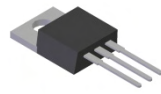


Features

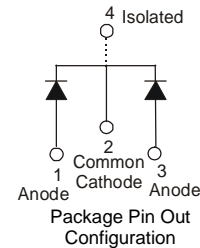
- Low Forward Voltage Drop
- Soft, Fast Switching Capability
- Schottky Barrier Chip
- ITO-220S Heat Sink Tab Electrically Isolated from Cathode
- UL Approval in Accordance with UL 1557, Reference No. E94661



Top View



Bottom View



Mechanical Data

- Case: ITO-220S
- 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 ②③
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 1.35 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} | 100 | V |
| Working Peak Reverse Voltage | V_{RWM} | | |
| DC Blocking Voltage | V_{RM} | | |
| Average Rectified Output Current per Device (Per Leg) (Total) | I_O | 10 20 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I_{FSM} | 150 | A |
| Isolation Voltage From terminal to heatsink $t = 1$ min. | V_{AC} | 4000 | V |

Thermal Characteristics (Per Leg)

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|---------------------------|
| Typical Thermal Resistance | $R_{\theta JC}$ | 3 | $^\circ\text{C}/\text{W}$ |
| 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 | - | - | 0.82 0.75 | V | $I_F = 10\text{A}, T_J = 25^\circ\text{C}$ $I_F = 10\text{A}, T_J = 125^\circ\text{C}$ |
| Leakage Current (Note 1) | I_R | - | - | 100 10 | μA mA | $V_R = 100\text{V}, T_J = 25^\circ\text{C}$ $V_R = 100\text{V}, T_J = 125^\circ\text{C}$ |

- 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.

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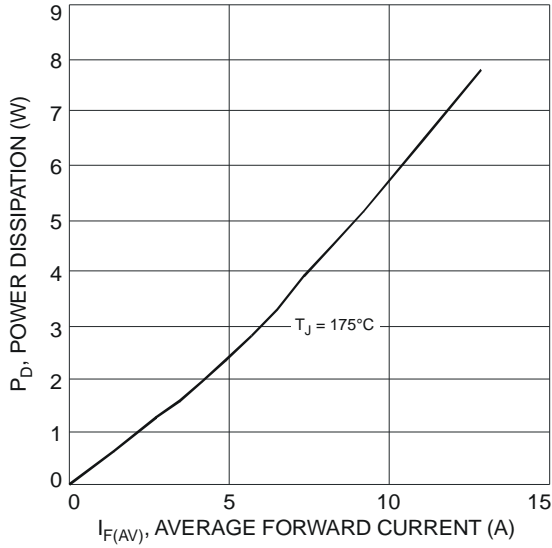


Fig. 1 Forward Power Dissipation

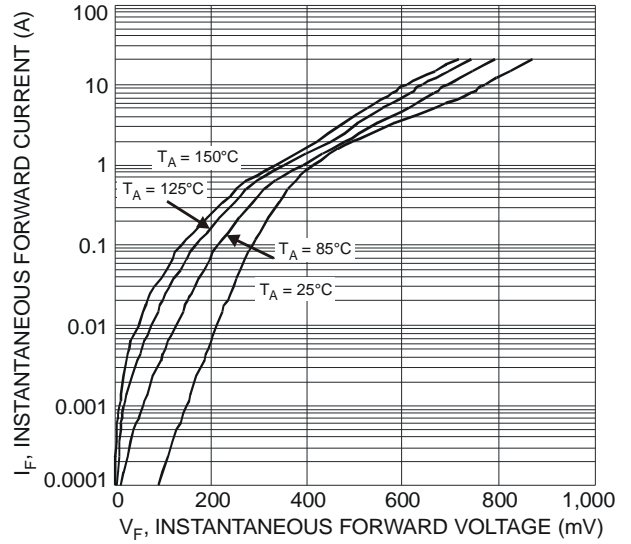


Fig. 2 Typical Forward Characteristics

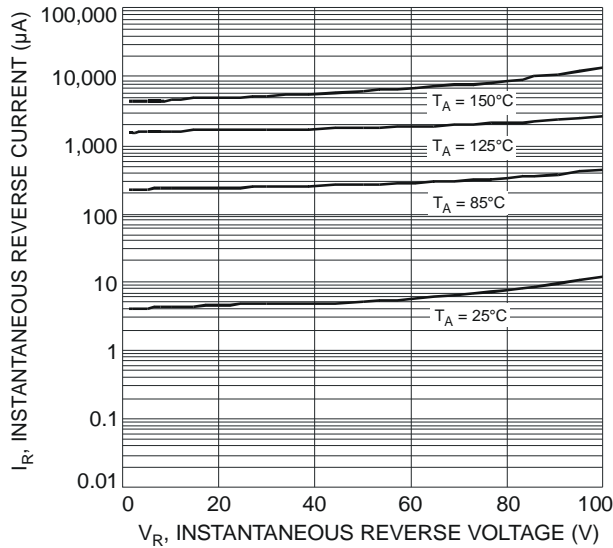


Fig. 3 Typical Reverse Characteristics

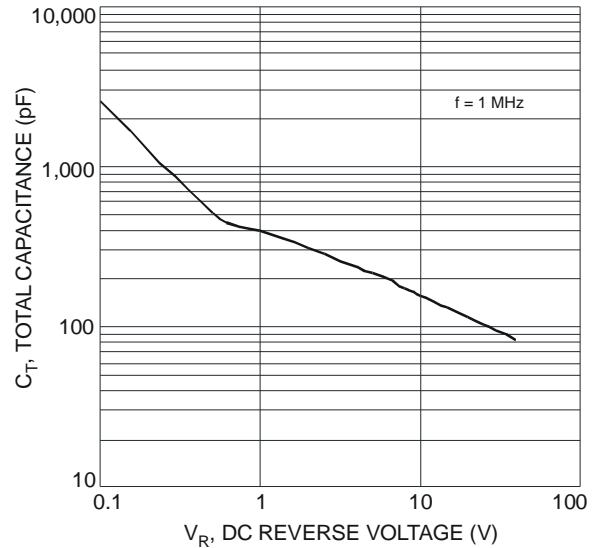


Fig. 4 Total Capacitance vs. Reverse Voltage

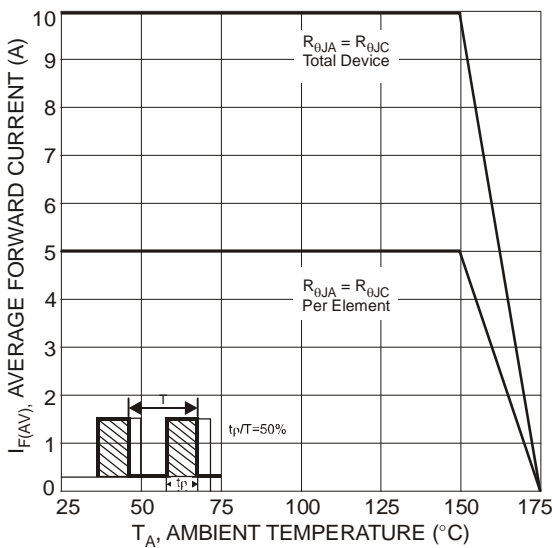


Fig. 5 Forward Current Derating Curve

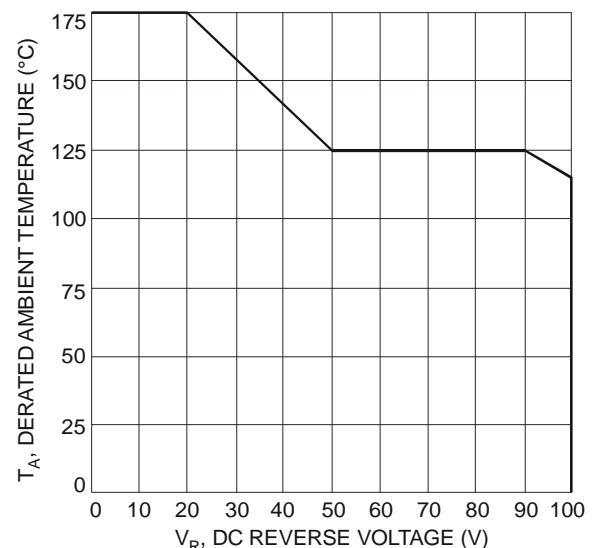


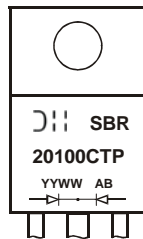
Fig. 6 Operating Temperature Derating

Ordering Information (Note 3)

| Part Number | Case | Packaging |
|-------------|----------|----------------|
| SBR20100CTP | ITO-220S | 50 pieces/tube |

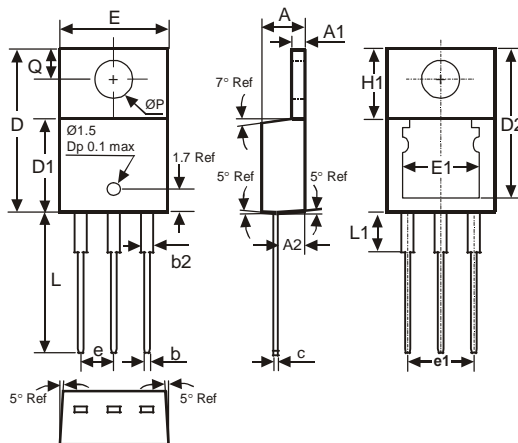
Notes: 3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



SBR20100CTP = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last two digits of year (ex: 08 = 2008)
 WW = Week (01-52)

Package Outline Dimensions



| ITO-220S | | | |
|----------------------|-------|-------|-------|
| DIM. | MIN. | MAX. | TYP. |
| A | 4.52 | 4.62 | 4.57 |
| A1 | 0.51 | 1.39 | - |
| A2 | 2.57 | 2.77 | 2.67 |
| b | 0.72 | 0.95 | 0.84 |
| b2 | 1.15 | 1.34 | 1.26 |
| c | 0.356 | 0.61 | - |
| D | 14.22 | 16.51 | 15.00 |
| D1 | 8.60 | 8.80 | 8.70 |
| D2 | 13.68 | 14.08 | - |
| e | 2.49 | 2.59 | 2.54 |
| e1 | 4.98 | 5.18 | 5.08 |
| E | 10.01 | 10.21 | 10.11 |
| E1 | 6.86 | 8.89 | - |
| H1 | 5.85 | 6.85 | - |
| L | 13.30 | 13.90 | 13.60 |
| L1 | - | 6.35 | - |
| P | 3.54 | 4.08 | - |
| Q | 2.54 | 3.42 | - |
| All Dimensions in mm | | | |

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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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