

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
$I_R @ 150V, T_j=25^\circ C$	12	nA, typ
T_j (operating/storage)	-65 to 200	$^\circ C$


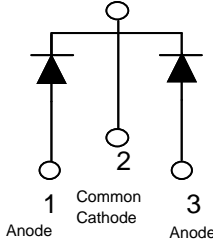
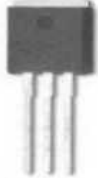
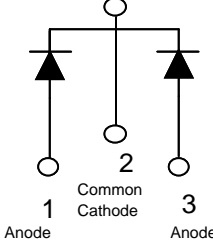

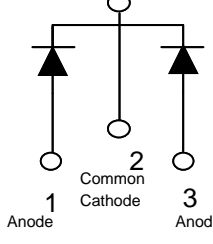
**Device optimized for high temperature
Power Supply applications**

MECHANICAL:

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

ELECTRICAL:

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

Case Styles		
SBR20150CT	SBR20150CTI	SBR20150CTB
  TO-220AB	  TO-262	  TO-263

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}	150		Volts
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 < 300 uS, Duty cycle < 2%

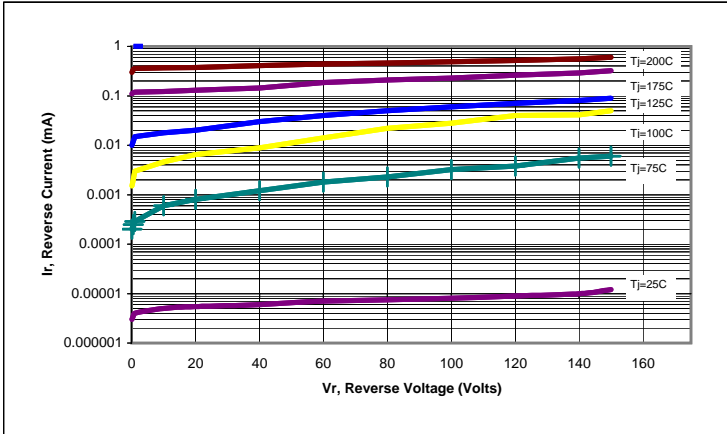


Figure 1: Typical Reverse Current

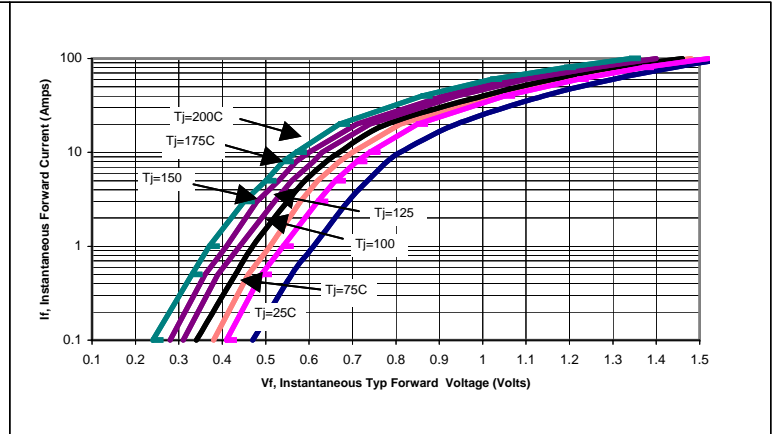


Figure 2: Typical Forward Voltage

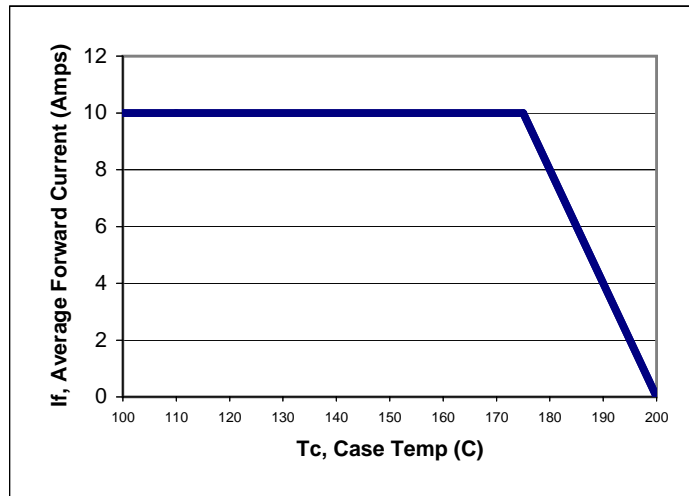


Figure 3: Current Derating, Case

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