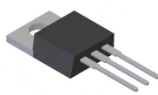


## Features

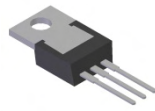
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Also Available in Green Molding Compound (Note 2)**

## Mechanical Data

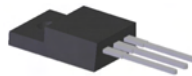
- Case: TO-220AB, ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 <sup>(3)</sup>
- Weight: TO-220AB – 1.85 grams (approximate)  
ITO-220AB – 1.65 grams (approximate)



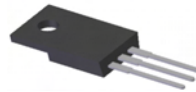
TO-220AB  
Top View



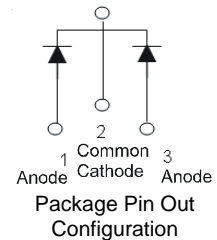
TO-220AB  
Bottom View



ITO-220AB  
Top View



ITO-220AB  
Bottom View



## Ordering Information (Notes 2 & 3)

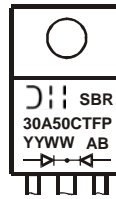
Part Number	Case	Packaging
SBR30A50CT	TO-220AB	50 pieces/tube
SBR30A50CT-G	TO-220AB	50 pieces/tube
SBR30A50CTFP	ITO-220AB	50 pieces/tube
SBR30A50CTFP-G	ITO-220AB	50 pieces/tube
SBR30A50CTFP-JT	ITO-220AB (Alternate)	50 pieces/tube

- Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes  
 2. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR30A50CT-G.  
 3. For packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



SBR30A50CT = Product Type Marking Code  
 Ⓛ = Manufacturers' Code Marking  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 06 = 2006)  
 WW = Week (01 - 53)



SBR30A50CTFP = Product Type Marking Code  
 Ⓛ = Manufacturers' Code Marking  
 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>	50	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>	260	A
Isolation Voltage (ITO-220AB Only) From terminal to heatsink t = 3 sec.	V <sub>AC</sub>	2000	V

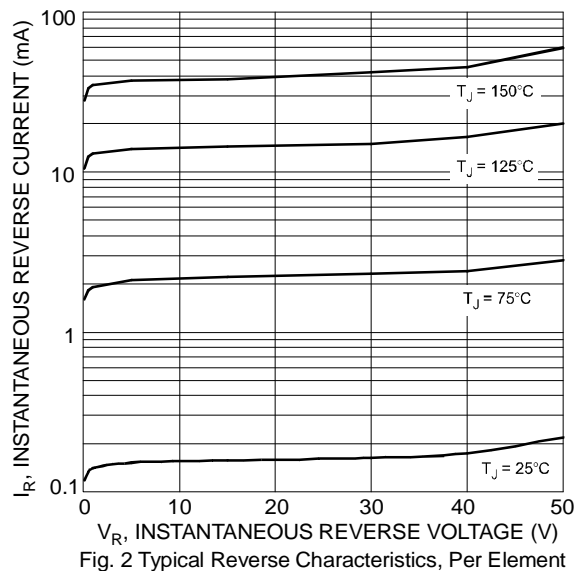
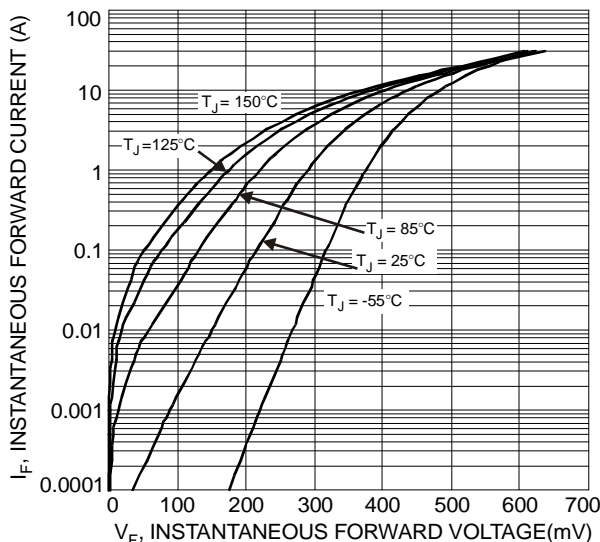
### Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance			
Thermal Resistance Junction to Ambient (Note 4)	R <sub>θJA</sub>	9.5	°C/W
Thermal Resistance Junction to Case	R <sub>θJC</sub>	2	
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°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>	-	-	0.55 0.50	V	I <sub>F</sub> = 15A, T <sub>J</sub> = 25°C I <sub>F</sub> = 15A, T <sub>J</sub> = 125°C
Leakage Current (Note 5)	I <sub>R</sub>	-	-	0.5 100	mA	V <sub>R</sub> = 50V, T <sub>J</sub> = 25°C V <sub>R</sub> = 50V, T <sub>J</sub> = 125°C

Notes: 4. Test with additional heatsink, (Black Aluminum, 50mm\*37mm\*15mm)  
5. Short duration pulse test used to minimize self-heating effect.



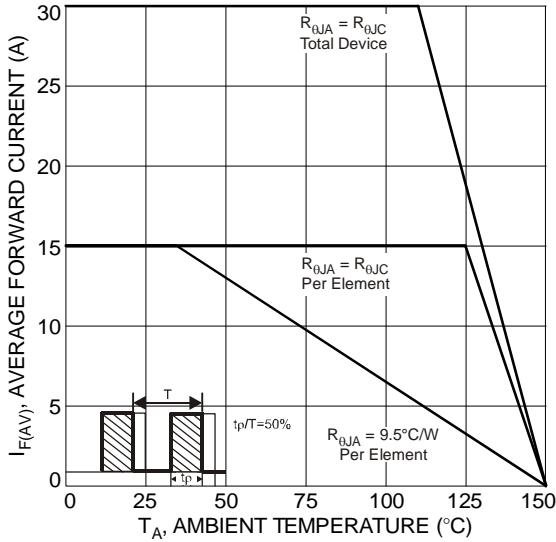
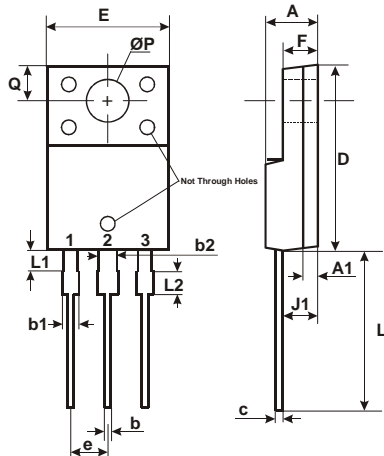
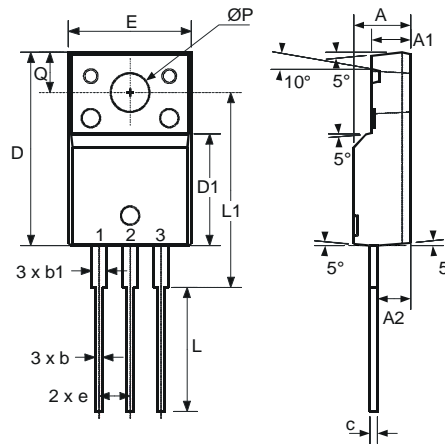
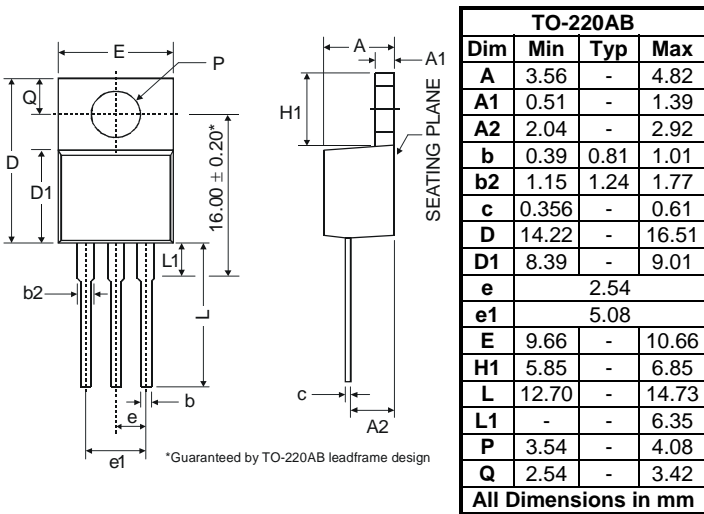


Fig. 3 Forward Current Derating Curve, Per Element

**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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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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