



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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20A SBR®
 Super Barrier Rectifier

Features

Mechanical Data

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- 200°C Operating Junction Temperature
- Super Barrier Design
- Soft, Fast Switching Capability
- Molded Plastic TO-220AB, and ITO-220AB Packages
- **Lead Free Finish, RoHS Compliant (Note 2)**
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 (e3)
- Marking: See Page 3
- Ordering Information: See Page 3

 Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 150 | V |
| Working Peak Reverse Voltage | V_{RWM} | | |
| DC Blocking Voltage | V_{RM} | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 106 | V |
| Average Rectified Output Current @ $T_c = 175^\circ\text{C}$ | I_o | 20 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I_{FSM} | 180 | A |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I_{RRM} | 3 | A |
| Maximum Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB | $R_{\Theta JC}$ | 2 4 | °C/W |
| Operating and Storage Temperature Range | T_J, T_{STG} | -65 to +200 | °C |

 Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|-------------|-----|------|----------------------|---------------------|---|
| Reverse Breakdown Voltage (Note 1) | $V_{(BR)R}$ | 150 | - | - | V | $I_R = 12 \mu\text{A}$ |
| Forward Voltage Drop | V_F | - | 0.69 | 0.88 0.73 1.00 | V | $I_F = 10\text{A}, T_J = 25^\circ\text{C}$ $I_F = 10\text{A}, T_J = 125^\circ\text{C}$ $I_F = 20\text{A}, T_J = 25^\circ\text{C}$ |
| Leakage Current (Note 1) | I_R | - | - | 12 3 | μA mA | $V_R = 150\text{V}, T_J = 25^\circ\text{C}$ $V_R = 150\text{V}, T_J = 125^\circ\text{C}$ |

Notes:

1. Short duration pulse test used to minimize self-heating effect.
2. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.

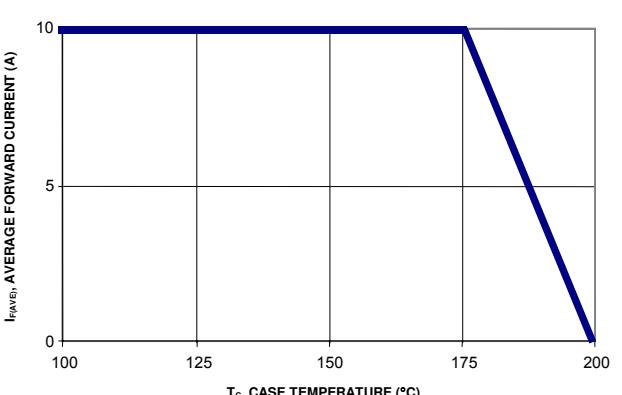


Figure 1: Current Derating Curve, Per Element

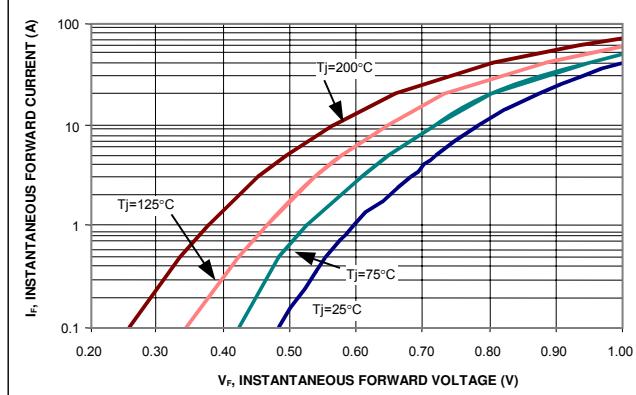


Figure 2: Typical Forward Characteristics, Per Element

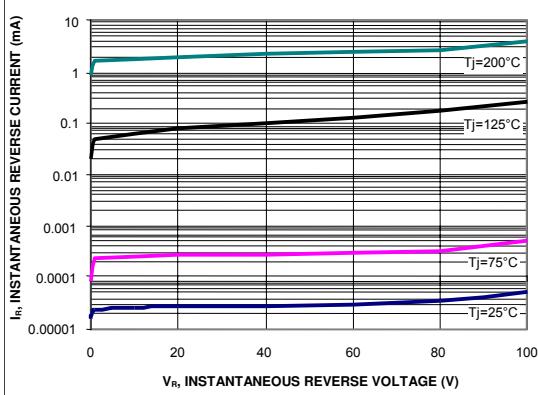
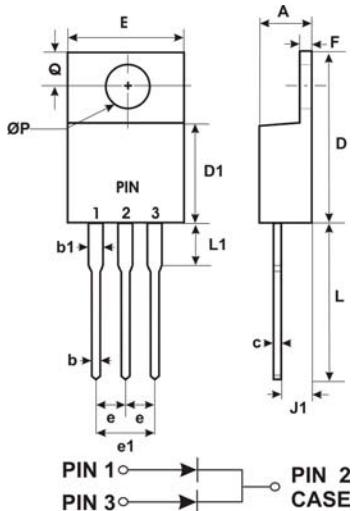


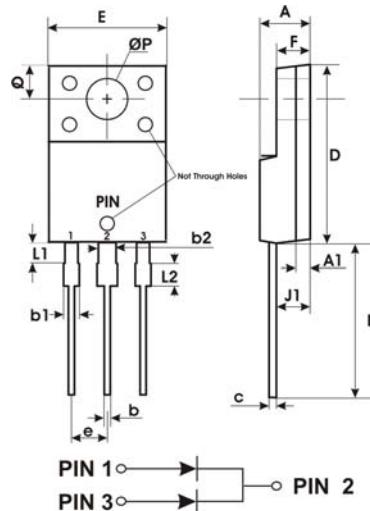
Figure 3: Typical Reverse Characteristics, Per Element

Package Outline Drawings

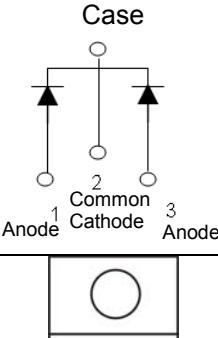
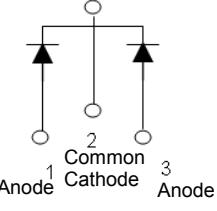
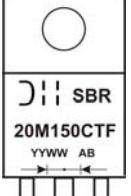
TO-220AB



ITO-220AB



Marking, Polarity, Weight & Ordering Information

| | SBR20M150CT | SBR20M150CTF |
|------------|---|--|
| Case Style |  TO-220AB |  ITO-220AB |
| Polarity | <p>Case</p>  1 Anode 2 Common 3 Cathode Anode |  1 Anode 2 Common 3 Cathode Anode |
| Marking |  |  |
| Weight | 2.1g | 1.9g |

| | | |
|---------------------------|---|--------------------------------|
| Ordering Information | SBR20M150CT 50 pieces/tube | SBR20M150CTF 50 pieces/tube |
| Date Code | YY = Last two digits of year, ex = 06 = 2006 WW = Week (01-52) | |
| Other Marking Information | A = Foundry Code B = Assembly Code | |

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