

Surface Mount Schottky Barrier Diodes

(Pb) Lead(Pb)-Free

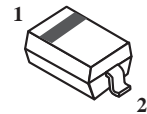
Features:

- *Low Forward Voltage
- *Very Small Conduction Losses
- *Schottky Barrier Diodes Encapsulated in a SOD-123 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.

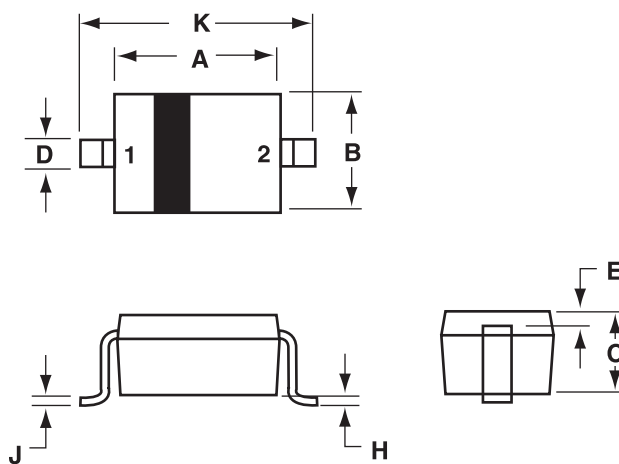
**SMALL SIGNAL
SCHOTTKY DIODES
1.0 AMPERES
20-40 VOLTS**



SOD-123

SOD-123 Outline Dimensions

Unit:mm



SOD-123		
Dim	Min	Max
A	2.55	2.85
B	1.40	1.80
C	0.95	1.35
D	0.50	0.70
E	0.30 REF	
H	-	0.10
J	-	0.15
K	3.55	3.85

PIN 1. CATHODE
2. ANODE

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

Characteristic	Symbol	B5817W	B5819W	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	28	V
Average Rectified Output Current	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}	25		A
Typical thermal Resistance junction to Ambient Note (1)	$R_{\theta JA}$	244		$^{\circ}\text{C/W}$
Operating & Storage Temperature Range	T_J T_{STG}	-55 to +125		$^{\circ}\text{C}$

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

Characteristic	Symbol	B5817W	B5819W	Unit
Minimum Reverse Breakdown Voltage ⁽²⁾ ($I_R=500\mu\text{A}$)	$V_{(BR)R}$	20	40	V
Forward Voltage Note ⁽²⁾ $I_F=0.5\text{A}$ $T_j=25^{\circ}\text{C}$ $I_F=1.0\text{A}$ $T_j=25^{\circ}\text{C}$	V_F	0.400 0.450	0.450 0.550	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	500	500	μA
Junction Capacitance $f=1\text{MHZ}$, $V_R=10\text{VDC}$	C_j	170		PF

Device Marking

Item	Marking	Equivalent Circuit diagram
B5817W	BK , SJ	1 ○ — — ○ 2
B5819W	BL , SL	1 ○ — — ○ 2

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

2. Pulse Test : Pulse width = $300\mu\text{s}$, Duty Cycle $\leq 2\%$

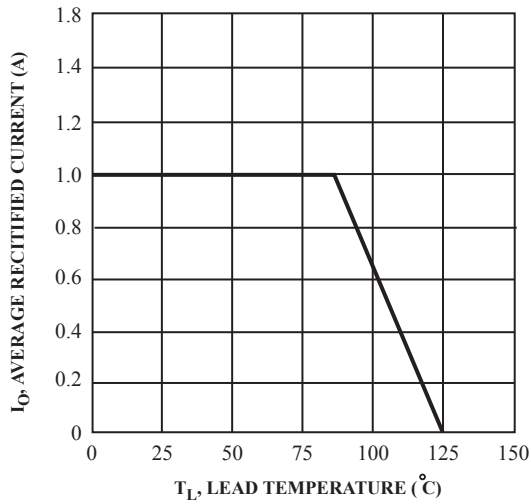


FIG. 1 Forward Current Derating Curve

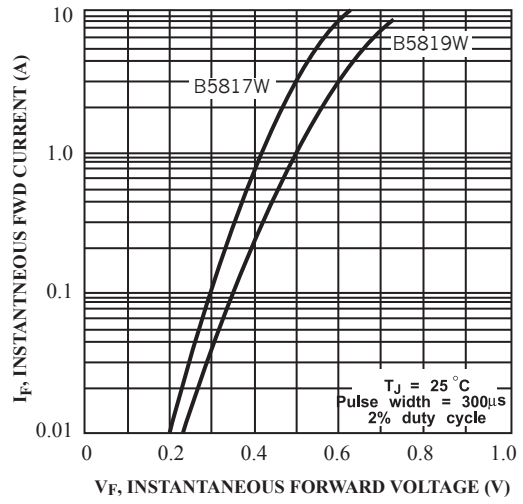


Fig. 2 Typical Forward Characteristics

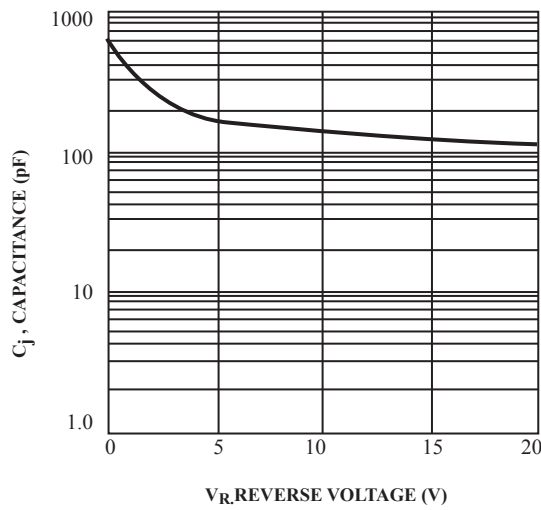


Fig. 3 Typ, Junction Capacitance vs. Reverse Voltage