

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

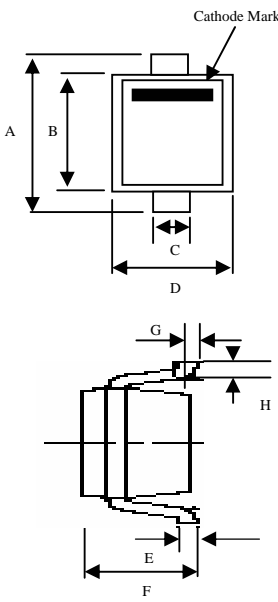
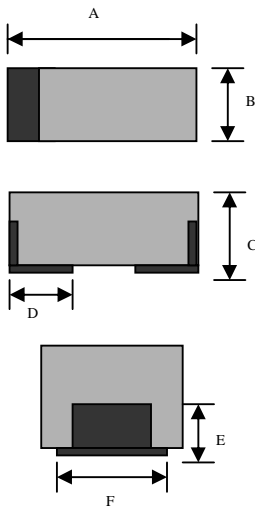
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	0.2	A
V_{RRM}	20	V
$V_F @ 0.2A, T_J = 75^\circ C$	0.43	V, typ
T_J (operating/storage)	-65 to 125	$^\circ C$

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

SBR0220S3	SBR0220S5																																																						
 <p style="text-align: center;">SOD-323</p>	 <p style="text-align: center;">SOD-523</p>																																																						
<table border="1"> <thead> <tr> <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;">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	<table border="1"> <thead> <tr> <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;">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)	
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																																																					
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)																																																						

Maximum Ratings and Electrical Characteristics (at 25°C unless otherwise specified)				
	SYMBOL			UNITS
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	0.2		Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	2		Amps
Instantaneous Forward Voltage $I_F = 200mA; T_J = 25^\circ C$ $I_F = 200mA; T_J = 75^\circ C$	V_F	Typ --- ---	Max 0.49 0.47	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%

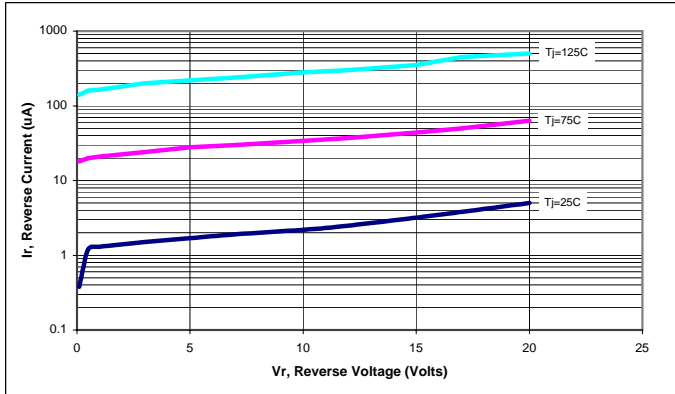


Figure 1: Typical Reverse Current

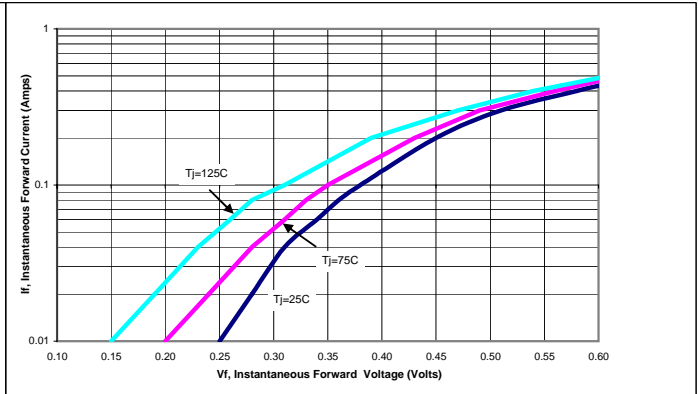


Figure 2: Typical Forward Voltage

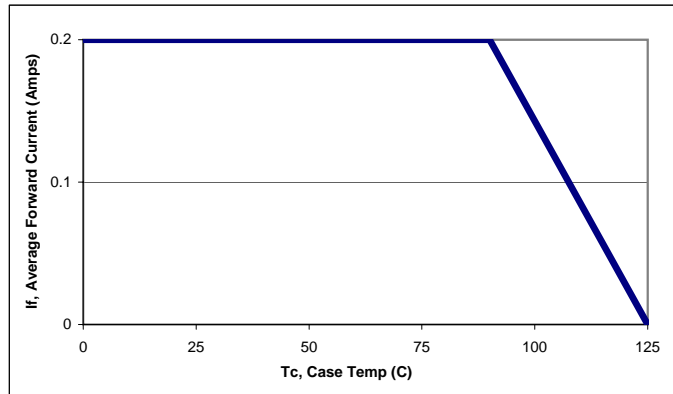


Figure 3: Current Derating, Case

APD SEMICONDUCTOR reserves the right to make changes without further notice to any products herein. APD SEMICONDUCTOR makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does APD SEMICONDUCTOR assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in APD SEMICONDUCTOR data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. APD SEMICONDUCTOR does not convey any license under its patent rights nor the rights of others. APD SEMICONDUCTOR products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the APD SEMICONDUCTOR product could create a situation where personal injury or death may occur. Should Buyer purchase or use APD SEMICONDUCTOR products for any such unintended or unauthorized application, Buyer shall indemnify and hold APD SEMICONDUCTOR and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that APD SEMICONDUCTOR was negligent regarding the design or manufacture of the part.

APD Semiconductor, Inc.

1 Lagoon Drive, Suite 410, Redwood City, CA 94065, USA
 Ph: 650 508 8896 FAX: 650 508 8865
 Homepage: www.apdsemi.com
 email: info@apdsemi.com