

# Super Barrier Rectifier™

Using state-of-the-art SBR IC process technology,  
the following features are made possible in a single device:

Major ratings and characteristics

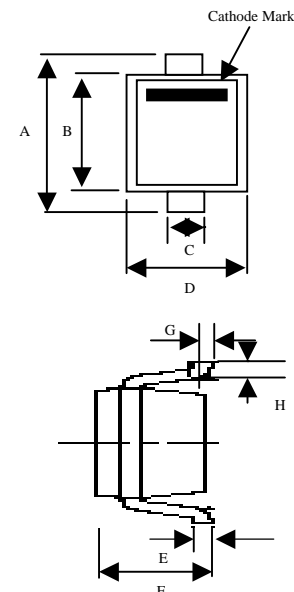
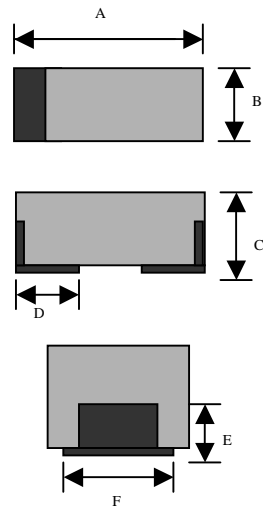
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	0.10	A
$V_{RRM}$	20	V
$V_F @ 0.1A, T_J = 75^\circ C$	0.35	V, typ
$T_J$ (operating/storage)	-65 to 125	$^\circ C$

ELECTRICAL:

- \* Low Forward Voltage Drop
- \* Low Reverse Leakage
- \* Reliable High Temperature Operation
- \* Super Barrier Design
- \* Softest, fast switching capability
- \* 125 $^\circ C$  Operating Junction Temperature

MECHANICAL:

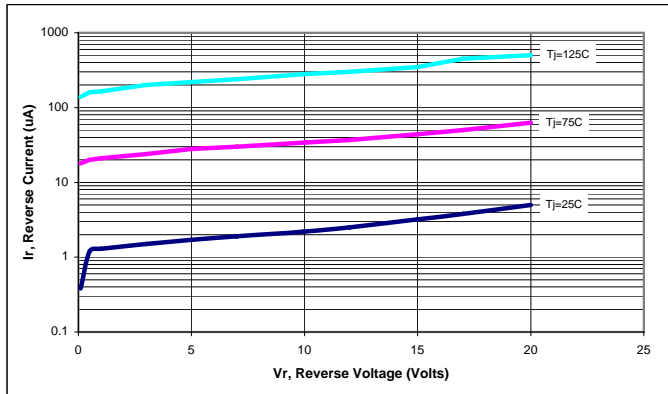
- \* Molded Plastic SOD-323, SOD-523 packages

SBR0120S3	SBR0120S5																																																						
<div style="text-align: center;">  <p style="margin-top: 10px;">SOD-323</p> </div> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: yellow;"> <th colspan="3">SOD-323</th> </tr> <tr> <th>Di</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr><td>A</td><td>2.30</td><td>2.70</td></tr> <tr><td>B</td><td>1.60</td><td>1.80</td></tr> <tr><td>C</td><td>0.25</td><td>0.40</td></tr> <tr><td>D</td><td>1.15</td><td>1.45</td></tr> <tr><td>E</td><td>0.10</td><td>0.18</td></tr> <tr><td>F</td><td>0.85</td><td>1.05</td></tr> <tr><td>G</td><td>-</td><td>0.10</td></tr> <tr><td>H</td><td>0.20</td><td>0.40</td></tr> </tbody> </table> <p style="text-align: center; font-size: small;">All Dimensions in mm</p>	SOD-323			Di	Min	Max	A	2.30	2.70	B	1.60	1.80	C	0.25	0.40	D	1.15	1.45	E	0.10	0.18	F	0.85	1.05	G	-	0.10	H	0.20	0.40	<div style="text-align: center;">  <p style="margin-top: 10px;">SOD-523</p> </div> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: yellow;"> <th colspan="3">SOD-523</th> </tr> <tr> <th>Di</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr><td>A</td><td>1.60</td><td>1.80</td></tr> <tr><td>B</td><td>0.80</td><td>1.0</td></tr> <tr><td>C</td><td>0.70</td><td>0.85</td></tr> <tr><td>D</td><td colspan="2">0.35 (typ)</td></tr> <tr><td>E</td><td colspan="2">0.30 (typ)</td></tr> <tr><td>F</td><td colspan="2">0.70 (typ)</td></tr> </tbody> </table> <p style="text-align: center; font-size: small;">All Dimensions in mm</p>	SOD-523			Di	Min	Max	A	1.60	1.80	B	0.80	1.0	C	0.70	0.85	D	0.35 (typ)		E	0.30 (typ)		F	0.70 (typ)	
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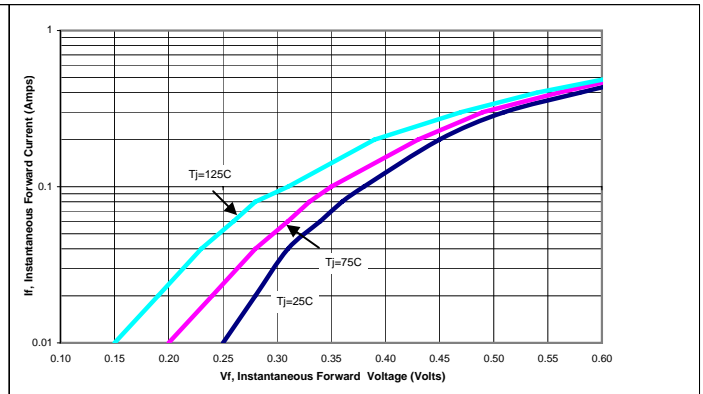
<b>Maximum Ratings and Electrical Characteristics</b> (at 25°C unless otherwise specified)				
	<b>SYMBOL</b>			<b>UNITS</b>
DC Blocking Voltage Working Peak Reverse Voltage Peak Repetitive Reverse Voltage	$V_{RM}$ $V_{RWM}$ $V_{RRM}$	20		Volts
Average Rectified Forward Current (Rated $V_R$ -20Khz Square Wave)-50% duty cycle	$I_o$	0.10		Amps
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	2		Amps
Instantaneous Forward Voltage $I_F = 100mA; T_J = 25^\circ C$ $I_F = 100mA; T_J = 75^\circ C$	$V_F$	Typ --- ---	Max 0.41 0.38	Volts
Maximum Reverse Current at Rated $V_{RM}$ $T_J = 25^\circ C$ $T_J = 75^\circ C$	$I_R^*$	Typ --- ---	Max 20 500	uA uA
Operating and Storage Junction Temperature	$T_J$	-65 to +125		°C

NOTE: Dice are available for customer applications.

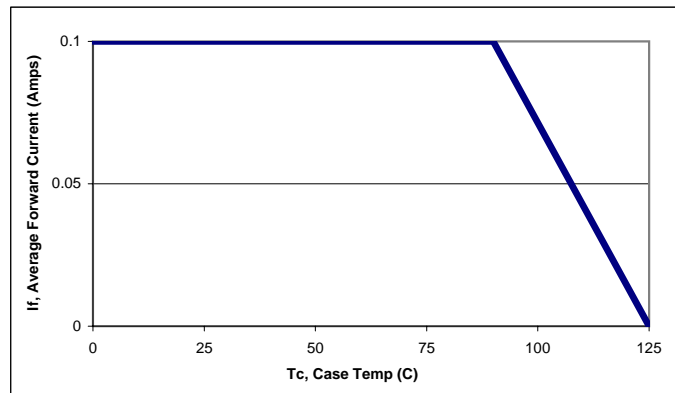
\* Pulse width < 300 uS, Duty cycle < 2%



**Figure 1: Typical Reverse Current**



**Figure 2: Typical Forward Voltage**



**Figure 3: Current Derating, Case**

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