

## Surface Mount Schottky Barrier Diode

**(Pb)** Lead(Pb)-Free

### Features:

- \* Low Forward Voltage Drop
- \* Guard Ring Construction for Transient Protection
- \* High Conductance

### Mechanical Data:

- \* Case: SOD-323
- \* Plastic Material –UL Recognition Flammability Classification 94V-0
- \* Leads: Solderable per MIL-STD-202, Method 208
- \* Polarity: Cathode Band
- \* Weight: 0.004 grams(approx.)

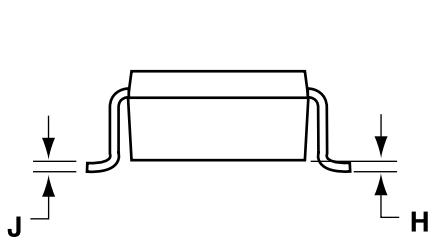
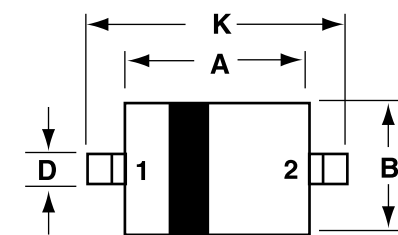
**SCHOTTKY DIODE  
500 mAMPERS  
20-40 VOLTS**



**SOD-323**

## SOD-323 Outline Demensions

Unit:mm



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

PIN 1.CATHODE  
2.ANODE


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

Characteristic	Symbol	B0520LWS	B0530WS	B0540WS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	$I_O$	500			mA
Peak Forward Surge Current	$I_{FSM}$	5.5			A
Power Dissipation	$P_d$	410			mW
Thermal Resistance junction to Ambient	$R_{\theta JA}$	244			$^{\circ}\text{C}/\text{W}$
Operating Temperature Range	$T_J$	+125			$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +125			$^{\circ}\text{C}$
Voltage Rate of Change	$dv/dt$	1000			$\text{V}/\mu\text{s}$

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

Characteristic	Symbol	B0520LWS	B0530WS	B0540WS	Unit
Reverse Breakdown Voltage $I_R=250\mu\text{A}$ $I_R=130\mu\text{A}$ $I_R=20\mu\text{A}$	$V_{(BR)R}$	20 - -	- 30 -	- - 40	V
Forward Voltage $I_F=0.1\text{A}$ $I_F=0.5\text{A}$ $I_F=1.0\text{A}$	$V_F$	0.3 0.385 -	0.375 0.430 -	- 0.510 0.62	V
Reverse Current $V_R=10\text{V}$ $V_R=15\text{V}$ $V_R=20\text{V}$ $V_R=30\text{V}$ $V_R=40\text{V}$	$I_R$	75 - 250 - -	- 20 - 130 -	- - 10 - 20	$\mu\text{A}$
Capacitance between terminals $V_R=1.0\text{V}$ , $f=1.0\text{MHz}$	$C_T$		170		pF
Reverse Recovery Time $I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R$ , $R_L=100\Omega$	$t_{rr}$		4.0		ns

**Device Marking**

Item	Marking	Equivalent Circuit diagram
B0520LWS	SD	
B0530WS	SE	
B0540WS	SF	

Electrical Characteristic curves( $T_A=25^\circ\text{C}$ )

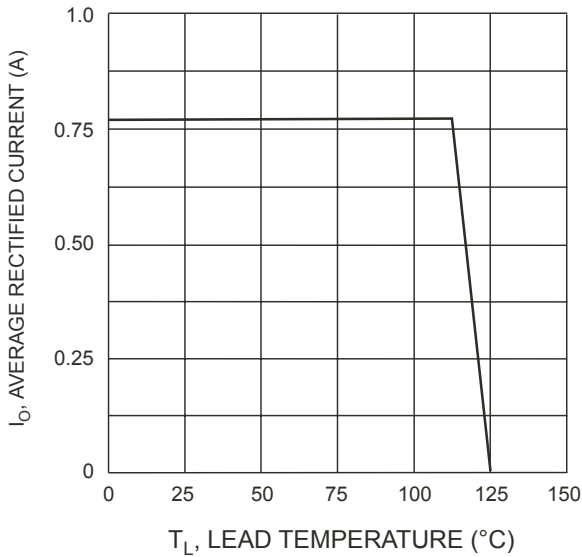


Fig. 1 Forward Current Derating Curve

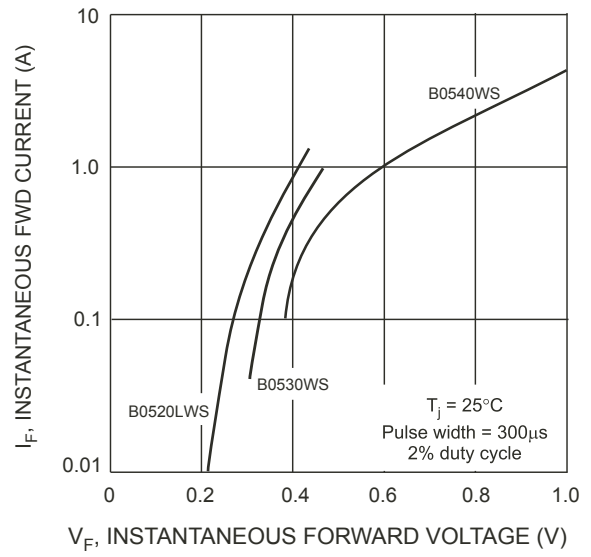


Fig. 2 Typical Forward Characteristics

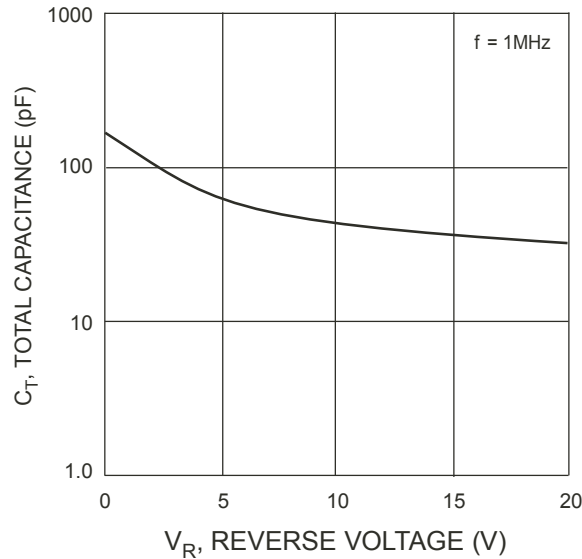


Fig. 3 Typ. Total Capacitance vs Reverse Voltage