}\text{C}$	I_R	1.0 -	- 1.0	mA
Junction Capacitance $f=1\text{MHZ}$, $V_R=4\text{VDC}$	C_j	120		PF

Device Marking

Item	Marking	Equivalent Circuit diagram
B5817WS	SJ	1 ○ ——— ← ——— ○ 2
B5819WS	SL	1 ○ ——— ← ——— ○ 2

Note: 1. Valid provided that leads are kept at ambient temperature.

2. Pulse Test : Pulse width = 300 μs , Duty Cycle $\leq 2\%$

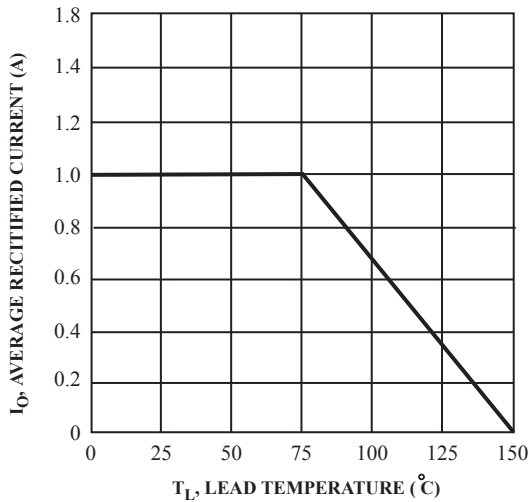


FIG. 1 Forward Current Derating Curve

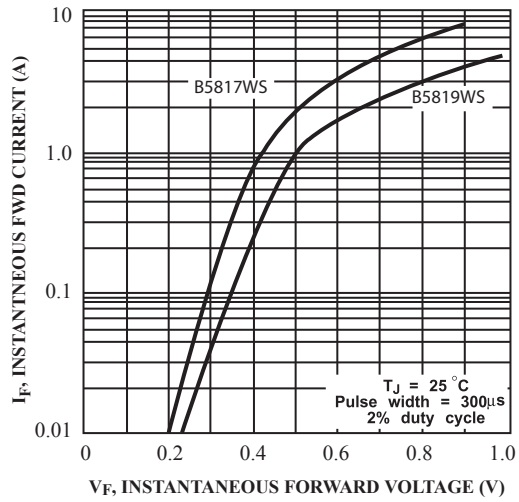


Fig. 2 Typical Forward Characteristics

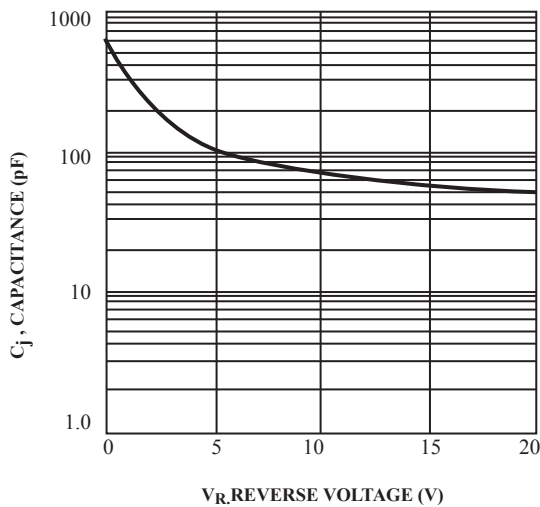


Fig. 3 Typ. Junction Capacitance vs. Reverse Voltage