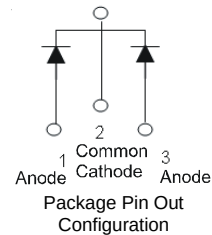
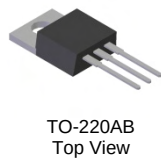


## Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 175°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 2)**
- **Also Available in Green Molding Compound (Note 5)**

## Mechanical Data

- Case: TO-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 2
- Ordering Information: See Page 2
- Weight: 1.85 grams (approximate)



## 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> | 100      | 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>   | 30<br>60 | A    |
| Non-Repetitive Peak Forward Surge Current 8.3mS Single Half Sine-Wave Superimposed on rated load | I <sub>FSM</sub> | 350      | A    |

## Thermal Characteristics (Per Leg)

| Characteristic                                   | Symbol                            | Value       | Unit |
|--------------------------------------------------|-----------------------------------|-------------|------|
| Typical Thermal Resistance                       |                                   |             |      |
| Thermal Resistance Junction to Case (Note 3)     | R <sub>θJC</sub>                  | 1.0         | °C/W |
| Thermal Resistance, Junction to Ambient (Note 3) | R <sub>θJA</sub>                  | 10.0        |      |
| Operating and Storage Temperature Range          | T <sub>J</sub> , T <sub>STG</sub> | -55 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> | -   | -<br>0.65 | 0.84<br>0.72 | V        | I <sub>F</sub> = 30A, T <sub>J</sub> = 25°C<br>I <sub>F</sub> = 30A, T <sub>J</sub> = 125°C   |
| Leakage Current (Note 1) | I <sub>R</sub> | -   | -<br>12.7 | 500<br>75    | μA<br>mA | V <sub>R</sub> = 100V, T <sub>J</sub> = 25°C<br>V <sub>R</sub> = 100V, 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. Please visit our website at [http://www.diodes.com/products/lead\\_free.html](http://www.diodes.com/products/lead_free.html).
  3. Device mounted on heatsink (Black Aluminum, 37mm x 50mm x 15mm)

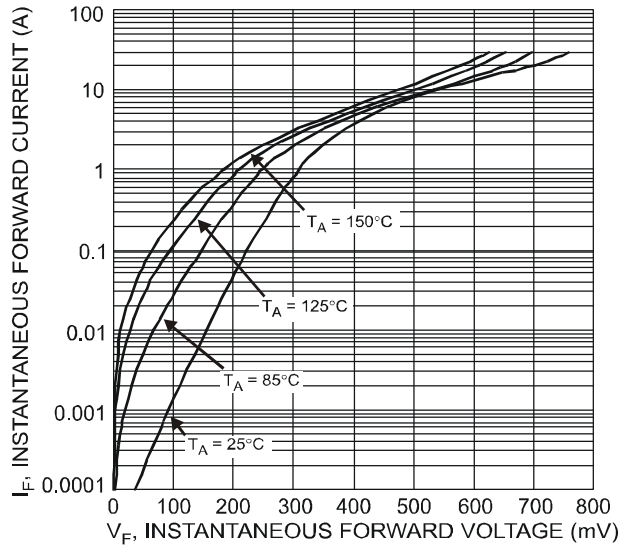


Fig. 1 Typical Forward Characteristics

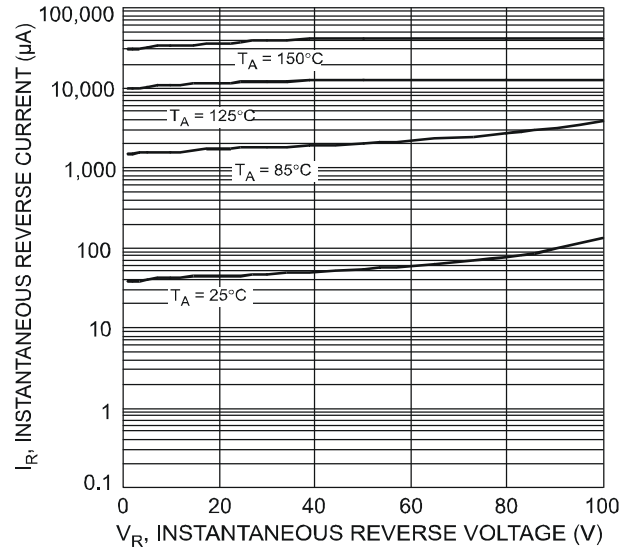


Fig. 2 Typical Reverse Characteristics

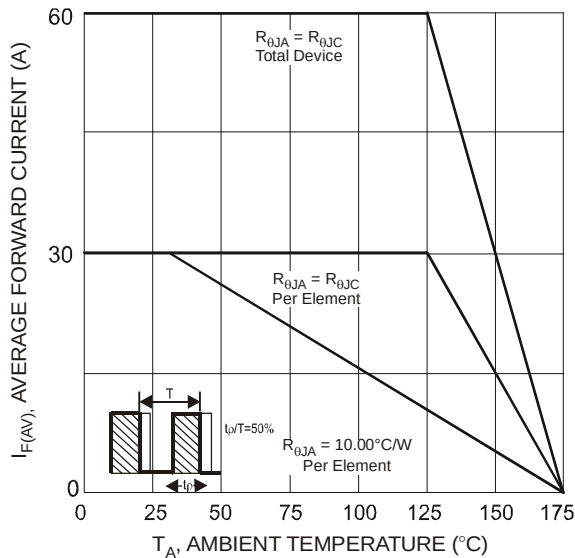


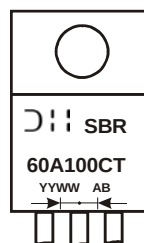
Fig. 3 Forward Current Derating Curve

## Ordering Information (Notes 4 & 5)

| Part Number   | Case     | Packaging      |
|---------------|----------|----------------|
| SBR60A100CT   | TO-220AB | 50 pieces/tube |
| SBR60A100CT-G | TO-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: SBR60A100CT-G.

## Marking Information



SBR60A100CT = Product Type Marking Code  
AB = Foundry and Assembly Code  
YYWW = Date Code Marking  
YY = Last two digits of year (ex: 08 = 2008)  
WW = Week (01-52)

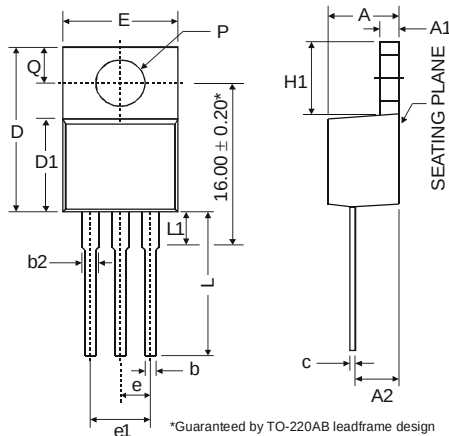
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## Package Outline Dimensions



| TO-220AB             |       |      |       |
|----------------------|-------|------|-------|
| Dim                  | Min   | Typ  | Max   |
| A                    | 3.56  | -    | 4.82  |
| A1                   | 0.51  | -    | 1.39  |
| A2                   | 2.04  | -    | 2.92  |
| b                    | 0.39  | 0.81 | 1.01  |
| b2                   | 1.15  | 1.24 | 1.77  |
| c                    | 0.356 | -    | 0.61  |
| D                    | 14.22 | -    | 16.51 |
| D1                   | 8.39  | -    | 9.01  |
| e                    | 2.54  |      |       |
| e1                   | 5.08  |      |       |
| E                    | 9.66  | -    | 10.66 |
| H1                   | 5.85  | -    | 6.85  |
| L                    | 12.70 | -    | 14.73 |
| L1                   | -     | -    | 6.35  |
| P                    | 3.54  | -    | 4.08  |
| Q                    | 2.54  | -    | 3.42  |
| All Dimensions in mm |       |      |       |

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