

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 | 60 | A |
| V_{RRM} | 150 | V |
| $V_F @ 30A, T_J = 125^\circ C$ | 0.73 | V, typ |
| T_J (operating/storage) | -65 to 175 | $^\circ C$ |

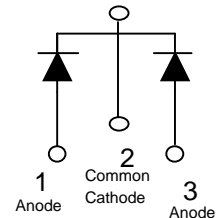
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

MECHANICAL:

* Molded Plastic TO-3P 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} | 150 | | 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 | 60 | | Amps |
| Peak Forward Surge Current - 1/2 60hz | I_{FSM} | 350 | | Amps |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I_{RRM} | 3 | | Amps |
| Instantaneous Forward Voltage (per leg) $I_F = 30A; T_J = 25^\circ C$ $I_F = 30A; T_J = 125^\circ C$ | V_F | Typ --- --- | Max 0.93 0.77 | 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 | μA mA |
| Maximum Rate of Voltage Change (at Rated V_R) | dv/dt | 10,000 | | V/ μS |
| 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%

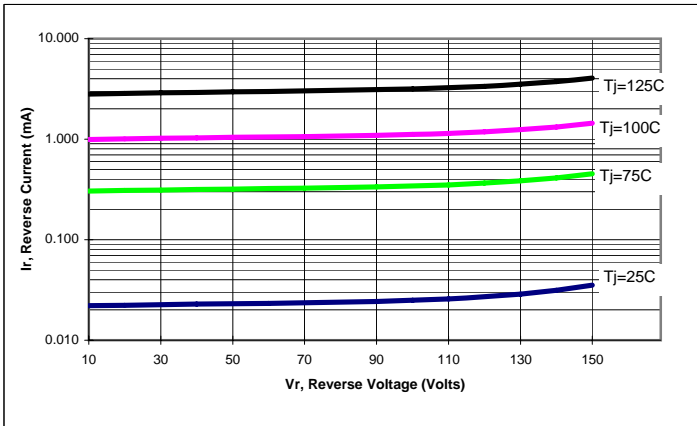


Figure 1: Typical Reverse Current (per leg)

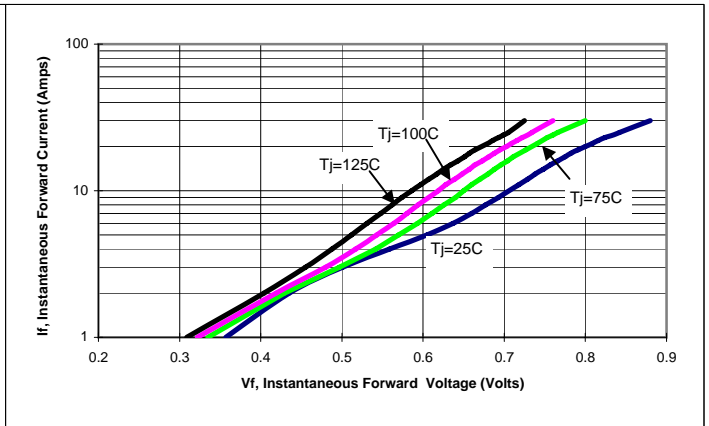


Figure 2: Typical Forward Voltage (per leg)

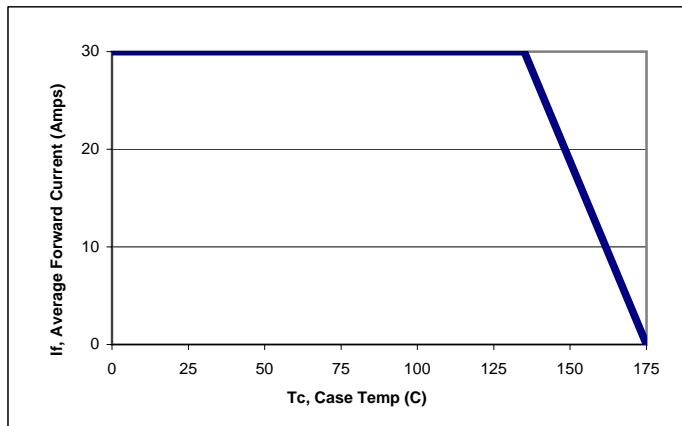


Figure 3: Current Derating, Case (per leg)

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