

## Features

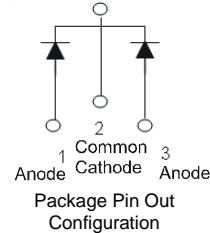
- Low Forward Voltage Drop
- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 2)**



Top View

## 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 (E3)
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 2.1 grams (approximate)



## Maximum Ratings @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>    | 60    | V    |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>    |       |      |
| DC Blocking Voltage   | V <sub>RM</sub>     |       |      |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub> | 42    | V    |
| Average Rectified Output Current @ T <sub>C</sub> = 150°C   | I <sub>O</sub>      | 60    | A    |
| Non-Repetitive Peak Forward Surge Current 8.3mS<br>Single Half Sine-Wave Superimposed on rated load | I <sub>FSM</sub>    | 280   | A    |

## Thermal Characteristics

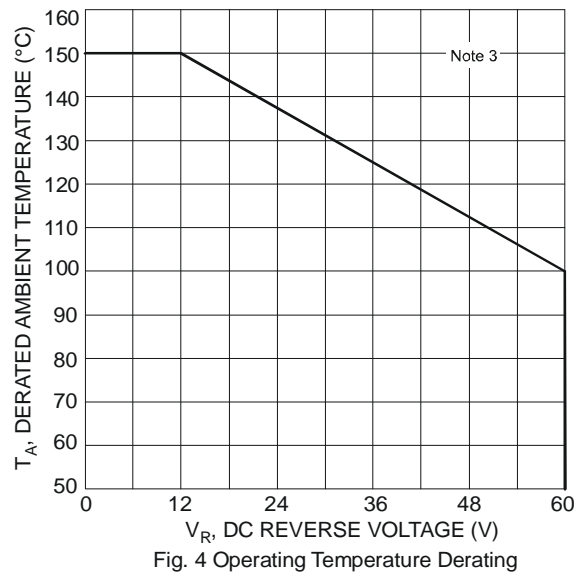
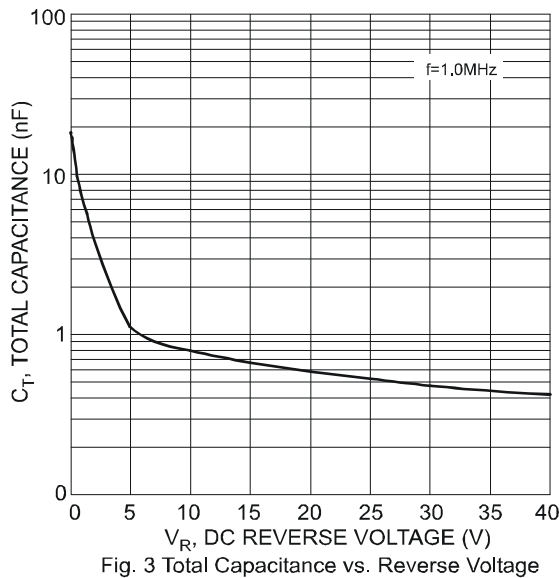
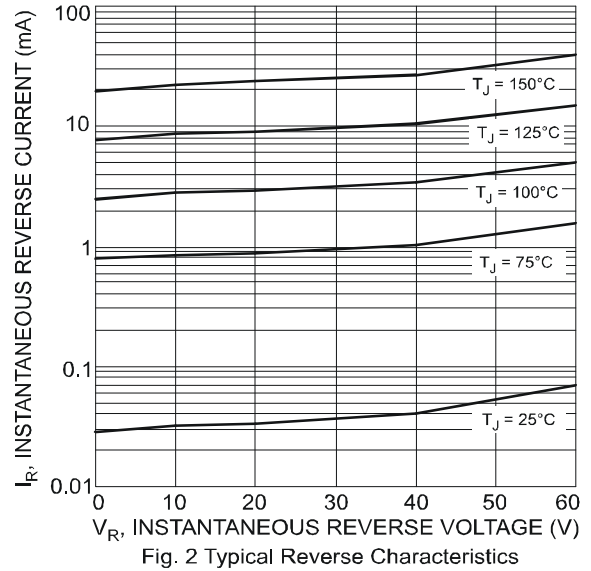
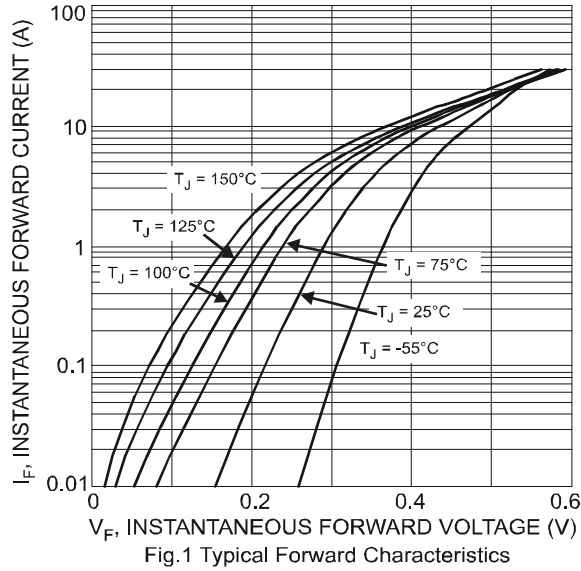
| Characteristic                                   | Symbol                            | Value       | Unit |
|--|-----------------------------------|-------------|------|
| Maximum Thermal Resistance (Per Leg)             | R <sub>θJC</sub>                  | 2           | °C/W |
| Thermal Resistance Junction to Case (Note 3)     |                                   |             |      |
| Thermal Resistance, Junction to Ambient (Note 3) | R <sub>θJA</sub>                  | 10          |      |
| Operating and Storage Temperature Range          | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

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

| Characteristic                     | Symbol             | Min | Typ        | Max        | Unit | Test Condition  |
|------------------------------------|--------------------|-----|------------|------------|------|---|
| Reverse Breakdown Voltage (Note 1) | V <sub>(BR)R</sub> | 60  | -          | -          | V    | I <sub>R</sub> = 0.5mA  |
| Forward Voltage Drop               | V <sub>F</sub>     | -   | 0.49       | 0.53       | V    | I <sub>F</sub> = 15A, T <sub>J</sub> = 25°C   |
|                                    |                    |     | 0.58       | 0.62       |      | I <sub>F</sub> = 30A, T <sub>J</sub> = 25°C   |
|                                    |                    |     | 0.46       | 0.49       |      | I <sub>F</sub> = 15A, T <sub>J</sub> = 125°C  |
|                                    |                    |     | 0.58       | 0.61       |      | I <sub>F</sub> = 30A, T <sub>J</sub> = 125°C  |
| Leakage Current (Note 1)           | I <sub>R</sub>     | -   | 0.07<br>15 | 0.2<br>100 | mA   | V <sub>R</sub> = 60V, T <sub>J</sub> = 25°C<br>V <sub>R</sub> = 60V, 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. Device mounted on heatsink (Black Aluminum, 37mm \* 50mm \* 15mm)

SBR is a registered trademark of Diodes Incorporated.

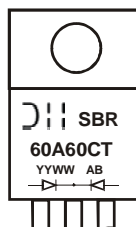


## Ordering Information (Note 4)

| Part Number | Case     | Packaging      |
|-------------|----------|----------------|
| SBR60A60CT  | TO-220AB | 50 pieces/tube |

Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

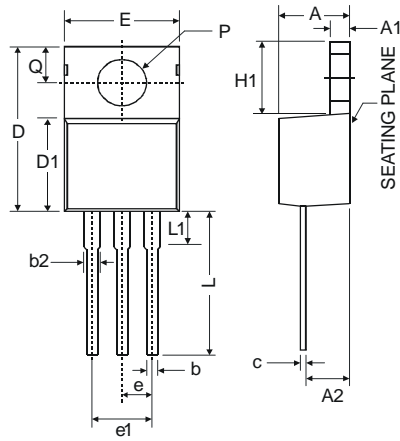
## Marking Information



SBR60A60CT = Product Type Marking Code  
AB = Foundry and Assembly Code  
YYWW = Date Code Marking  
YY = Last two digits of year, ex: 07 = 2007  
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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