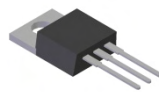


## Features

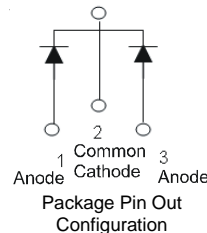
- Low Forward Voltage Drop
- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 175°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 2)**
- **Also Available in Green Molding Compound (Note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



TO-220AB  
Top View



TO-220AB  
Bottom View



## Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper Lead Frame. Solderable per MIL-STD-202, Method 208 **e3**
- Polarity: As Marked on Body
- Ordering Information: See Page 2
- Marking 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>	200	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 60	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	250	A

## Thermal Characteristics (Per Leg)

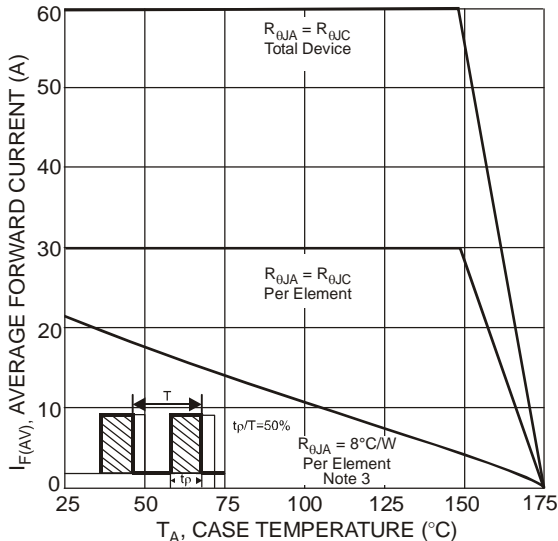
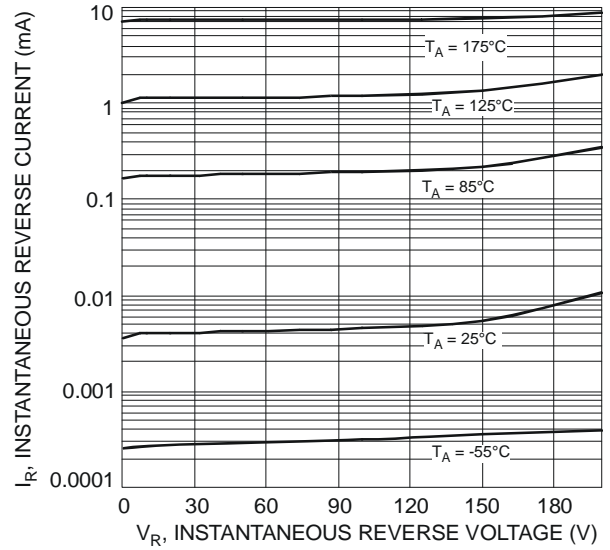
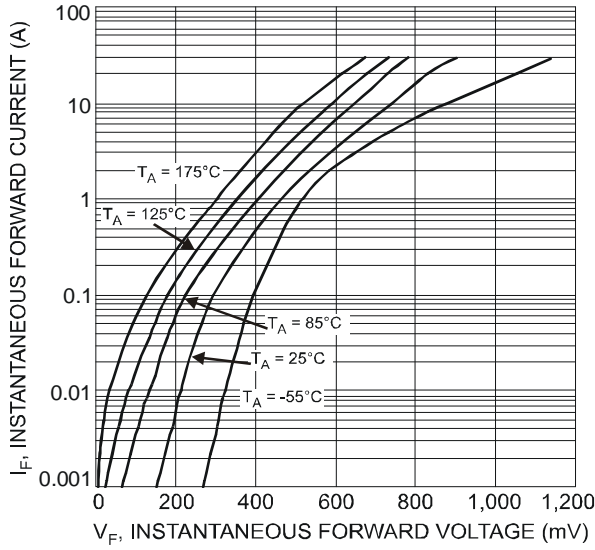
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance			
Thermal Resistance, Junction to Case (Note 3)	R <sub>θJC</sub>	1.2	°C/W
Thermal Resistance, Junction to Ambient (Note 3)	R <sub>θJA</sub>	8.4	
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

## 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>	-	0.91 0.74	0.96 0.77	V	I <sub>F</sub> = 30A, T <sub>J</sub> = 25°C I <sub>F</sub> = 30A, T <sub>J</sub> = 125°C
Leakage Current (Note 1)	I <sub>R</sub>	-	10 2	100 20	μA mA	V <sub>R</sub> = 200V, T <sub>J</sub> = 25°C V <sub>R</sub> = 200V, T <sub>J</sub> = 125°C
Reverse Recovery Time	t <sub>rr</sub>	-	38	50	ns	I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1A, I <sub>RR</sub> = 0.25A
		-	25	35		I <sub>F</sub> = 1A, V <sub>R</sub> = 30V di/dt = 100A/μs, T <sub>J</sub> = 25°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, 50mm x 37mm x 15mm)

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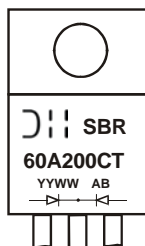


**Ordering Information** (Notes 4 & 5)

Part Number	Case	Packaging
SBR60A200CT	TO-220AB	50 pieces/tube
SBR60A200CT-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: SBR60A200CT-G.

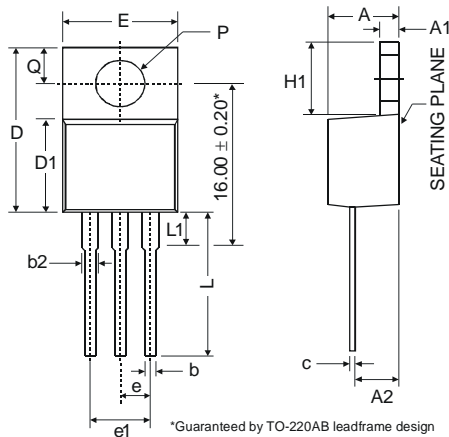
**Marking Information**



SBR60A200CT = 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
<b>All Dimensions in mm</b>			

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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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