

SBR20A200CTB

20A SBR[®] SUPER BARRIER RECTIFIER

Features

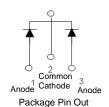
- Low Forward Voltage Drop
- Low Leakage Current
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- · Soft, Fast Switching Capability
- 175°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant (Note 1)
- Also Available in Green Molding Compound (Note 2)

Mechanical Data

- Case: D²Pak
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper leadframe.
 Solderable per MIL-STD-202, Method 208 63
- Weight: 1.6 grams (approximate)



Top View



Configuration

Ordering Information (Notes 2 & 3)

| Part Number | Case | Packaging |
|-------------------|--------------------|-----------------|
| SBR20A200CTB | D ² Pak | 50 pieces/tube |
| SBR20A200CTB-G | D ² Pak | 50 pieces/tube |
| SBR20A200CTB-13 | D ² Pak | 800/Tape & Reel |
| SBR20A200CTB-13-G | D ² Pak | 800/Tape & Reel |

Notes:

- 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes
- 2. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR20A200CTB-G.
- 3. For packaging details, go to our website at http://www.diodes.com.

Marking Information



SBR20A200CTB = 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 @TA = 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 Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _{RM} | 200 | ٧ |
| Average Rectified Output Current @ T _C = 150°C | lo | 20 | Α |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 180 | А |

Thermal Characteristics

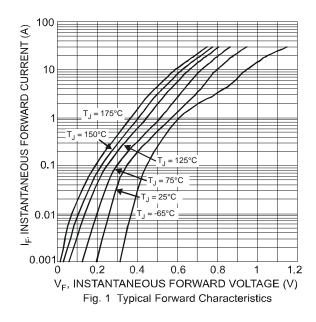
| Characteristic | Symbol | Value | Unit |
|--|-------------------|-------------|------|
| Maximum Thermal Resistance (per leg) | | | |
| Thermal Resistance Junction to Case (Note 4) | Rejc | 4 | °C/W |
| Thermal Resistance, Junction to Ambient (Note 4) | $R_{	heta JA}$ | 43 | |
| Operating and Storage Temperature Range | T_J , T_{STG} | -65 to +175 | °C |

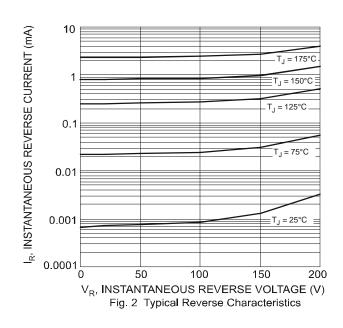
Electrical Characteristics @TA = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Тур | Max | Unit | Test Condition |
|--------------------------|-----------------|-----|----------------|----------------------|------|--|
| Forward Voltage Drop | V _F | - | - - 0.66 | 0.86 0.96 0.72 | V | I _F = 10A, T _J = 25°C I _F = 20A, T _J = 25°C I _F = 10A, T _J = 125°C |
| Leakage Current (Note 5) | I _R | - | 0.003 0.51 | 0.1 10 | mA | V _R = 200V, T _J = 25°C V _R = 200V, T _J = 125°C |
| Reverse Recovery Time | | - | 24 | 30 | | $I_F = 0.5A$, $I_R = 1A$, $I_{RR} = 0.25A$ |
| | t _{rr} | - | 20 | 25 | ns | $I_F = 1A$, $V_R = 30V$, $di/dt = 100A/\mu s$, $T_J = 25^{\circ}C$ |

Notes:

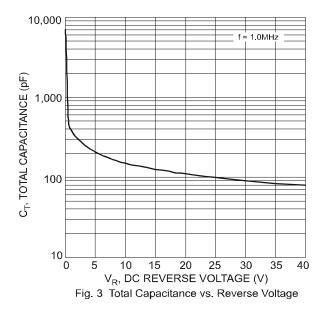
- 4. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com/datasheets/ap02001.pdf
- 5. Short duration pulse test used to minimize self-heating effect.

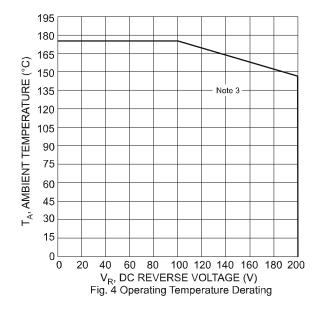




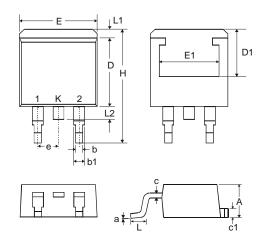
July 2011





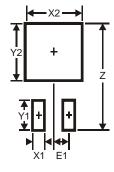


Package Outline Dimensions



| D ² PAK | | | |
|----------------------|----------|-------|--|
| Dim | Min | Max | |
| Α | 4.07 | 4.82 | |
| b | 0.51 | 0.99 | |
| b1 | 1.15 | 1.77 | |
| С | 0.356 | 0.58 | |
| с1 | 1.143 | 1.65 | |
| D | 8.39 | 9.65 | |
| D1 | 6.55 | _ | |
| Е | 9.66 | 10.66 | |
| E1 | 6.23 | _ | |
| е | 2.54 Typ | | |
| Н | 14.61 | 15.87 | |
| L | 1.78 | 2.79 | |
| L1 | _ | 1.67 | |
| L2 | _ | 1.77 | |
| а | 0° | 8° | |
| All Dimensions in mm | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 16.9 |
| X1 | 1.1 |
| X2 | 10.8 |
| Y1 | 3.5 |
| Y2 | 7.01 |
| E1 | 2.5 |



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