



**THE DATASHEET OF
SBR60A150CT**

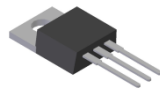
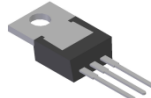
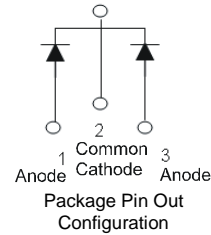


Features

- Low Forward Voltage Drop
- Patented Superior Barrier Rectifier SBR[®] Technology
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- +175°C Operating Junction Temperature
- TO220AB
 - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- Available in "Green" Packages: TO220AB
 - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
 - **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Also Available in Green Molding Compound (Note 4)**

Mechanical Data

- Case: TO220AB
- 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 ③
- Weight: 1.85 grams (Approximate)


 TO220AB
Top View

 TO220AB
Bottom View


Ordering Information (Note 5)

| Part Number | Case | Packaging |
|------------------------|---------|----------------|
| SBR60A150CT | TO220AB | 50 Pieces/Tube |
| SBR60A150CT-G (Note 4) | TO220AB | 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/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR60A150CT-G.
 5. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



SBR60A150CT = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 15 = 2015)
 WW = Week (01 to 53)

Maximum Ratings (Per Leg) (@ $T_A = +25^\circ\text{C}$, 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_{RRM} | 150 | V |
| Working Peak Reverse Voltage | V_{RWM} | | |
| DC Blocking Voltage | V_{RM} | | |
| Average Rectified Output Current Per Device (Per Leg) (Total) | I_O | 30 60 | A |
| Non-Repetitive Peak Forward Surge Current 8.3mS Single Half Sine-Wave Superimposed on Rated Load | I_{FSM} | 250 | A |

Thermal Characteristics (Per Leg)

| Characteristic | Symbol | Value | Unit |
|--|-----------------|-------------|---------------------------|
| Typical Thermal Resistance | | | |
| Thermal Resistance Junction to Case (Note 6) | $R_{\theta JC}$ | 1.2 | $^\circ\text{C}/\text{W}$ |
| Thermal Resistance, Junction to Ambient (Note 6) | $R_{\theta JA}$ | 8 | |
| Operating and Storage Temperature Range | T_J, T_{STG} | -65 to +175 | $^\circ\text{C}$ |

Electrical Characteristics (Per Leg) (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------------|--------|-----|------|------|------|---|
| Forward Voltage Drop | V_F | - | 0.86 | 0.93 | V | $I_F = 30\text{A}, T_J = +25^\circ\text{C}$ |
| | | | 0.72 | 0.77 | | $I_F = 30\text{A}, T_J = +125^\circ\text{C}$ |
| Leakage Current (Note 7) | I_R | - | 0.05 | 0.3 | mA | $V_R = 150\text{V}, T_J = +25^\circ\text{C}$ |
| | | | 9.5 | 40 | | $V_R = 150\text{V}, T_J = +125^\circ\text{C}$ |

Notes: 6. Device mounted on heatsink (Black Aluminum, 50mm x 30mm x 23mm).
7. Short duration pulse test used to minimize self-heating effect.

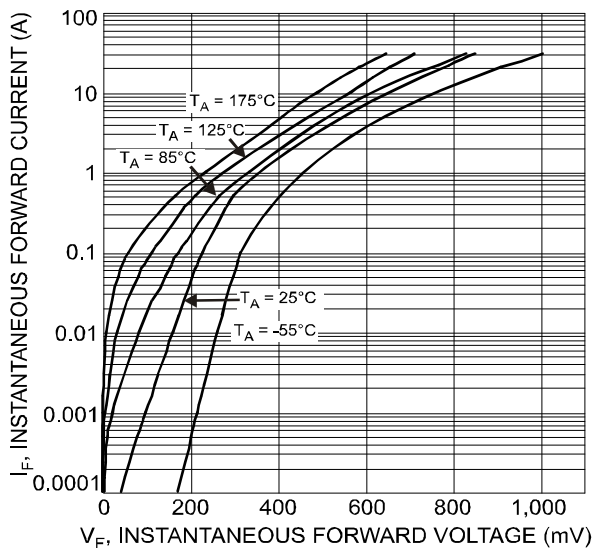


Fig. 1 Typical Forward Characteristics

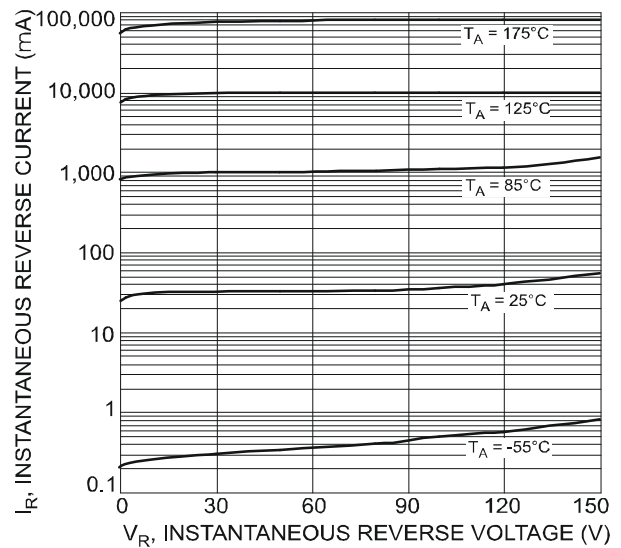


Fig. 2 Typical Reverse Characteristics

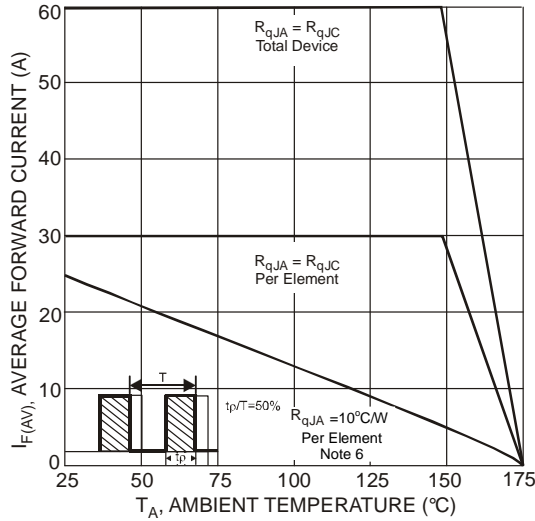
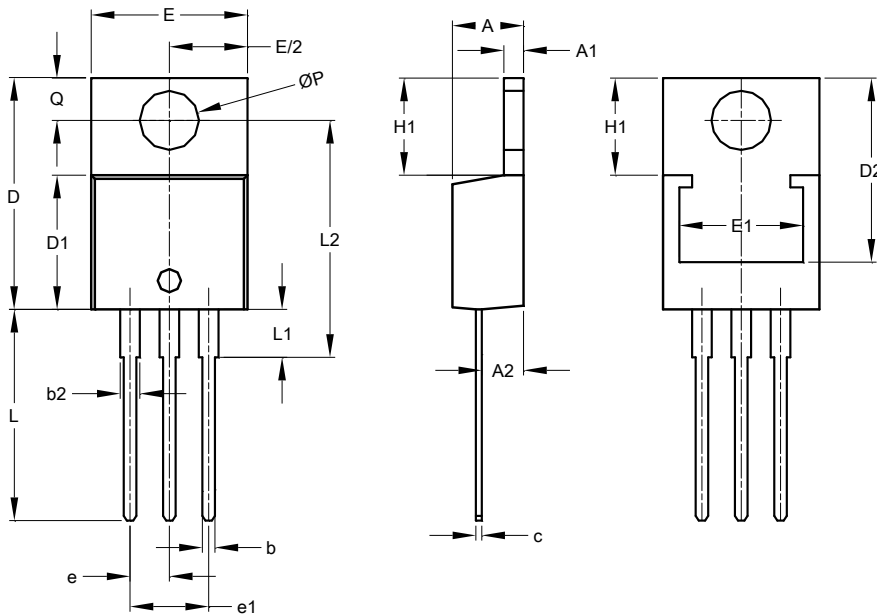


Fig. 3 Forward Current Derating Curve

Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

TO220AB



| TO220AB | | | |
|----------------------|-------|-------|-------|
| Dim | Min | Max | Typ |
| A | 3.56 | 4.82 | - |
| A1 | 0.51 | 1.39 | - |
| A2 | 2.04 | 2.92 | - |
| b | 0.39 | 1.01 | 0.81 |
| b2 | 1.15 | 1.77 | 1.24 |
| c | 0.356 | 0.61 | - |
| D | 14.22 | 16.51 | - |
| D1 | 8.39 | 9.01 | - |
| D2 | 11.45 | 12.87 | - |
| e | - | - | 2.54 |
| e1 | - | - | 5.08 |
| E | 9.66 | 10.66 | - |
| E1 | 6.86 | 8.89 | - |
| H1 | 5.85 | 6.85 | - |
| L | 12.70 | 14.73 | - |
| L1 | - | 6.35 | - |
| L2 | 15.80 | 16.20 | 16.00 |
| P | 3.54 | 4.08 | - |
| Q | 2.54 | 3.42 | - |
| All Dimensions in mm | | | |

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