

# 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**





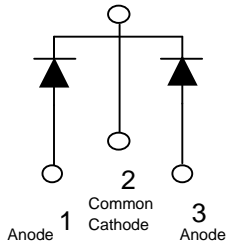
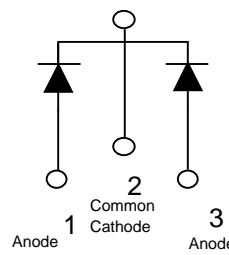
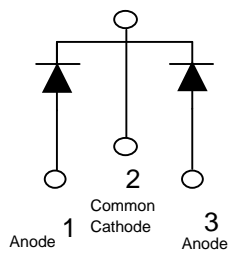
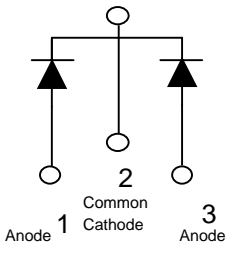
### ELECTRICAL:

- \* 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

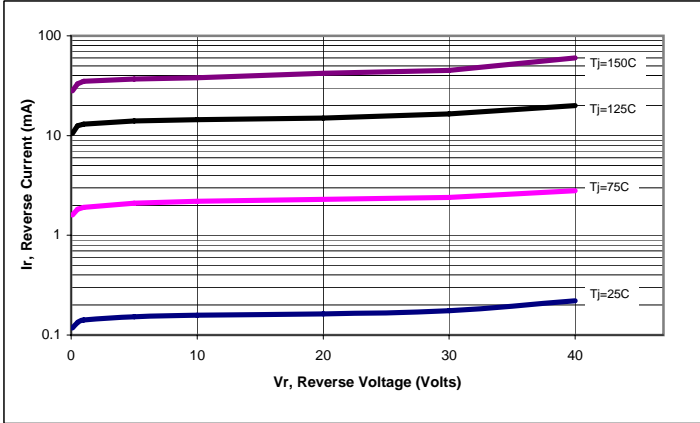
www.DataSheet4U.com

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

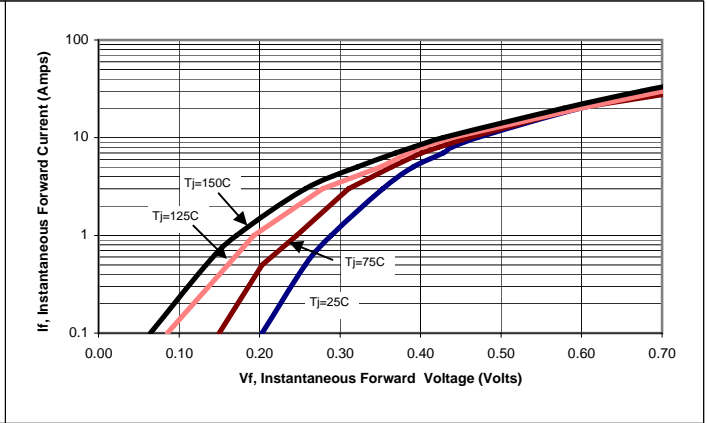
<b>Maximum Ratings and Electrical Characteristics</b> (at 25°C unless otherwise specified)				
	<b>SYMBOL</b>			<b>UNITS</b>
DC Blocking Voltage	$V_{RM}$			Volts
Working Peak Reverse Voltage	$V_{RWM}$	40		
Peak Repetitive Reverse Voltage	$V_{RRM}$			
Average Rectified Forward Current (Rated $V_R$ -20Khz 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.

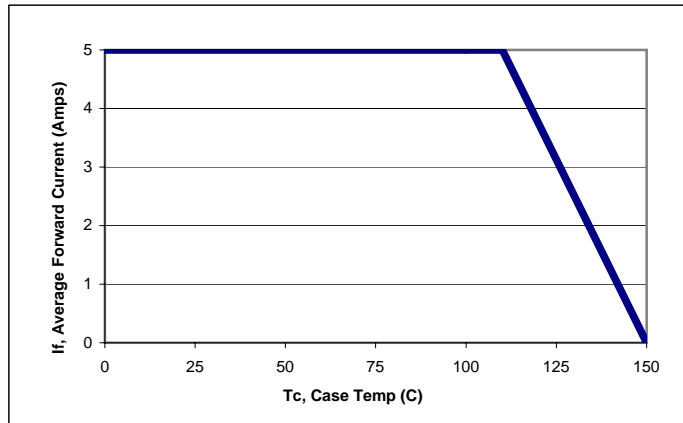
\* Pulse width < 300 uS, Duty cycle < 2%



**Figure 1: Typical Reverse Current**



**Figure 2: Typical Forward Voltage**



**Figure 3: Current Derating, Case**

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