

### Surface Mount Schottky Barrier Diodes

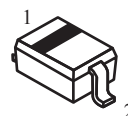
#### Features:

- \*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.

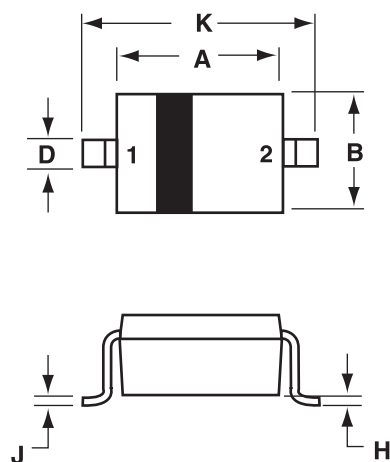
**SMALL SIGNAL  
SCHOTTKY DIODES  
500m AMPERES  
20 VOLTS**



**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	B0520LW	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	20	V
RMS Reverse Voltage	VR(RMS)	14	V
Average Rectified Output Current	IF(AV)	500	mA
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimpose on rated load (JEDEC Method)	IFSM	5.5	A
Typical thermal Resistance junction to Ambient Note (1)	R $\theta$ JA	244	K/W
Operating & Storage Temperature Range	T <sub>J</sub> T <sub>STG</sub>	-55 to +125	$^{\circ}\text{C}$

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

Characteristic	Symbol	Min	Max	Unit
Minimum Reverse Breakdown Voltage(2) ( $I_R=250\mu\text{A}$ )	V(BR)R	20	-	V
Forward Voltage Note(2) IF=0.1A Tj=25 $^{\circ}\text{C}$ IF=0.5A Tj=25 $^{\circ}\text{C}$ IF=0.1A Tj=100 $^{\circ}\text{C}$ IF=0.5A Tj=100 $^{\circ}\text{C}$	V <sub>F</sub>	- - - -	0.300 0.385 0.220 0.330	V
Reverse Current Note(2) VR=10V Tj=25 $^{\circ}\text{C}$ VR=20V Tj=25 $^{\circ}\text{C}$	I <sub>R</sub>	- -	75 250	$\mu\text{A}_{\text{dc}}$
Junction capacitance f=1MHZ VR=0VDC	C <sub>j</sub>	-	170	PF

**Device Marking**

Item	Marking	Equivalent Circuit diagram
B0520LW	BI	

- Note: 1. Valid provided that leads are kept at ambient temperature.  
2. Pulse Test : Pulse width = 300 $\mu\text{s}$ , Duty Cycle  $\leq 2\%$

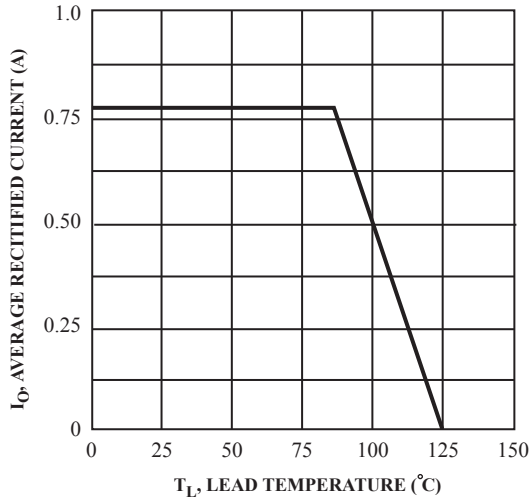


FIG. 1 Forward Current Derating Curve

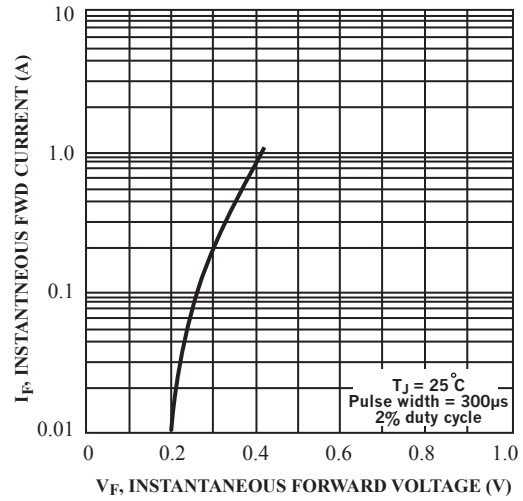


Fig. 2 Typical Forward Characteristics

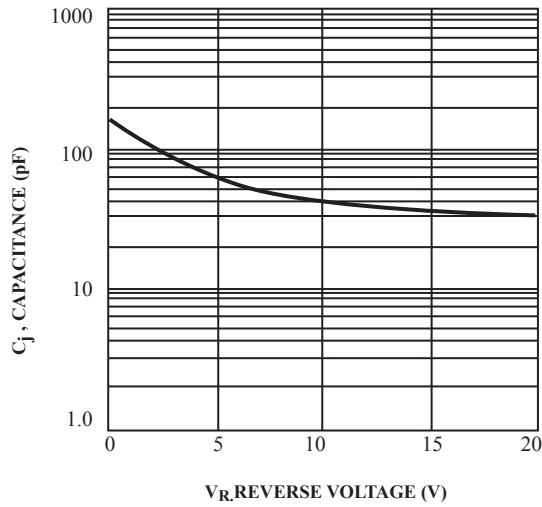


Fig. 3 Typ, Junction Capacitance vs. Reverse Voltage