

**NEW PRODUCT**

### Features

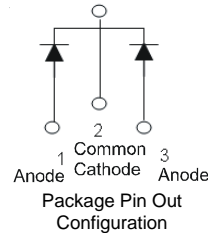
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead Free Finish, RoHS Compliant (Note 2)**
- **Also Available in Green Molding Compound (Note 4)**

### Mechanical Data

- Case: 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>
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 1.65 grams (approximate)

ITO-220AB  
Top View

ITO-220AB  
Bottom View



### 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>	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current Per Device (Per Leg) (Total)	I <sub>O</sub>	15 30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	250	A
Isolation Voltage From terminal to heatsink t = 3 sec.	V <sub>AC</sub>	2000	V

### Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R <sub>θJC</sub>	4	°C/W
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>	-	-	0.65	V	I <sub>F</sub> = 15A, T <sub>J</sub> = 25°C
		-	0.54	0.59		I <sub>F</sub> = 15A, T <sub>J</sub> = 125°C
Leakage Current (Note 1)	I <sub>R</sub>	-	8	75	μA mA	V <sub>R</sub> = 40V, T <sub>J</sub> = 25°C
		-	3	20		V <sub>R</sub> = 40V, T <sub>J</sub> = 125°C

Notes: 1. Short duration pulse test used to minimize self-heating effect.  
2. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.  
3. Test with additional heatsink, (Black Aluminum, 37mm x 50mm x 15mm)

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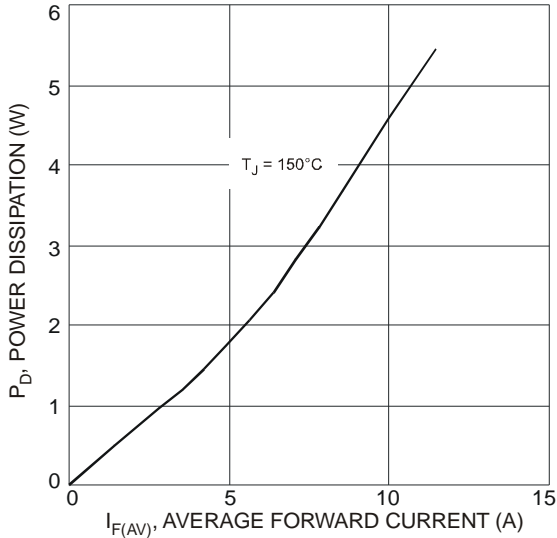


Fig. 1 Forward Power Dissipation

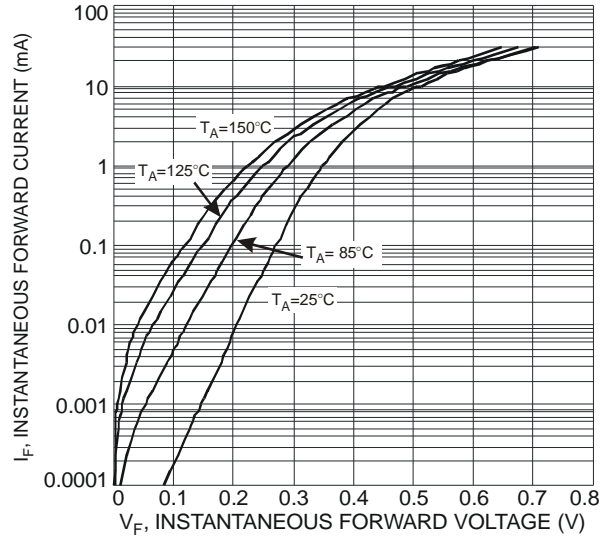


Fig. 2 Typical Forward Characteristics

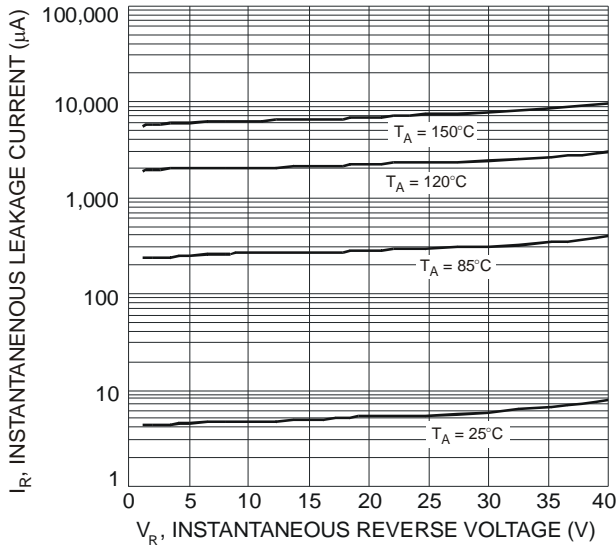


Fig. 3 Typical Reverse Characteristics

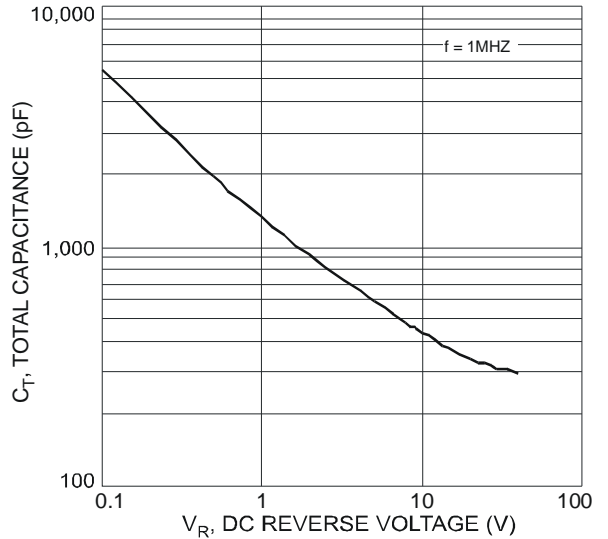


Fig. 4 Total Capacitance vs. Reverse Voltage

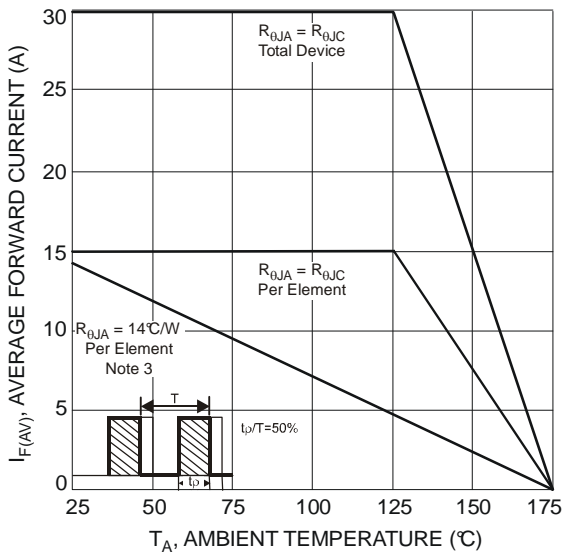


Fig. 5 Forward Current Derating Curve

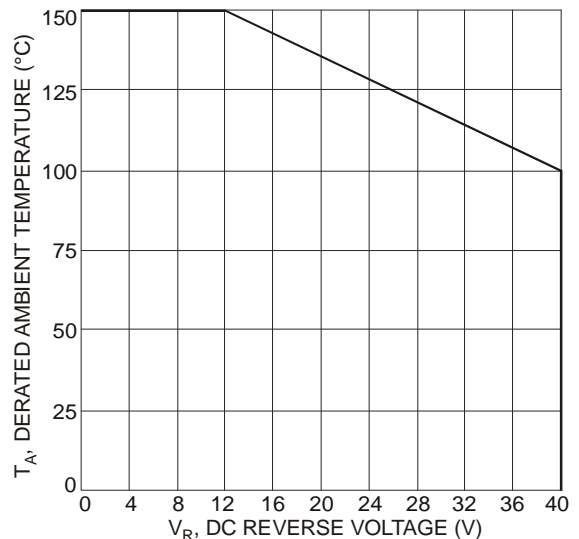


Fig. 6 Operating Temperature Derating

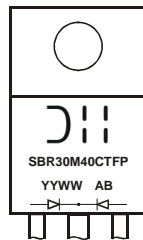
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**Ordering Information** (Notes 4 & 5)

Part Number	Case	Packaging
SBR30M40CTFP	ITO-220AB	50 pieces/tube
SBR30M40CTFP-G	ITO-220AB	50 pieces/tube

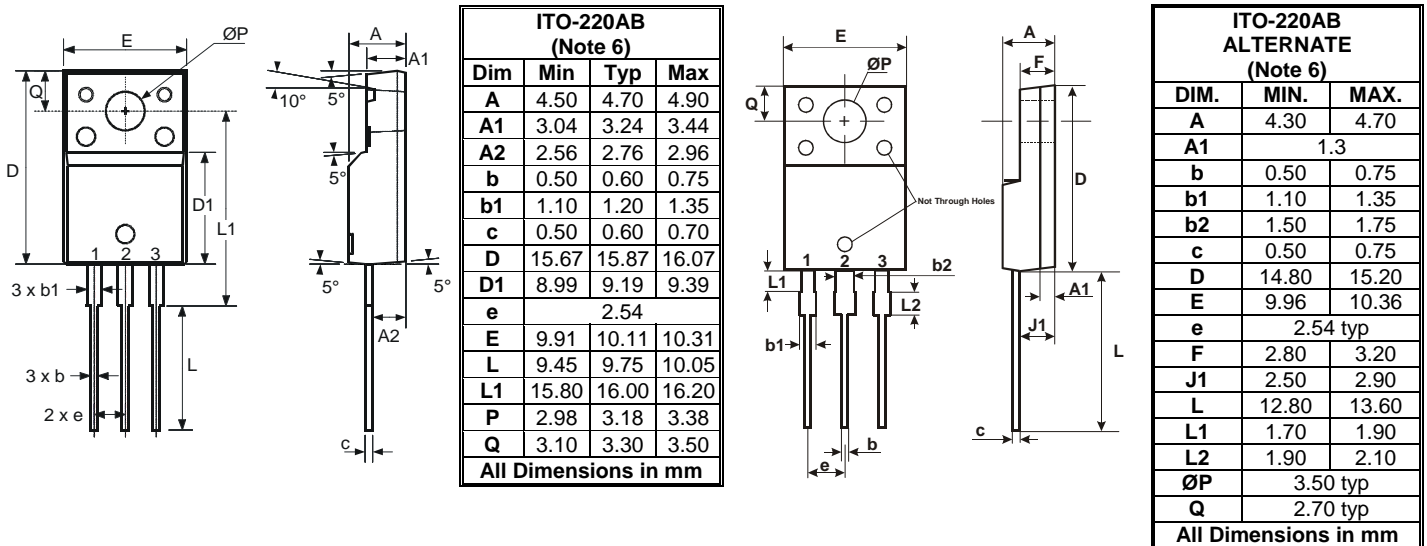
Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
 5. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR30M40CTFP-G.

**Marking Information**



SBR30M40CTFP = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 09 = 2009)  
 WW = Week (01 - 53)

**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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