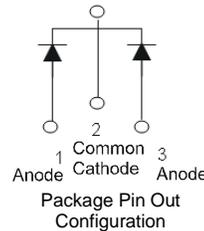


Features

- 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)**

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 ⁽³⁾
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 1.85 grams (approximate)



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}	300	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}	235	A

Thermal Characteristics (Per Leg)

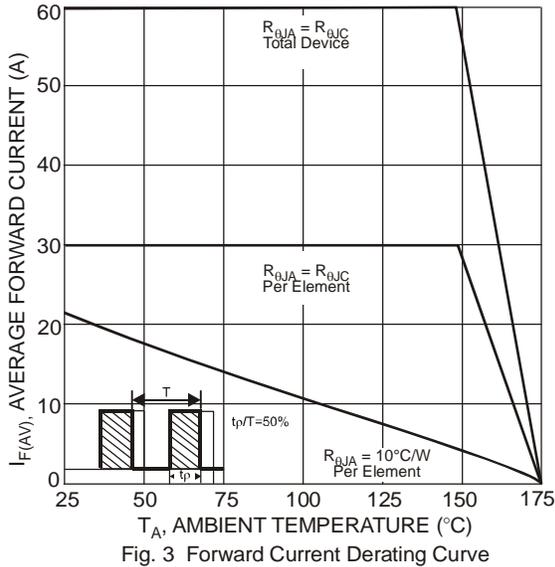
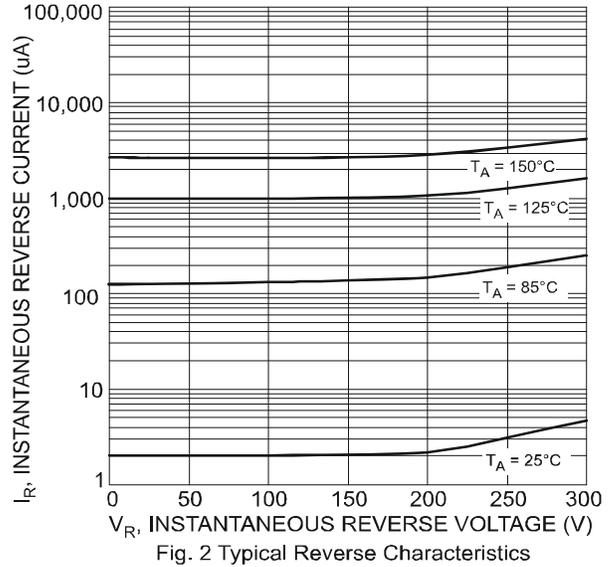
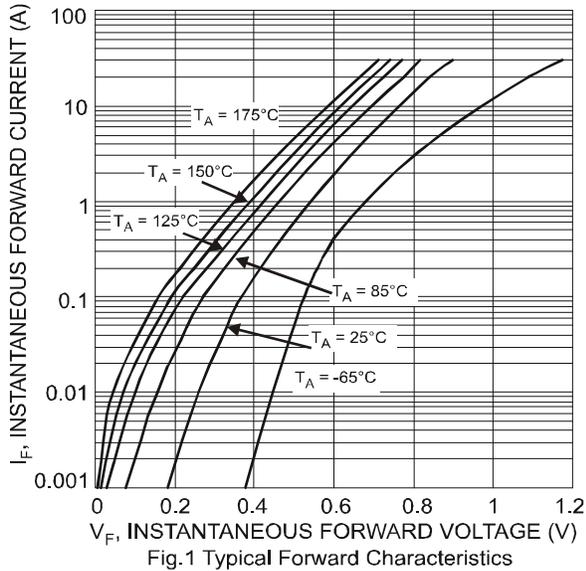
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	$R_{\theta JC}$ $R_{\theta JA}$	8 52	$^\circ\text{C/W}$
Thermal Resistance Junction to Case (Note 3)			
Thermal Resistance, Junction to Ambient (Note 3)			
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	$^\circ\text{C}$

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	-	0.89 0.78	0.94 0.82	V	$I_F = 30\text{A}, T_J = 25^\circ\text{C}$ $I_F = 30\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 1)	I_R	-	5 2	100 10	μA mA	$V_R = 300\text{V}, T_J = 25^\circ\text{C}$ $V_R = 300\text{V}, T_J = 125^\circ\text{C}$
Reverse Recovery Time	t_{rr}	-	32 26	50 35	ns	$I_F = 0.5\text{A}, I_R = 1\text{A}, I_{RR} = 0.25\text{A}$ $I_F = 1\text{A}, V_R = 30\text{V}$ $di/dt = 100\text{A}/\mu\text{s}, T_J = 25^\circ\text{C}$

- 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.
 3. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>

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Ordering Information (Notes 4 & 5)

Part Number	Case	Packaging
SBR60A300CT	TO-220AB	50 pieces/tube
SBR60A300CT-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: SBR60A300CT-G.

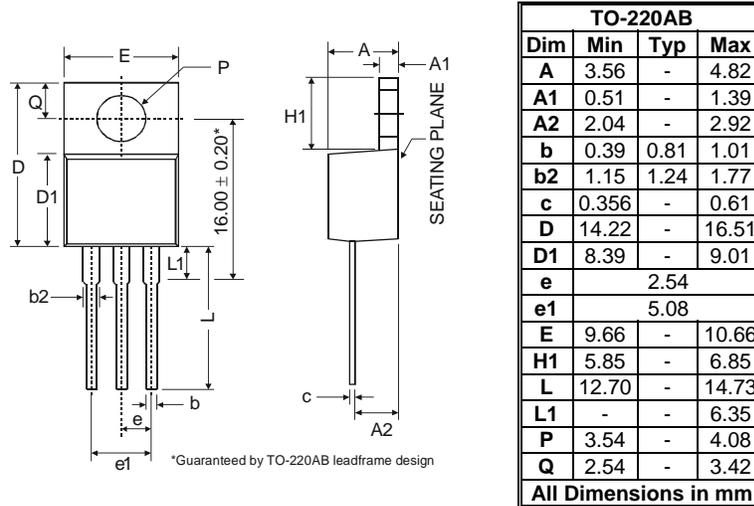
Marking Information



SBR60A300CT = 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



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