

## Features

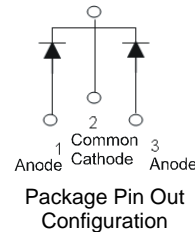
- Ultra Low Forward Voltage Drop
- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Also Available in Green Molding Compound**
  - **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: TO-200AB
- 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
- Weight: TO-220AB - 1.85 grams (approximate)

TO-220AB  
Top View

TO-220AB  
Bottom View

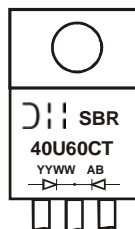


## Ordering Information (Notes 4 & 5)

Part Number	Case	Packaging
SBR40U60CT	TO-220AB	50 pieces/tube
SBR40U60CT-G	TO-220AB	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> 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: SBR40U60CT-G.
  5. For packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



SBR40U60CT = 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 - 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	$V_{RRM}$	60	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current (Per Leg)	$I_o$	20	A
(Total)		40	
Non-Repetitive Peak Forward Surge Current 8.3mS Single Half Sine-Wave Superimposed on rated load	$I_{FSM}$	280	A

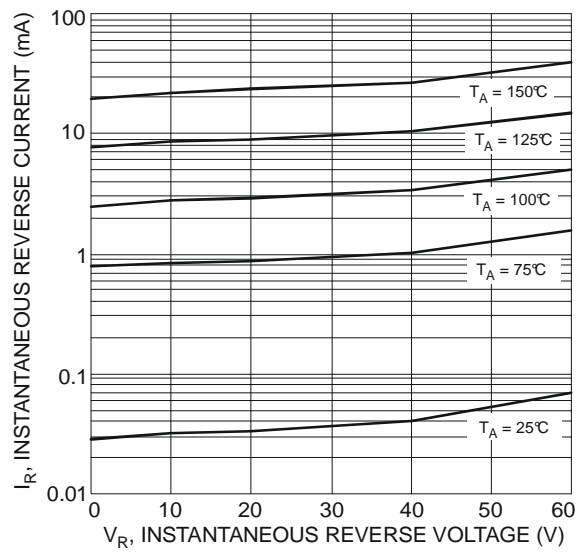
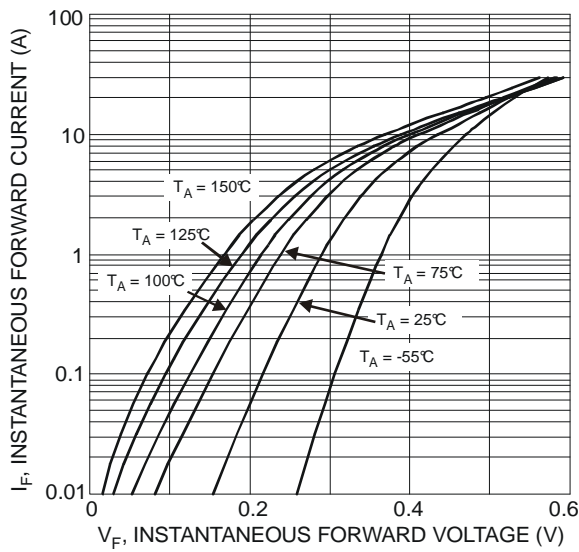
**Thermal Characteristics (Per Leg)**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	2	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop (per leg)	$V_F$	-	0.55	0.60	V	$I_F = 20\text{A}, T_J = 25^\circ\text{C}$
			0.54	0.57		$I_F = 20\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	-	0.07	0.5	mA	$V_R = 60\text{V}, T_J = 25^\circ\text{C}$
			15	100		$V_R = 60\text{V}, T_J = 125^\circ\text{C}$

Notes: 6. Short duration pulse test used to minimize self-heating effect.



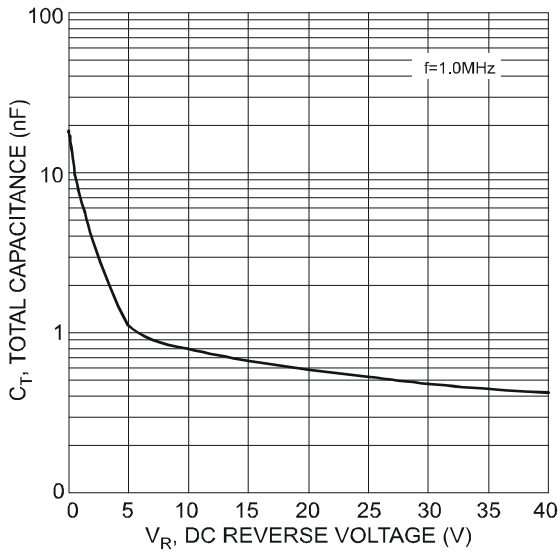


Fig. 3 Total Capacitance vs. Reverse Voltage

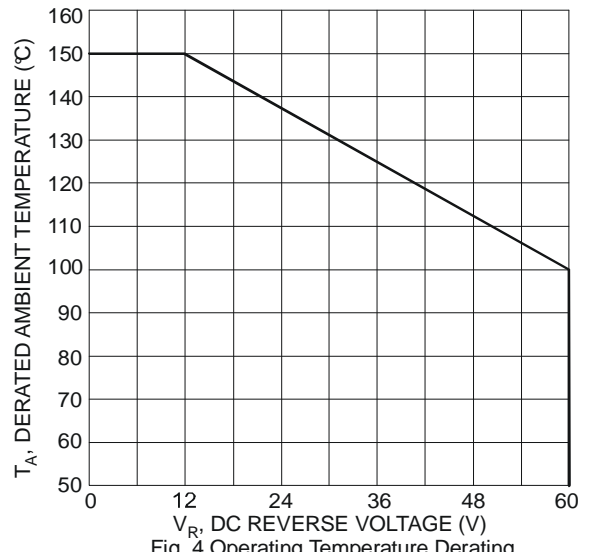
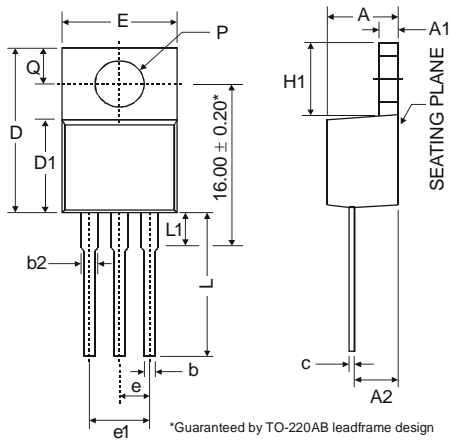


Fig. 4 Operating Temperature Derating

**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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