APD Semiconductor, Inc.

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

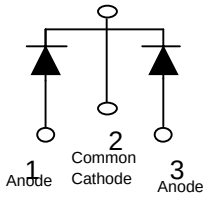
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	30	A
V_{RRM}	45	V
V_F@15A, Tj=125°C	0.48	V, typ
Tj (operating/storage)	-65 to 150	^{O}C

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

MECHANICAL:
* Molded Plastic TO-247 package

ELECTRICAL:
* Low Forward Voltage Drop
* Reliable High Temperature Operation
* Super Barrier Design
* Softest, fast switching capability
* 150°C Operating Junction Temperature





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}	45		Volts
Average Rectified Forward Current (Rated V_R-20Khz Square Wave) - 50% duty cycle	I_O	30		Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	200		Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2		Amps
Instantaneous Forward Voltage (per leg) I_F = 15A; T_J = 25°C I_F = 15A; T_J= 125°C	V_F	Typ --- ---	Max 0.55 0.50	Volts
Maximum Instantaneous Reverse Current at Rated V_{RM} T_J = 25°C T_J = 125°C	I_R *	Typ --- ---	Max 0.5 100	uA mA
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10,000		V/uS
Maximum Thermal Resistance JC (per leg) Package = TO-247	$R\theta_{JC}$	2		^{O}C/W
Operating and Storage Junction Temperature	T_J	-65 to +150		^{O}C

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

www.DataSheet4U.com

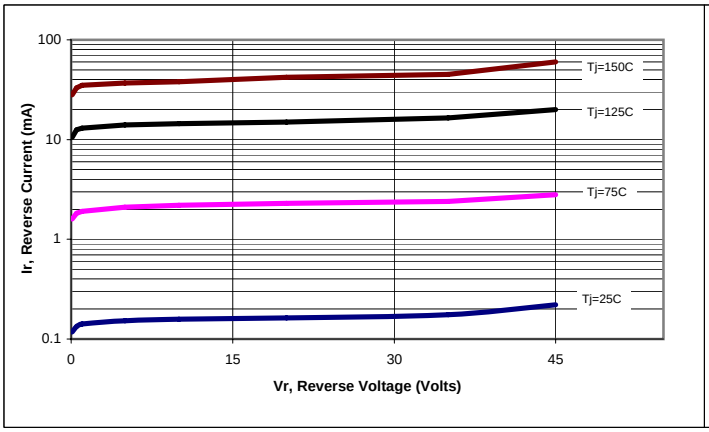


Figure 1: Typical Reverse Current

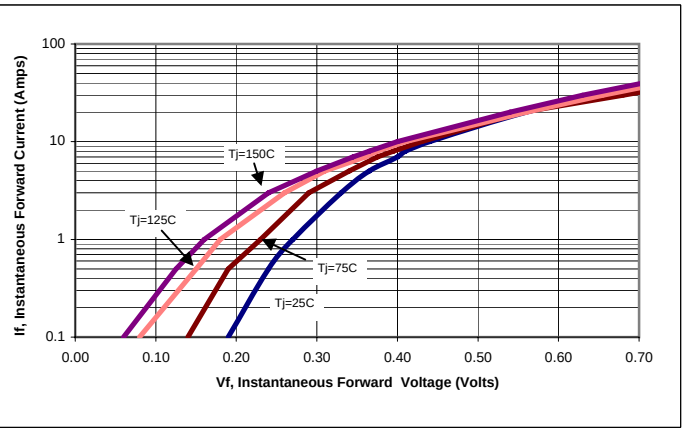


Figure 2: Typical Forward Voltage

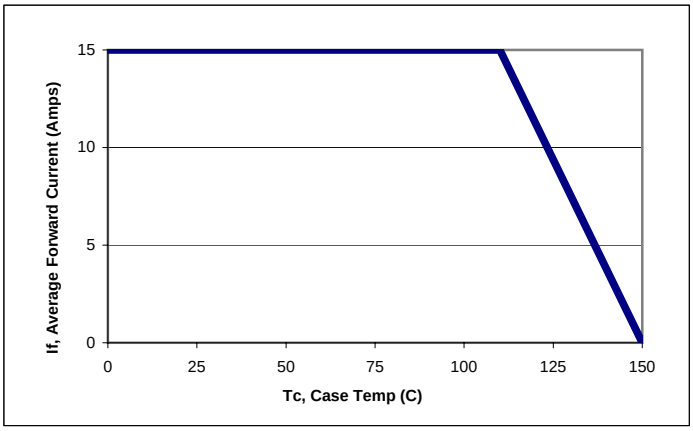


Figure 3: Current Derating, Case

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