

SBR30A50CT
SBR30A50CTF
SBR30A50CTI
SBR30A50CTB

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 | 30 | A |
| V_{RRM} | 50 | V |
| $V_F @ 15A, T_j=125^\circ C$ | 0.44 | V, typ |
| T_j (operating/storage) | -65 to 150 | $^\circ C$ |





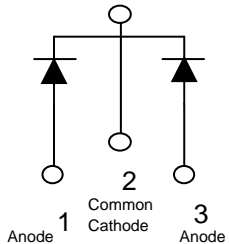
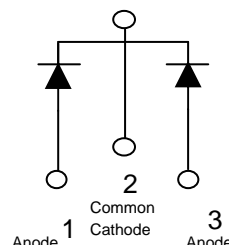
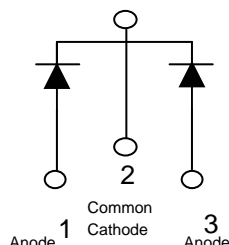
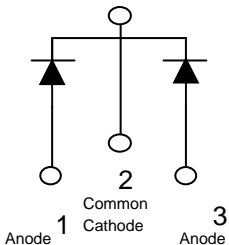
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

ELECTRICAL:

- * Low Forward Voltage Drop
- * Reliable High Temperature Operation
- * Super Barrier Design
- * Softest, fast switching capability
- * 150 $^\circ C$ Operating Junction Temperature

MECHANICAL:

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

| Case Styles | | | |
|---|---|--|---|
| SBR30A50CT | SBR30A50CTF | SBR30A50CTI | SBR30A50CTB |
|  |  |  |  |
|  |  |  |  |
| TO-220AB | ITO-220 | 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} | 50 | | Volts |
| Average Rectified Forward Current (Rated V_R -20Khz Square Wave) - 50% duty cycle | I_O | 30 | | Amps |
| Peak Forward Surge Current - 1/2 60hz | I_{FSM} | 250 | | Amps |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I_{RRM} | 3 | | Amps |
| Instantaneous Forward Voltage (per leg) $I_F = 15A; T_J = 25^\circ C$ $I_F = 30A; T_J = 25^\circ C$ $I_F = 15A; T_J = 125^\circ C$ | V_F | Typ --- --- --- | Max 0.55 0.69 0.47 | Volts |
| Maximum Instantaneous Reverse Current at Rated V_{RM} $T_J = 25^\circ C$ $T_J = 125^\circ C$ | I_R^* | Typ --- --- | Max 0.5 100 | mA mA |
| Maximum Rate of Voltage Change (at Rated V_R) | dv/dt | 10,000 | | V/uS |
| Maximum Thermal Resistance JC (per leg) Package = TO-220AB, TO-262, & TO-263 Package = ITO-220 | $R_{\theta_{JC}}$ | 2 4 | | °C/W |
| Operating and Storage Junction Temperature | T_J | -65 to +150 | | °C |

NOTE: Dice are available for customer applications.

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

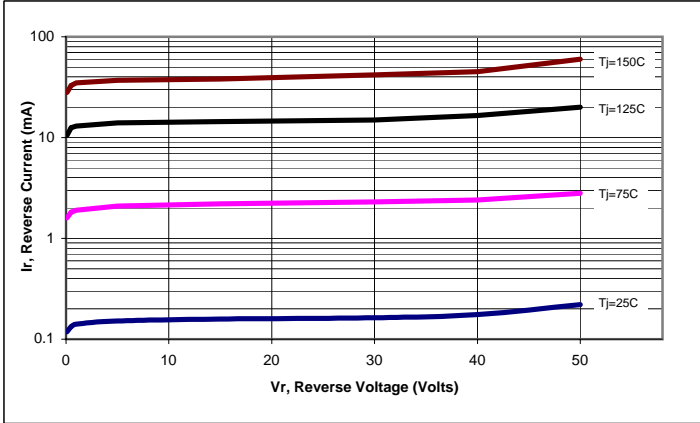


Figure 1: Typical Reverse Current

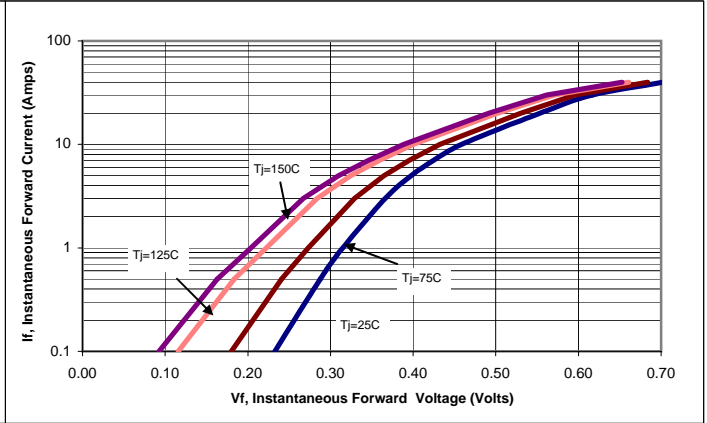


Figure 2: Typical Forward Voltage

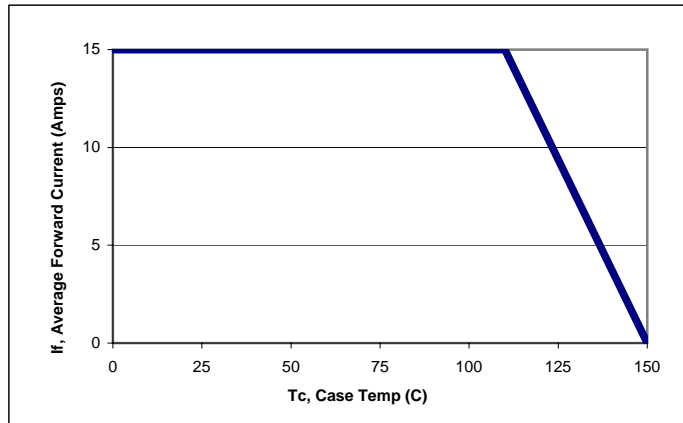


Figure 3: Current Derating, Case

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