



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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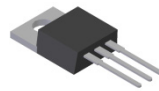


Features

- 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 (Note 4)**
 - Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

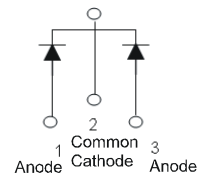
- Case: TO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: TO-220AB - 1.85 grams (approximate)



TO-220AB
Top View



TO-220AB
Bottom View



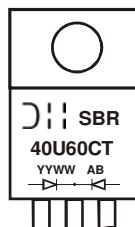
Package Pin Out
Configuration

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) (Total) | I_o | 20 40 | A |
| Non-Repetitive Peak Forward Surge Current 8.3mS Single Half Sine-Wave Superimposed on rated load | I_{FSM} | 280 | A |

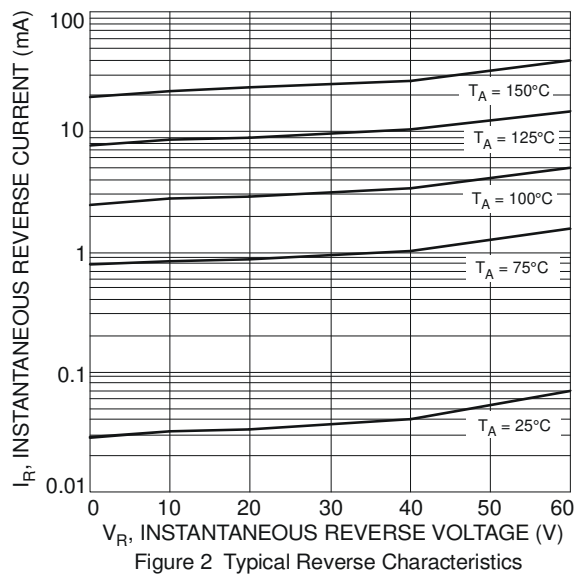
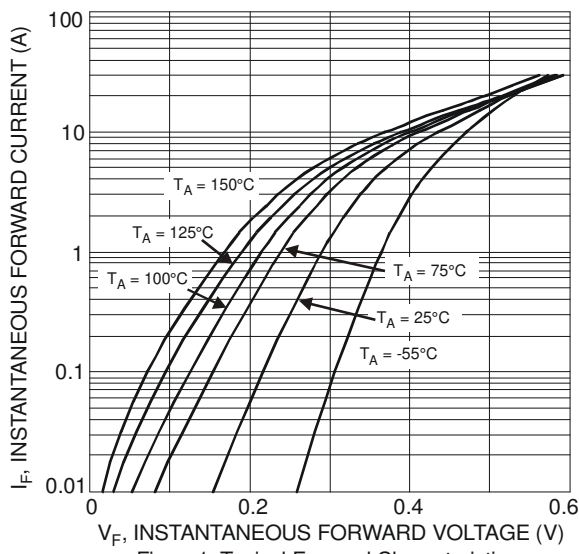
Thermal Characteristics (Per Leg)

| 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.



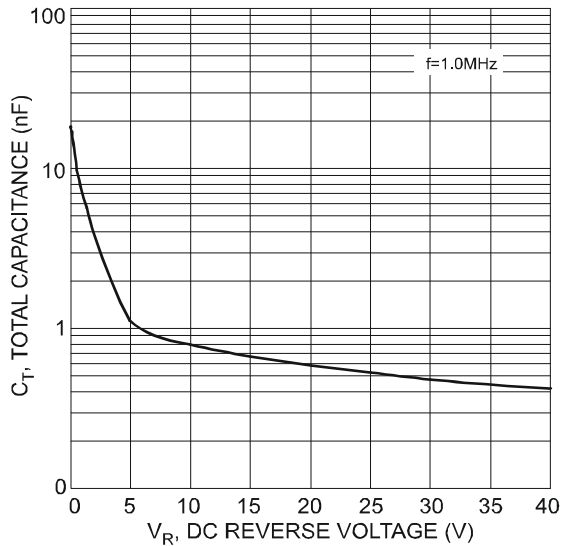


Figure 3 Total Capacitance vs. Reverse Voltage

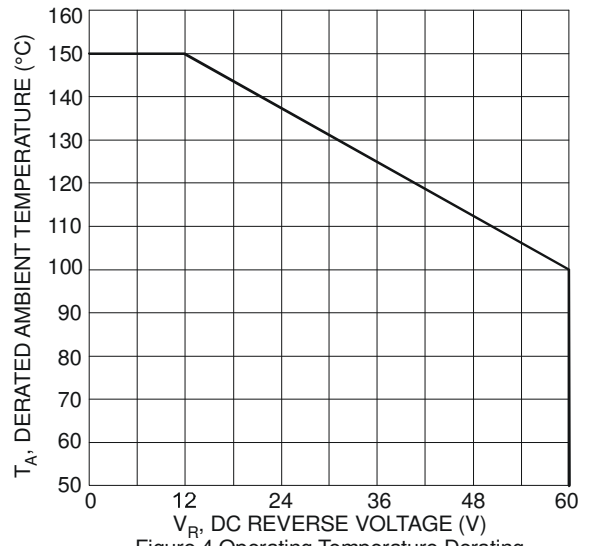
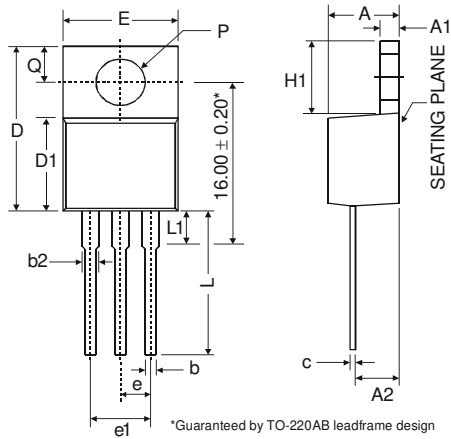


Figure 4 Operating Temperature Derating

Package Outline Dimensions

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



| 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 |
| All Dimensions in mm | | | |

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