



SBR20150CT-prel  
SBR20150CTI-prel  
SBR20150CTB-prel

# 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
$V_{RRM}$	150	V
$I_R$ @ 150V, $T_j=25^\circ\text{C}$	12	nA, typ
$T_j$ (operating/storage)	-65 to 200	°C

## ELECTRICAL:

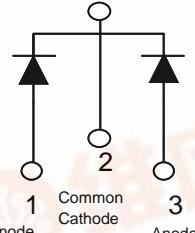
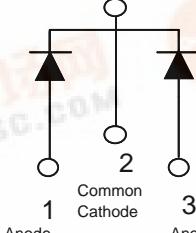
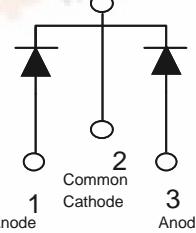
- \* Ultra High Thermal Reliability
- \* Low Reverse Leakage
- \* Reliable High Temperature Operation
- \* Super Barrier Design
- \* Softest, fast switching capability
- \* 200°C Operating Junction Temperature

Device optimized for high temperature  
Power Supply applications

## MECHANICAL:

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

## Case Styles

SBR20150CT	SBR20150CTI	SBR20150CTB
  1 Anode 2 Common Cathode 3 Anode TO-220AB	  1 Anode 2 Common Cathode 3 Anode TO-262	  1 Anode 2 Common Cathode 3 Anode TO-263

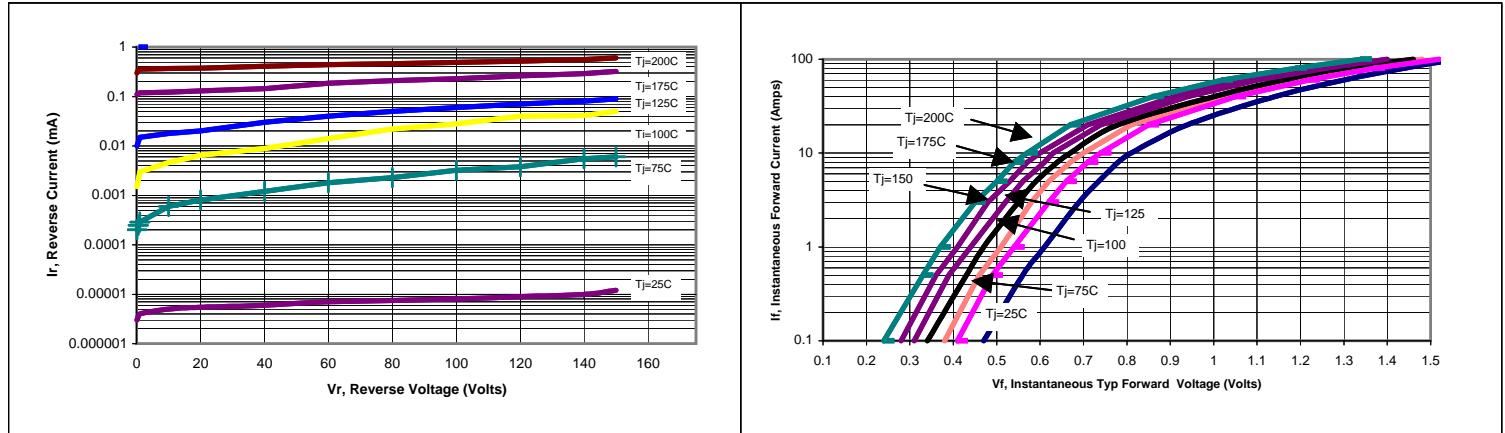
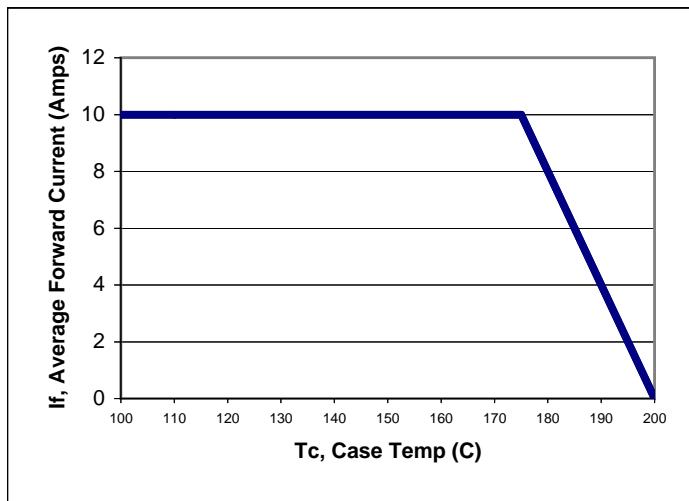
**Maximum Ratings and Electrical Characteristics**

(at 25°C unless otherwise specified)

	<b>SYMBOL</b>			<b>UNITS</b>
DC Blocking Voltage	$V_{RM}$			
Working Peak Reverse Voltage	$V_{RWM}$	150		Volts
Peak Repetitive Reverse Voltage	$V_{RRM}$			
RMS Reverse Voltage	$V_{R(RMS)}$	150		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	$I_{FSM}$	180		Amps
Peak Repetitive Reverse Surge Current (2uS-2Khz)	$I_{RRM}$	3		Amps
Instantaneous Forward Voltage (per leg) $I_F = 10A$ ; $T_J = 25^\circ C$ $I_F = 20A$ ; $T_J = 25^\circ C$ $I_F = 10A$ ; $T_J = 125^\circ C$	$V_F$	Typ 0.82 0.94 0.67	Max 0.86 0.98 0.71	Volts
Maximum Instantaneous Reverse Current at Rated $V_{RM}$ $T_J = 25^\circ C$ $T_J = 125^\circ C$	$I_R^*$	Typ 0.012 0.09	Max 5 1	uA mA
Maximum Rate of Voltage Change (at Rated $V_R$ )	$dv/dt$	10,000		V/uS
Maximum Thermal Resistance JC	$R_{\theta_{JC}}$	2		°C/W
Operating and Storage Junction Temperature	$T_J$	-65 to +200		°C

NOTE: Dice are available for customer applications.

\* Pulse width &lt; 300 uS, Duty cycle &lt; 2%


**Figure 1: Typical Reverse Current**
**Figure 2: Typical Forward Voltage**

**Figure 3: Current Derating, Case**

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