

# 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	20	A
$V_{RRM}$	100	V
$V_F @ 10A, T_j = 125^\circ C$	0.67	V, typ
$T_j$ (operating/storage)	-65 to 175	$^\circ C$





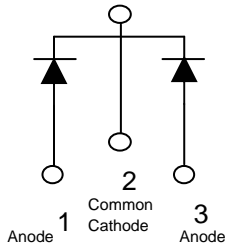
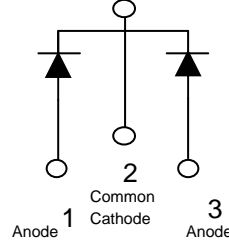
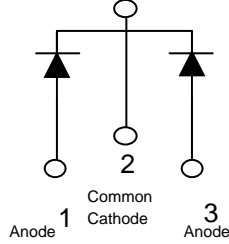
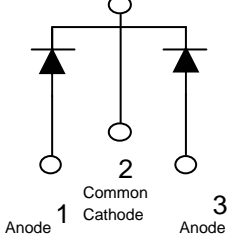
**Device optimized for high temperature  
Power Supply applications**

**ELECTRICAL:**

- \* 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

<b>Case Styles</b>			
<b>SBR20100CT</b>	<b>SBR20100CTF</b>	<b>SBR20100CTI</b>	<b>SBR20100CTB</b>
			
			
<b>TO-220AB</b>	<b>ITO-220</b>	<b>TO-262</b>	<b>TO-263</b>

<b>Maximum Ratings and Electrical Characteristics</b> (at 25°C unless otherwise specified)				
	<b>SYMBOL</b>			<b>UNITS</b>
DC Blocking Voltage Working Peak Reverse Voltage Peak Repetitive Reverse Voltage	$V_{RM}$ $V_{RWM}$ $V_{RRM}$	100		Volts
Average Rectified Forward Current (Rated $V_R$ -20Khz Square Wave) - 50% duty cycle	$I_O$	20		Amps
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	120		Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	$I_{RRM}$	2		Amps
Instantaneous Forward Voltage (per leg) $I_F = 10A; T_J = 25^\circ C$ $I_F = 10A; T_J = 125^\circ C$	$V_F$	Typ --- ---	Max 0.82 0.75	Volts
Maximum Instantaneous Reverse Current at Rated $V_{RM}$ $T_J = 25^\circ C$ $T_J = 125^\circ C$	$I_R^*$	Typ --- ---	Max 100 10	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-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%

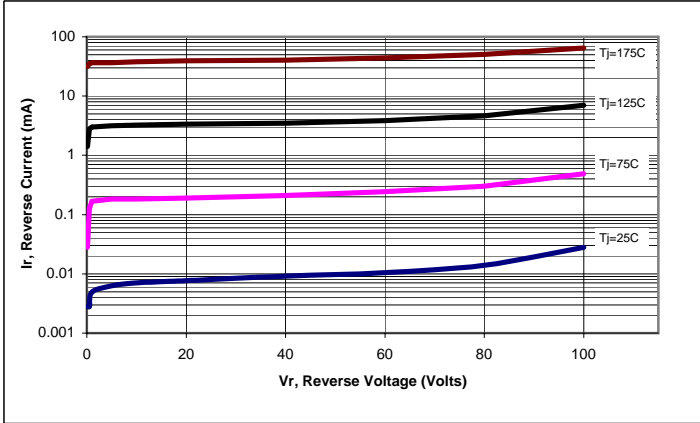


Figure 1: Typical Reverse Current

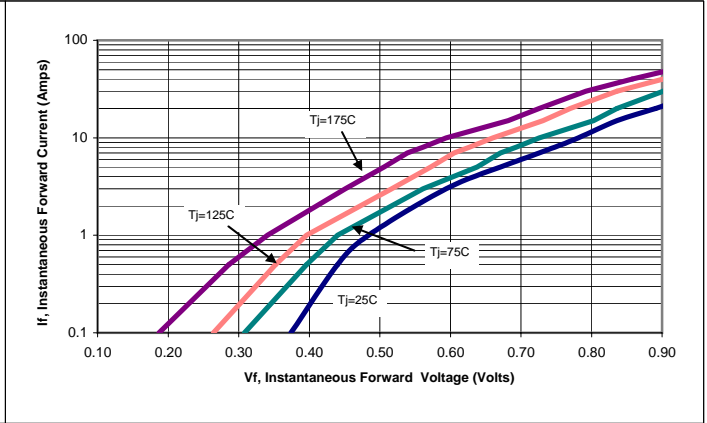


Figure 2: Typical Forward Voltage

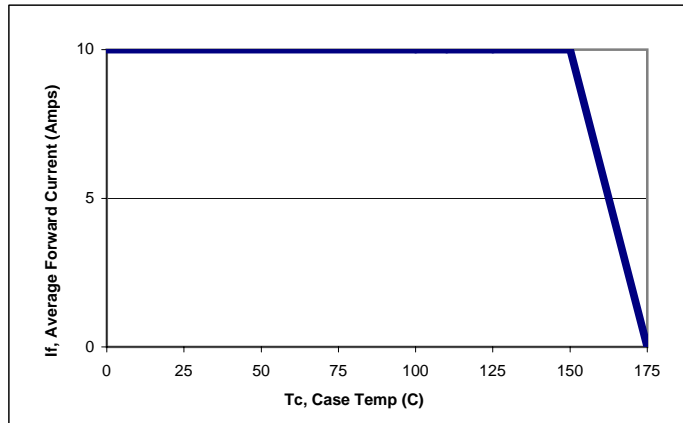


Figure 3: Current Derating, Case

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