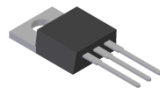


## Features

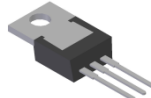
- Low Forward Voltage Drop
- Patented Superior Barrier Rectifier SBR<sup>®</sup> Technology
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- +175°C Operating Junction Temperature
- TO220AB
  - **Lead-Free Finish; RoHS Compliant (Notes 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

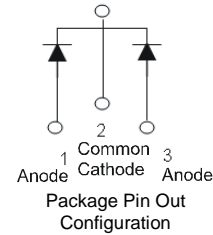
- Case: TO220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 ③
- Weight: 1.85 grams (Approximate)



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](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.

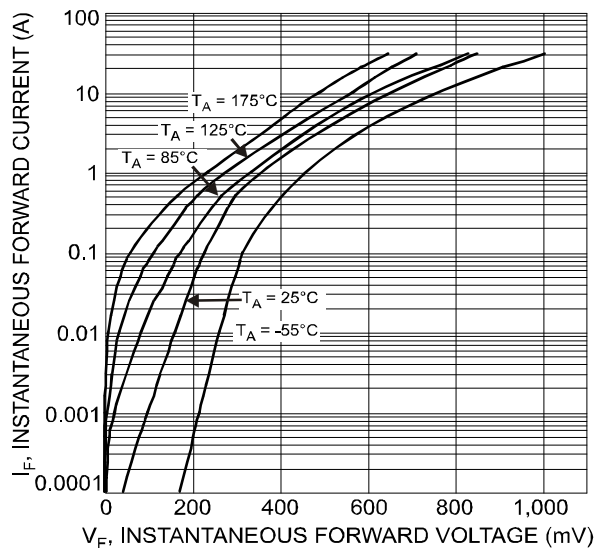


Fig. 1 Typical Forward Characteristics

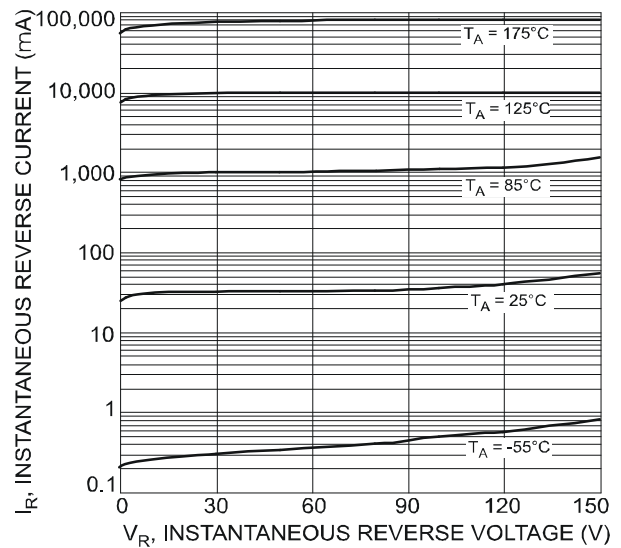


Fig. 2 Typical Reverse Characteristics

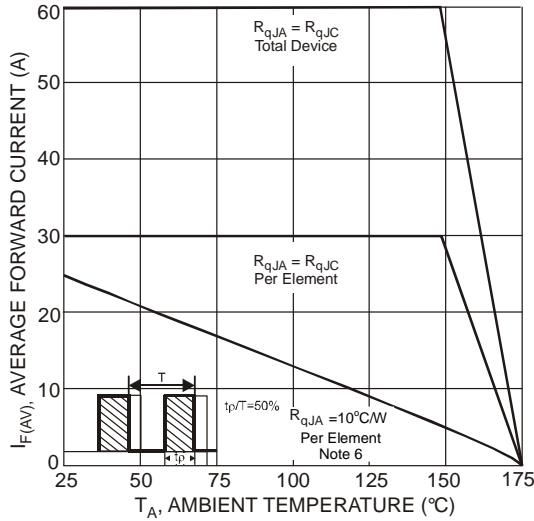
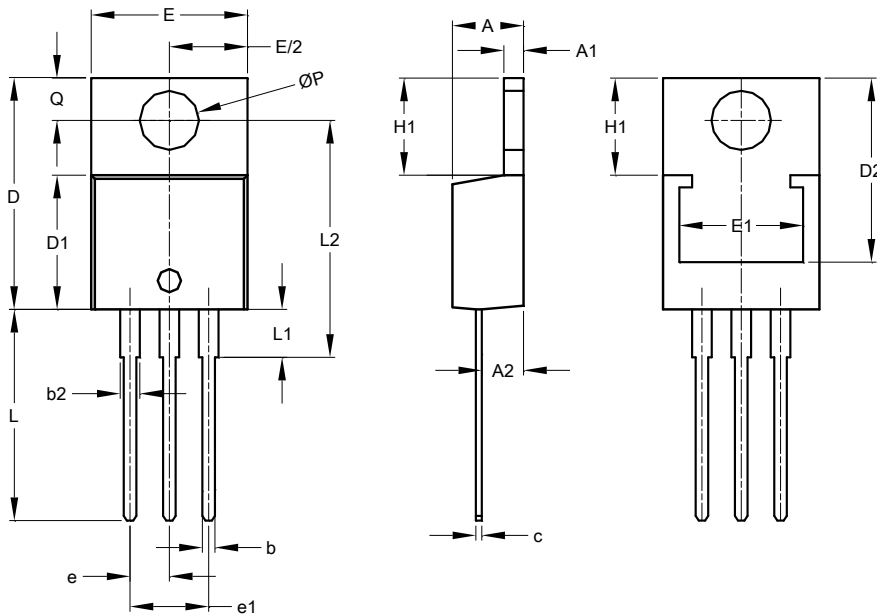


Fig. 3 Forward Current Derating Curve

## 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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