

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	40	A
V_{RRM}	100	V
$V_F @ 20A, T_j = 125^\circ C$	0.64	V, typ
T_j (operating/storage)	-65 to 175	$^\circ C$

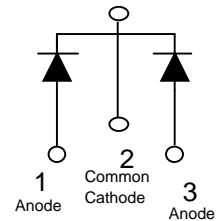
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

MECHANICAL:

* Molded Plastic TO-220 package

ELECTRICAL:

- * Low Forward Voltage Drop
- * Reliable High Temperature Operation
- * Super Barrier Design
- * Softest, fast switching capability
- * $175^\circ C$ Operating Junction Temperature



Maximum Ratings and Electrical Characteristics

(at $25^\circ C$ unless otherwise specified)

	SYMBOL			UNITS
DC Blocking Voltage	V_{RM}	100		Volts
Working Peak Reverse Voltage	V_{RWM}			
Peak Repetitive Reverse Voltage	V_{RRM}			
Average Rectified Forward Current (Rated V_R -20Khz Square Wave) - 50% duty cycle	I_O	40		Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	300		Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	3		Amps
Instantaneous Forward Voltage (per leg) $I_F = 20A; T_j = 25^\circ C$ $I_F = 20A; T_j = 125^\circ C$	V_F	Typ --- ---	Max 0.83 0.72	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 25	mA mA
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10,000		V/uS
Maximum Thermal Resistance JC (per leg)	$R_{\theta_{JC}}$	2		$^\circ C/W$
Operating and Storage Junction Temperature	T_j	-65 to +175		$^\circ C$

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

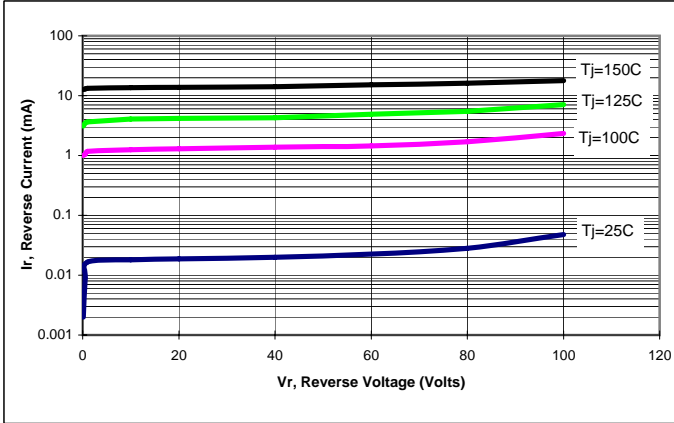


Figure 1: Typical Reverse Current (per leg)

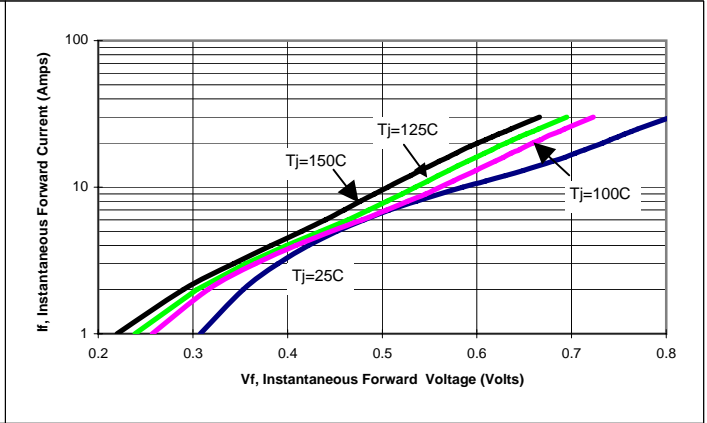


Figure 2: Typical Forward Voltage (per leg)

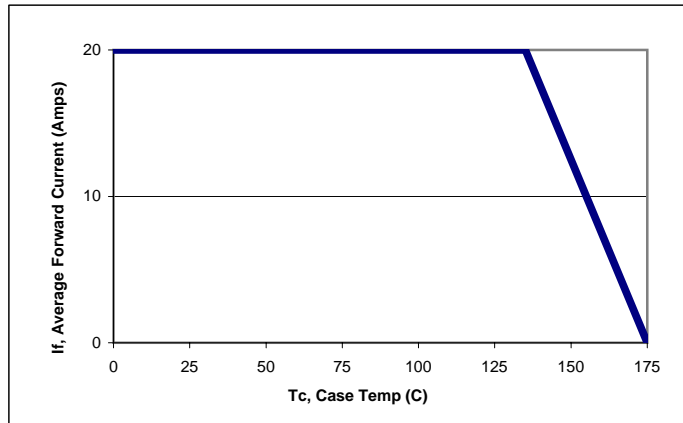


Figure 3: Current Derating, Case (per leg)

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