

# 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	10	A
$V_{RRM}$	150	V
$V_F @ 5A, T_j = 125^\circ C$	0.60	V, typ
$T_j$ (operating/storage)	-65 to 175	$^\circ C$

**Device optimized for high temperature  
Power Supply applications**





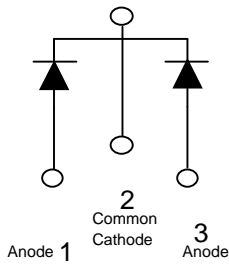
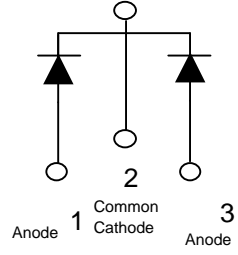
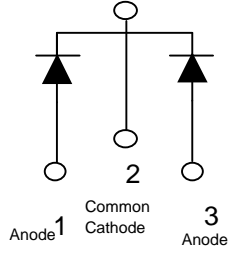
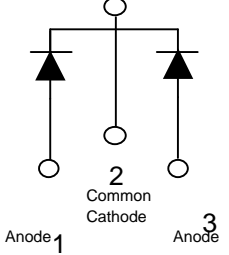
## ELECTRICAL:

- \* Ultra-Low Forward Voltage Drop
- \* Reliable High Temperature Operation
- \* Super Barrier Design
- \* Softest, Fast Switching Capability
- \* 175 $^\circ C$  Operating Junction Temperature

## MECHANICAL:

- \* Molded Plastic TO-220AB, TO-262, TO-263, and ITO-220 packages

www.DataSheet4U.com

Case Styles			
SBR10U150CT	SBR10U150CTF	SBR10U150CTI	SBR10U150CTB
			
			
TO-220AB	ITO-220	TO-262	TO-263

<b>Maximum Ratings and Electrical Characteristics</b> (at 25°C unless otherwise specified)				
	<b>SYMBOL</b>			<b>UNITS</b>
DC Blocking Voltage	$V_{RM}$			Volts
Working Peak Reverse Voltage	$V_{RWM}$	150		
Peak Repetitive Reverse Voltage	$V_{RRM}$			
Average Rectified Forward Current (Rated $V_R$ -20Khz Square Wave) - 50% duty cycle	$I_O$	10		Amps
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	150		Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	$I_{RRM}$	3		Amps
Instantaneous Forward Voltage (per leg) $I_F = 5A; T_J = 25^\circ C$ $I_F = 10A; T_J = 25^\circ C$ $I_F = 5A; T_J = 125^\circ C$	$V_F$	Typ --- ---	Max 0.79 0.88 0.63	Volts
Maximum Instantaneous Reverse Current at Rated $V_{RM}$ $T_J = 25^\circ C$ $T_J = 125^\circ C$	$I_R^*$	Typ --- ---	Max 0.2 25	mA mA
Maximum Rate of Voltage Change (at Rated $V_R$ )	dv/dt	10,000		V/uS
Maximum Thermal Resistance JC (per leg) Package = TO-220AB, TO-262, & TO-263 Package = ITO-220	$R_{\theta_{JC}}$	2 4		°C/W
Operating and Storage Junction Temperature	$T_J$	-65 to +175		°C

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

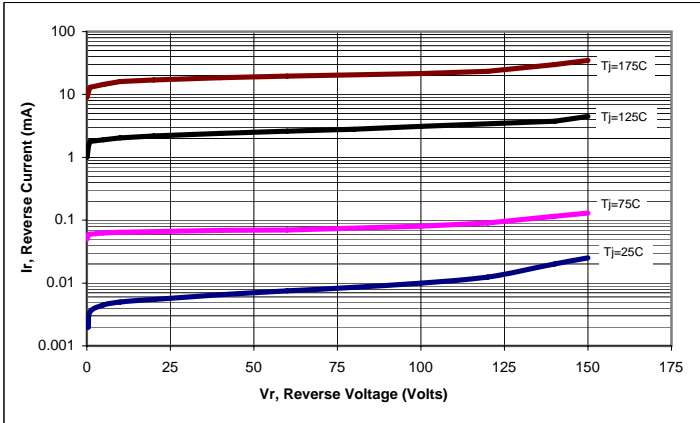


Figure 1: Typical Reverse Current

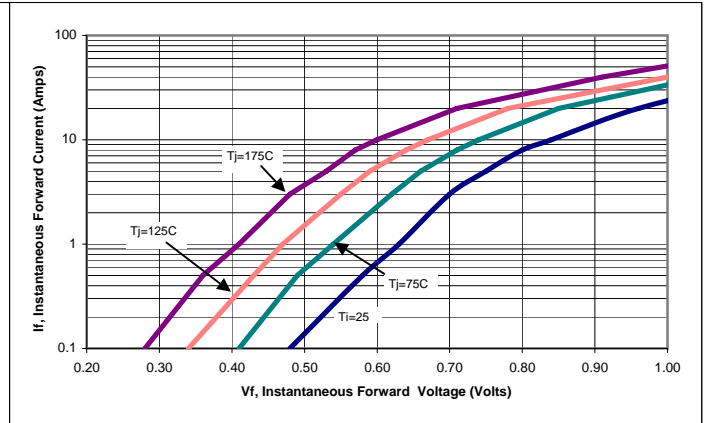


Figure 2: Typical Forward Voltage

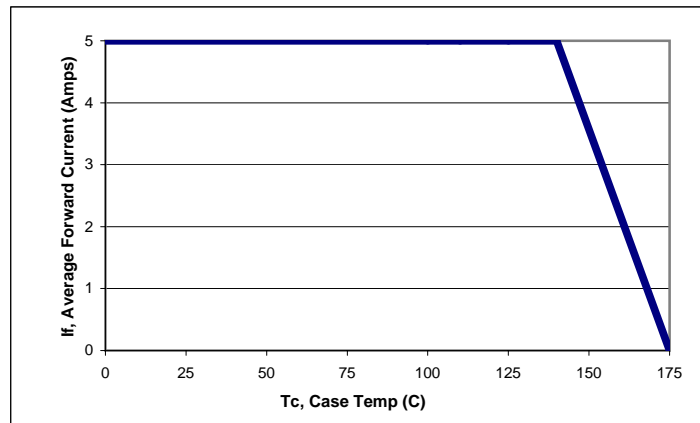


Figure 3: Current Derating, Case

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](http://www.apdsemi.com)  
email: [info@apdsemi.com](mailto:info@apdsemi.com)