

Schottky Barrier Diode

B0520LW / B0530W / B0540W

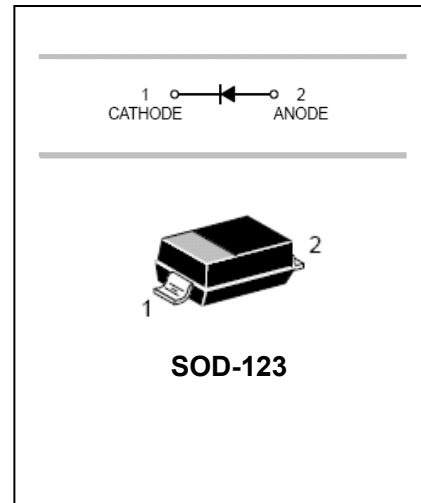
FEATURES

- Low forward voltage drop.
- Guard ring construction for transient Protection.
- High conductance.

APPLICATIONS

- 0.5A surface mount schottky barrier rectifier.

ORDERING INFORMATION



Type No.	Marking	Package Code
B0520LW	SD	SOD-123
B0530W	SE	SOD-123
B0540W	SF	SOD-123

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Characteristic	Symbol	B0520LW	B0530W	B0540W	Unit
Peak Repetitive Reverse Voltage	V_{RRM}				
Working Peak Reverse Voltage	V_{RWM}	20	30	40	V
DC Reverse Voltage	V_R				
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current @ $T_L = 100^\circ\text{C}$	I_O	0.5			A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	5.5			A
Power Dissipation	P_d	410			mW
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	244			$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-65 to +125			$^\circ\text{C}$
Voltage Rate of Change	dv/dt	1000			$\text{V}/\mu\text{s}$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Characteristic	Symbol	B0520LW	B0530W	B0540W	Unit	Test Conditions
Minimum Reverse Breakdown Voltage	$V_{(BR)R}$	20	-	-	V	$I_R=250\mu A$
		-	30	-		$I_R=130\mu A$
		-	-	40		$I_R=20\mu A$
Maximum Forward Voltage Drop	V_{FM}	0.300	0.375	-	V	$I_F=0.1A, T_j=25^\circ C$
		0.385	0.430	0.510		$I_F=0.5A, T_j=25^\circ C$
		-	-	0.620		$I_F=1.0A, T_j=25^\circ C$
		0.220	-	-		$I_F=0.1A, T_j=100^\circ C$
		0.330	-	0.460		$I_F=0.5A, T_j=100^\circ C$
		-	-	0.610		$I_F=1.0A, T_j=100^\circ C$
Maximum Leakage Current	I_{RM}	75	-	-	μA	$V_R=10V, T_j=25^\circ C$
		-	20	-		$V_R=15V, T_j=25^\circ C$
		250	-	10		$V_R=20V, T_j=25^\circ C$
		-	130	-		$V_R=30V, T_j=25^\circ C$
		-	-	20		$V_R=40V, T_j=25^\circ C$
		-	-	-		
	5.0	-	-	mA	$V_R=10V, T_j=100^\circ C$	
	8.0	-	5.0		$V_R=20V, T_j=100^\circ C$	
	-	-	13		$V_R=40V, T_j=100^\circ C$	
Junction Capacitance	C_J	170			pF	$f=1MHz, V_R=0V DC$

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

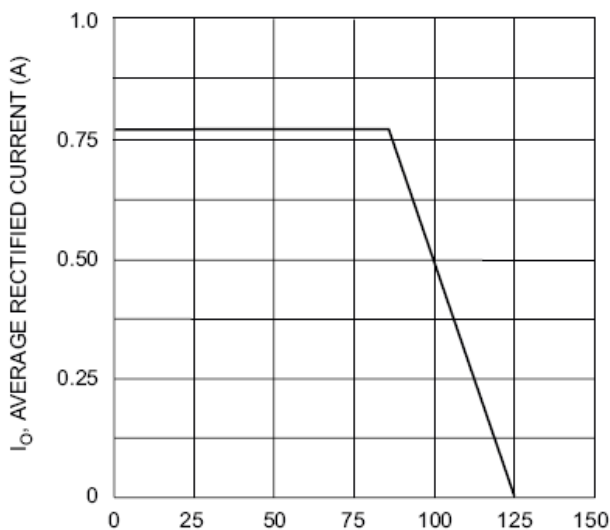


Fig. 1 Forward Current Derating Curve

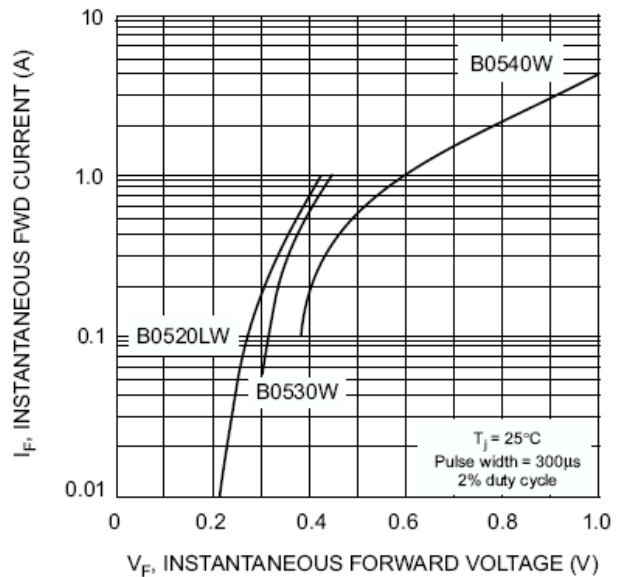


Fig. 2 Typical Forward Characteristics

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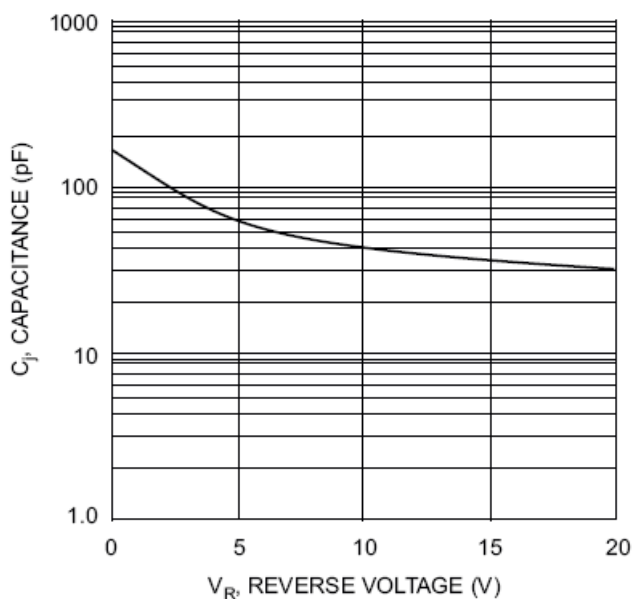


Fig. 3 Typ. Junction Capacitance vs Reverse Voltage

PACKAGE OUTLINE

Plastic surface mounted package

SOD-123

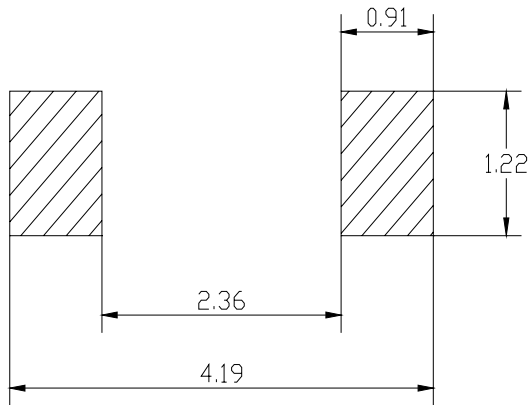
SOD-123		
Dim	Min	Max
A	1.4	1.8
B	2.55	2.85
C	1.15 Typical	
D	0.55 Typical	
E	0.3	0.4
H	0.02	0.10
J	0.1 Typical	
K	3.55	3.85
All Dimensions in mm		



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SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
B0520LW / B0530W / B0540W	SOD-123	3000/Tape&Reel