

## SOD-323 Surface Mount Schottky Barrier Rectifier

### ● Features

- $V_R=20/30/40V$
- $I_{F(AV)}=0.5A$
- For use in low voltage, high frequency inverters
- Free wheeling, and polanty protection applications

### ● Applications

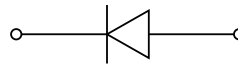
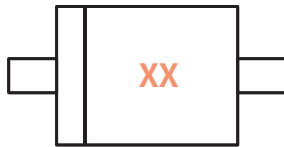
The device is a single rectifier offering low VF and excellent high temperature stability.

### ● Mechanical Data

- Case: SOD-323  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

### ● Function Diagram

Marking:  
B0520WS:SD  
B0530WS:SE  
B0540WS:SF



**Reverse Voltage**  
20/30/40 V  
**Forward Current**  
0.5 Ampere

SOD-323



### ● Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	B0520WS	B0530WS	B0540WS
Maximum repetitive peak reverse voltage	$V_{RRM}$	V	20	30	40
Maximum RMS voltage	$V_{RMS}$	V	14	21	28
Maximum DC blocking voltage	$V_{DC}$	V	20	30	40
Maximum Average Forward Rectified Current	$I_{F(AV)}$	A	0.5		
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	$I_{FSM}$	A	5.5		
Power Dissipation	$P_D$	mW	200		
Junction temperature	$T_j$	°C	-55-+125		
Storage temperature range	$T_{STG}$	°C	-55-+150		
Typical thermal resistance	$R_{\theta J-A}$	°C /W	500		

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	B0520WS	B0530WS	B0540WS
Maximum forward voltage	$I_F=0.1A$	$V_{F1}$	V	0.33	0.375	—
	$I_F=0.5A$	$V_{F2}$		0.385	0.43	0.51
	$I_F=1.0A$	$V_{F3}$		—	—	0.62
Maximum reverse current	$V_R=10V$	$I_R$	mA	0.075	—	—
	$V_R=15V$			—	0.080	—
	$V_R=20V$			0.25	—	0.01
	$V_R=30V$			—	0.5	—
	$V_R=40V$			—	—	0.02
Capacitance between terminals	$V_R=0V, f=1MHz$	$C_T$	pF	170		

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)

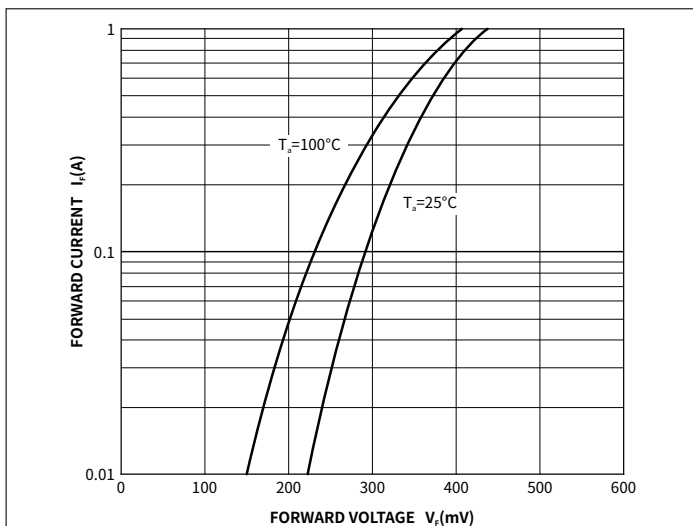


Fig.1 Typical Instantaneous Forward Characteristics

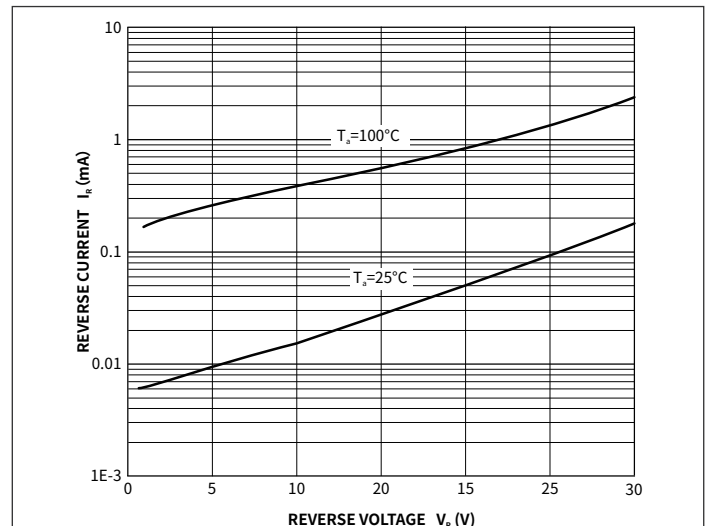


Fig.2 Typical Reverse Characteristics

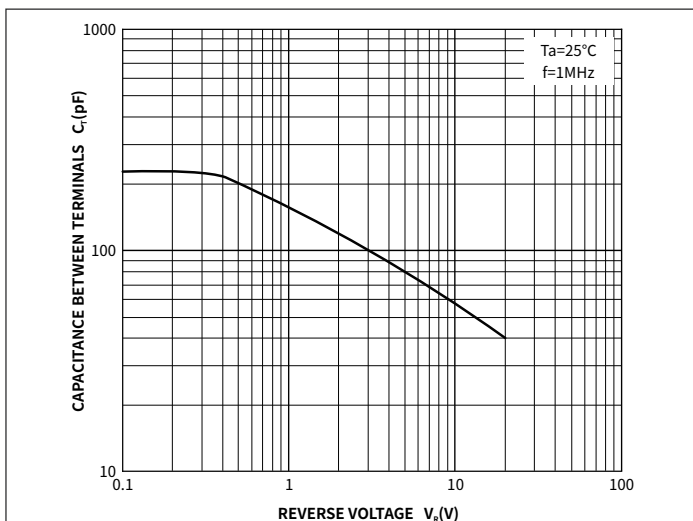


Fig.3 Typical Junction Capacitance

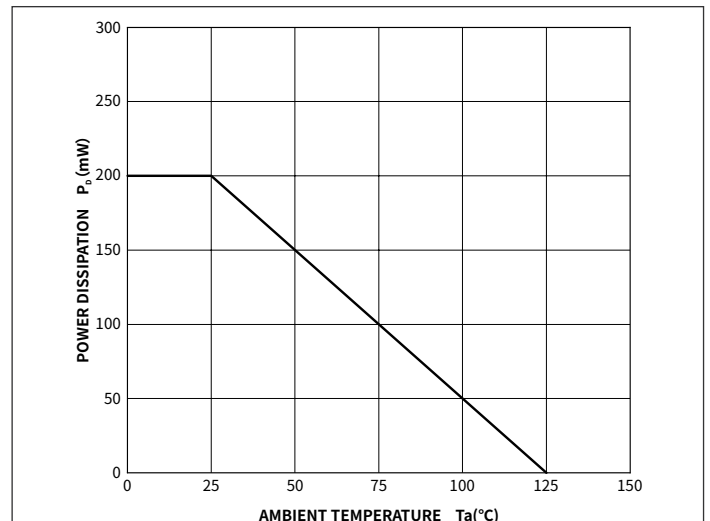


Fig.4 Power Derating Curve

# B0520WS THRU B0540WS

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

## ● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-323	R1	0.0048	3000	30000	120000	7"

## ● Package Outline Dimensions (SOD-323)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.80	0.063	0.071
B	0.25	0.40	0.010	0.016
C	2.30	2.80	0.091	0.110
D	0.80	1.10	0.031	0.043
D <sub>1</sub>	0.80	0.90	0.031	0.035
E	1.20	1.40	0.047	0.055
F	0.08	0.18	0.003	0.007
L	0.475REF		0.019REF	
L <sub>1</sub>	0.25	0.40	0.010	0.016
H	-	0.14	-	0.006

## ● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
X	0.65	0.75	0.026	0.030
Y	0.65	0.75	0.026	0.030
Z	2.10	2.20	0.084	0.088