

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**


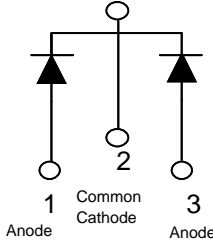
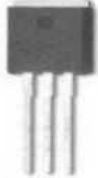
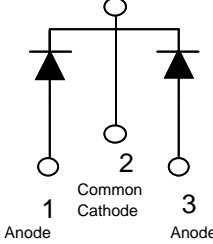

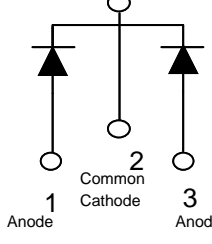
MECHANICAL:

* 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

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| Case Styles | | |
|---|---|---|
| SBR20150CT | SBR20150CTI | SBR20150CTB |
|   <p>TO-220AB</p> |   <p>TO-262</p> |   <p>TO-263</p> |

| 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%

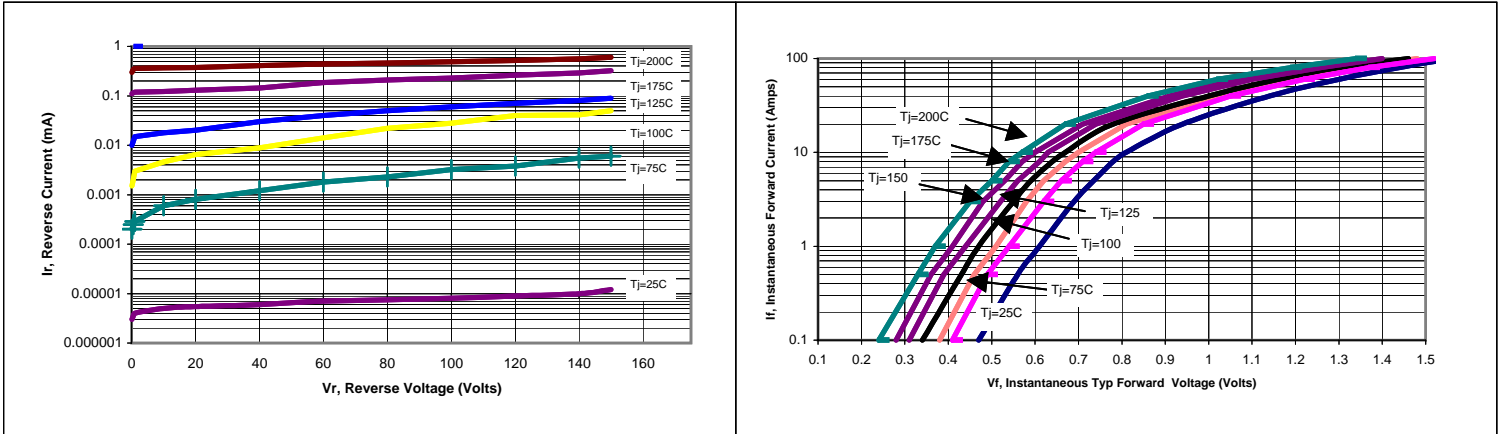


Figure 1: Typical Reverse Current

Figure 2: Typical Forward Voltage

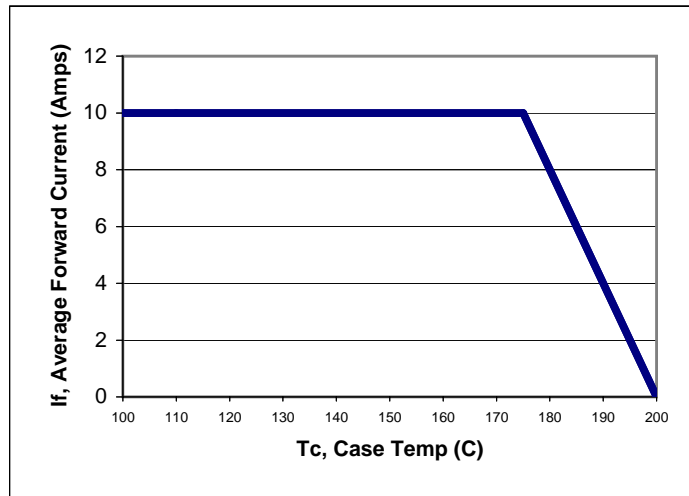


Figure 3: Current Derating, Case

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