

## Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Also Available in Green Molding Compound (Note 3)**
  - **Halogen and Antimony Free. "Green" Device (Note 4)**

## Mechanical Data

- Case: TO-220AB, ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 <sup>(3)</sup>
- Weight: TO-220AB – 1.85 grams (approximate)  
ITO-220AB – 1.65 grams (approximate)



TO-220AB  
Top View



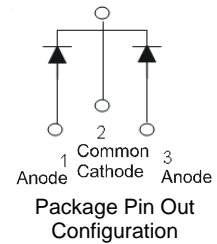
TO-220AB  
Bottom View



ITO-220AB  
Top View



ITO-220AB  
Bottom View

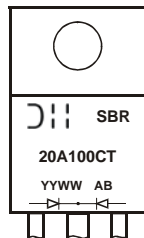


## Ordering Information (Notes 3 & 4)

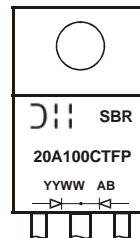
Part Number	Case	Packaging
SBR20A100CT	TO-220AB	50 pieces/tube
SBR20A100CTFP	ITO-220AB	50 pieces/tube
SBR20A100CT-G	TO-220AB	50 pieces/tube
SBR20A100CTFP-G	ITO-220AB	50 pieces/tube
SBR20A100CTFP-JT-G	ITO-220AB (Alternate)	50 pieces/tube

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See <http://www.diodes.com> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR20A100CT-G.
  4. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Marking Information



SBR20A100CT = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 06 = 2006)  
 WW = Week (01 - 53)



SBR20A100CTFP = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 06 = 2006)  
 WW = Week (01 - 53)

### Maximum Ratings (Per Leg) @T<sub>A</sub> = 25°C unless otherwise specified

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>		
Working Peak Reverse Voltage	V <sub>RWM</sub>	100	V
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current per Device (Per Leg)	I <sub>O</sub>	10	A
(Total)		20	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	250	A
Peak Repetitive Reverse Surge Current (2uS-1KHz)	I <sub>RRM</sub>	3	A
Isolation Voltage (ITO-220AB Only) From Terminal to Heatsink t = 3 sec	V <sub>AC</sub>	2000	V

### Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Package = TO-220AB	R <sub>θJC</sub>	2	°C/W
Package = ITO-220AB		4	
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

### Electrical Characteristics (Per Leg) @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	-	-	0.75	V	I <sub>F</sub> = 10A, T <sub>J</sub> = 25°C
			0.60	0.64		I <sub>F</sub> = 10A, T <sub>J</sub> = 125°C
			-	0.85		I <sub>F</sub> = 20A, T <sub>J</sub> = 25°C
Leakage Current (Note 5)	I <sub>R</sub>	-	-	0.1	mA	V <sub>R</sub> = 100V, T <sub>J</sub> = 25°C
				10		V <sub>R</sub> = 100V, T <sub>J</sub> = 125°C

Notes: 5. Short duration pulse test used to minimize self-heating effect.

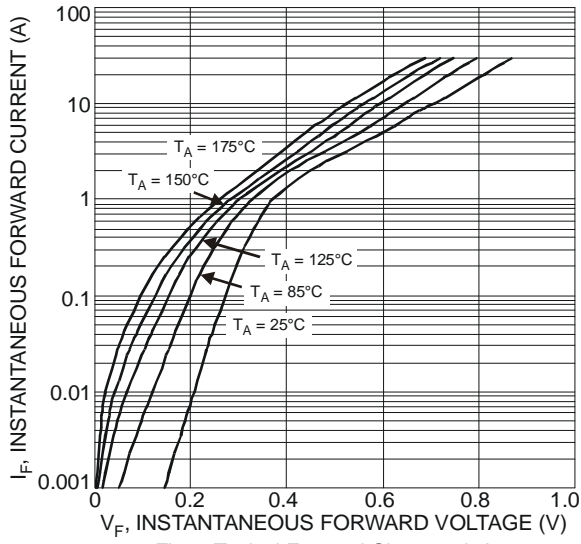


Fig. 1 Typical Forward Characteristics

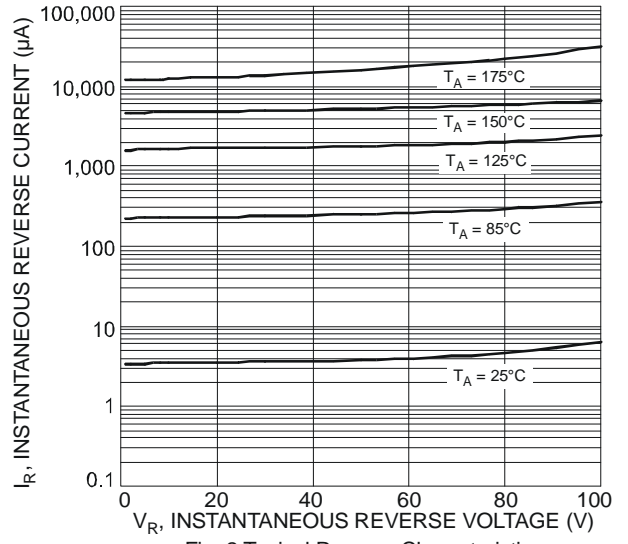


Fig. 2 Typical Reverse Characteristics

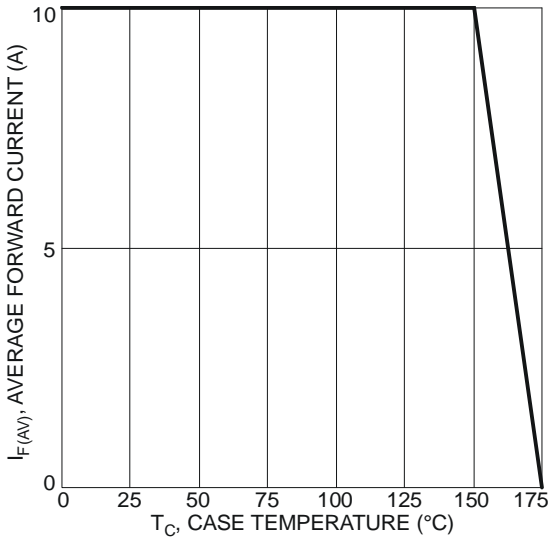


Fig. 3 Forward Current Derating Curve, Per Element

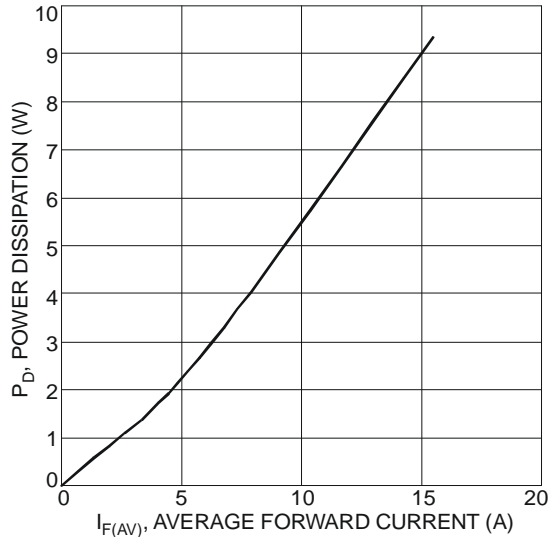
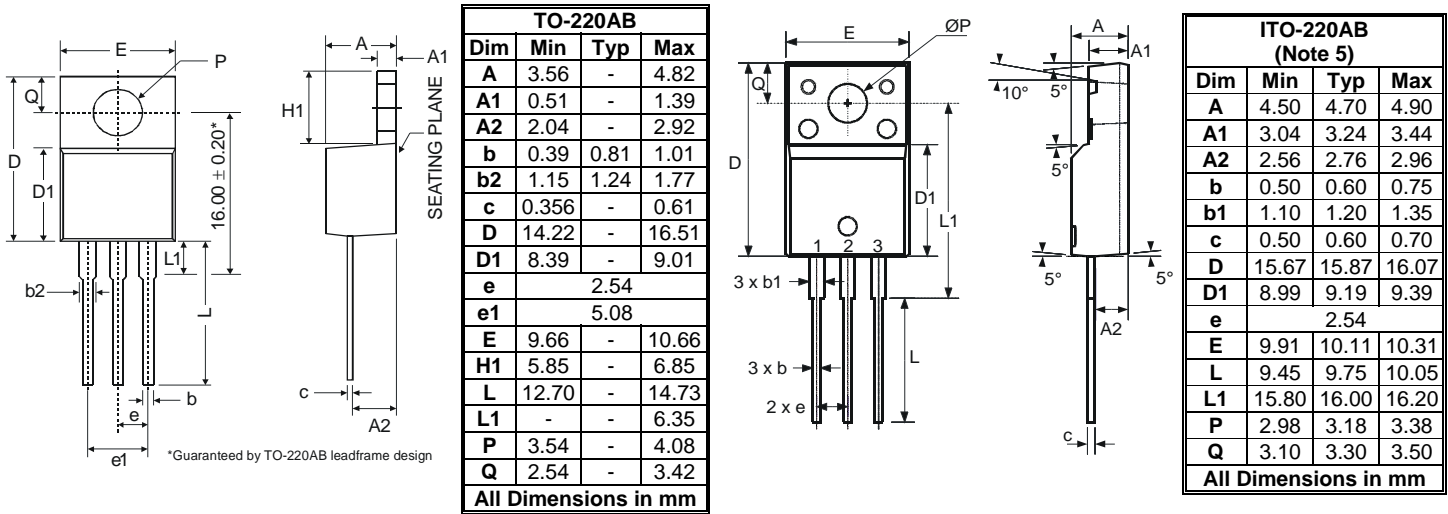


Fig. 4 Forward Power Dissipation

## Package Outline Dimensions



Notes: 6. For product manufactured with Date Code 0733 (week 33, 2007) and newer, please refer to ITO-220AB dimensions. For product manufactured prior to Date Code 0733, please refer to ITO-220AB ALTERNATE dimensions.

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