

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}		
Working Peak Reverse Voltage	V_{RWM}	100	V
DC Blocking Voltage	V_{RM}		
RMS Reverse Voltage	$V_{R(RMS)}$	71	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)	$V_{(BR)R}$	100	-	-	V	$I_R = 12 \mu\text{A}$
Forward Voltage Drop	V_F	-	0.65	0.82 0.69 0.92	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	$V_R = 100\text{V}, T_J = 25^\circ\text{C}$ $V_R = 100\text{V}, T_J = 125^\circ\text{C}$

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*.

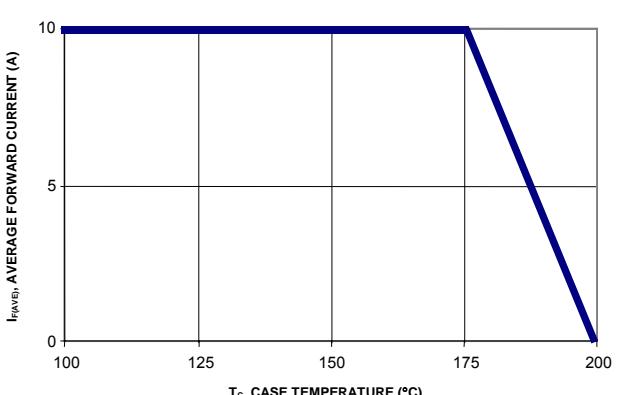


Figure 1: Current Derating Curve, Per Element

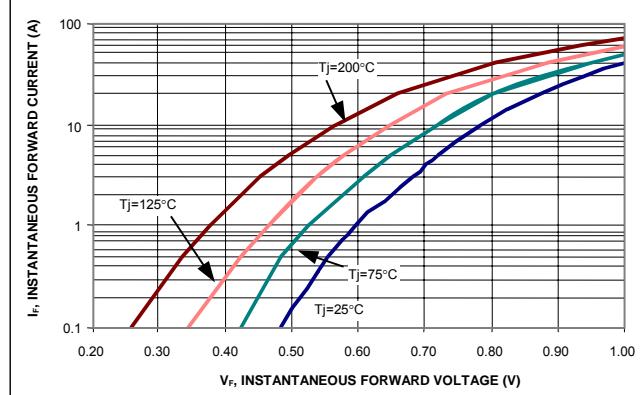


Figure 2: Typical Forward Characteristics, Per Element

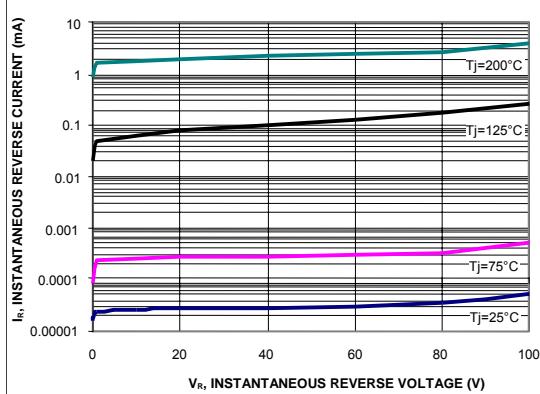
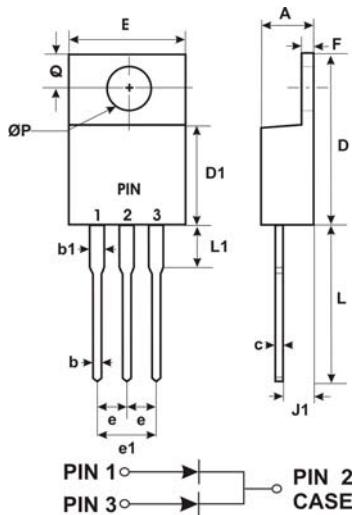


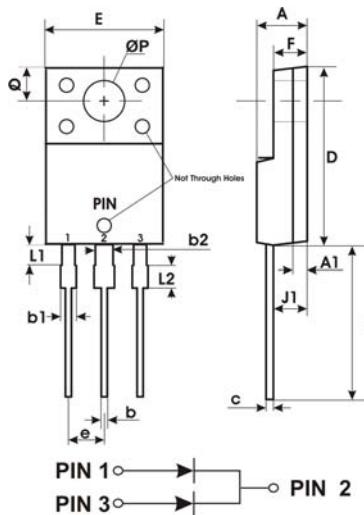
Figure 3: Typical Reverse Characteristics, Per Element

Package Outline Drawings

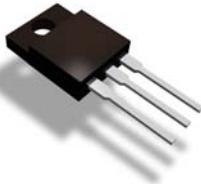
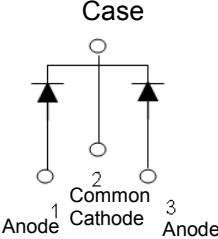
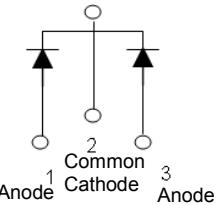
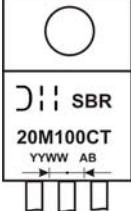
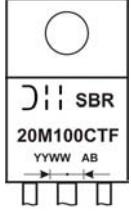
TO-220AB



ITO-220AB



Marking, Polarity, Weight & Ordering Information

	SBR20M100CT	SBR20M100CTF
Case Style	 TO-220AB	 ITO-220AB
Polarity	<p>Case</p>  Anode 1 Common 2 Cathode 3 Anode 3	 Anode 1 Common 2 Cathode 3 Anode 3
Marking		
Weight	2.1g	1.9g

Ordering Information	SBR20M100CT 50 pieces/tube	SBR20M100CTF 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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