

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}	40	V
$V_F @ 5A, T_j = 125^\circ C$	0.35	V, typ
T_j (operating/storage)	-65 to 150	$^\circ C$

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





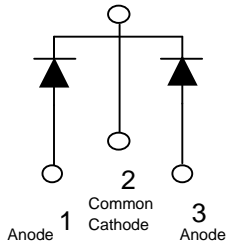
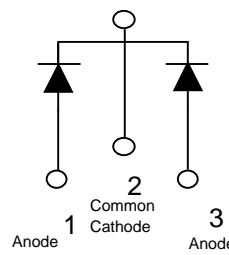
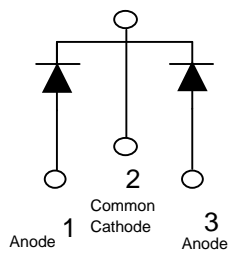
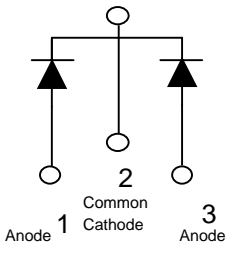
ELECTRICAL:

- * Ultra-Low Forward Voltage Drop
- * Reliable High Temperature Operation
- * Super Barrier Design
- * Softest, fast switching capability
- * 150 $^\circ C$ Operating Junction Temperature

MECHANICAL:

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

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Case Styles			
SBR10U40CT	SBR10U40CTF	SBR10U40CTI	SBR10U40CTB
			
			
TO-220AB	ITO-220	TO-262	TO-263

Maximum Ratings and Electrical Characteristics (at 25°C unless otherwise specified)				
	SYMBOL			UNITS
DC Blocking Voltage	V_{RM}			Volts
Working Peak Reverse Voltage	V_{RWM}	40		
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 0.44 0.52 0.38	Volts
Maximum Instantaneous Reverse Current at Rated V_{RM} $T_J = 25^\circ C$ $T_J = 125^\circ C$	I_R^*	Typ --- ---	Max 0.5 100	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 +150		°C

NOTE: Dice are available for customer applications.

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

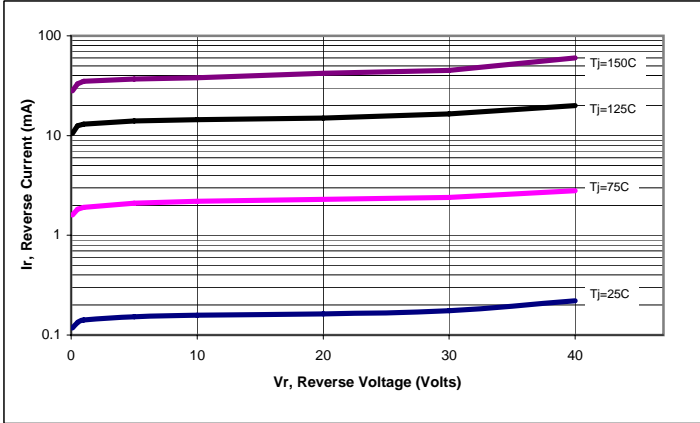


Figure 1: Typical Reverse Current

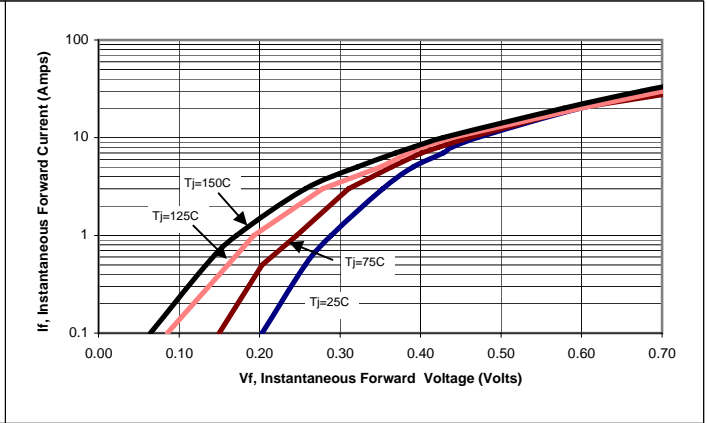


Figure 2: Typical Forward Voltage

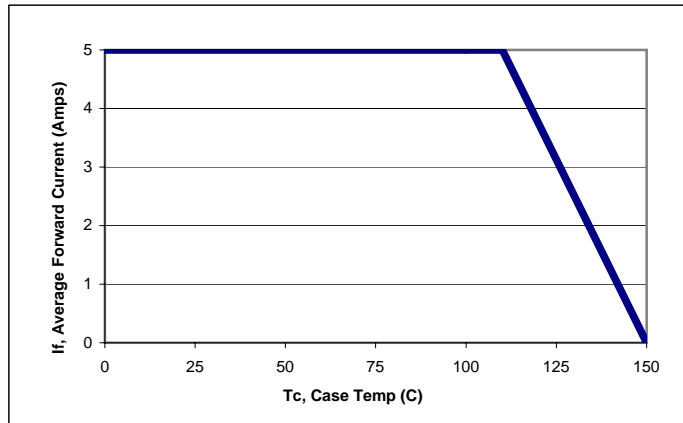


Figure 3: Current Derating, Case

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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