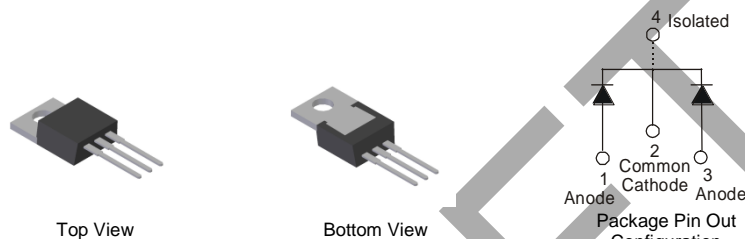


## Features

- 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
- **Qualified to AEC-Q101 Standards for High Reliability**

## 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 <sup>②</sup>
- Weight: 1.35 grams (approximate)

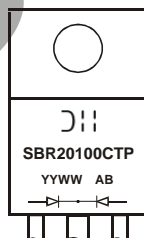


## Ordering Information (Note 1)

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

Notes: 1. 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 - 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  | $V_{RRM}$ |          |      |
| Working Peak Reverse Voltage   | $V_{RWM}$ | 100      | V    |
| DC Blocking Voltage  | $V_{RM}$  |          |      |
| Average Rectified Output Current per Device (Per Leg) (Total)                                    | $I_O$     | 10<br>20 | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 150      | A    |
| Isolation Voltage<br>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           | $^\circ\text{C/W}$ |
| 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<br>0.75 | V                   | $I_F = 10\text{A}, T_J = 25^\circ\text{C}$<br>$I_F = 10\text{A}, T_J = 125^\circ\text{C}$   |
| Leakage Current (Note 2) | $I_R$  | -   | -   | 100<br>10    | $\mu\text{A}$<br>mA | $V_R = 100\text{V}, T_J = 25^\circ\text{C}$<br>$V_R = 100\text{V}, T_J = 125^\circ\text{C}$ |

Note: 2. Short duration pulse test used to minimize self-heating effect.

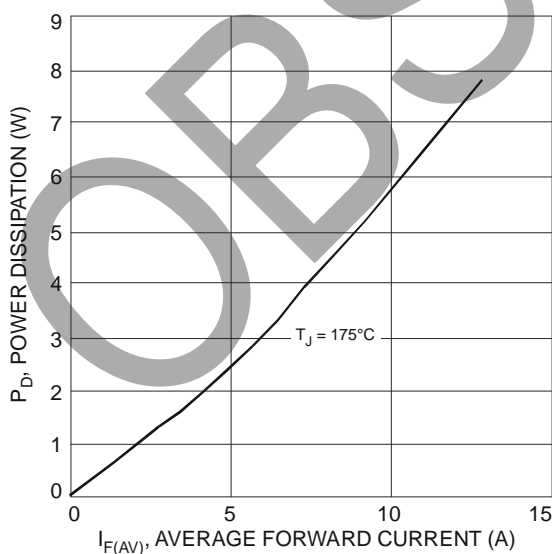


Fig. 1 Forward Power Dissipation

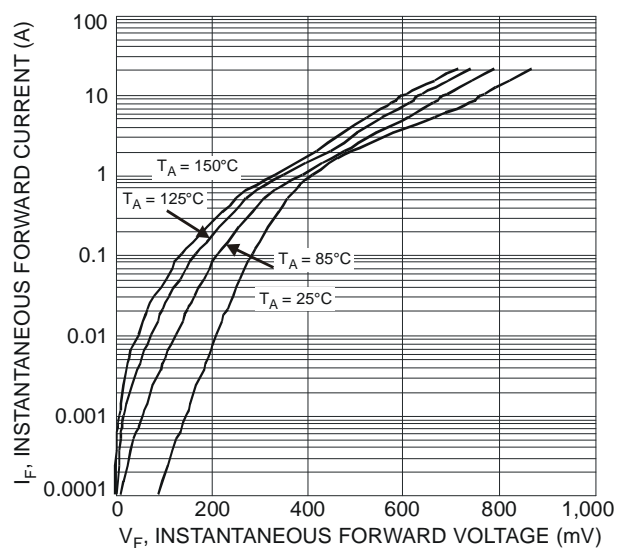


Fig. 2 Typical Forward Characteristics

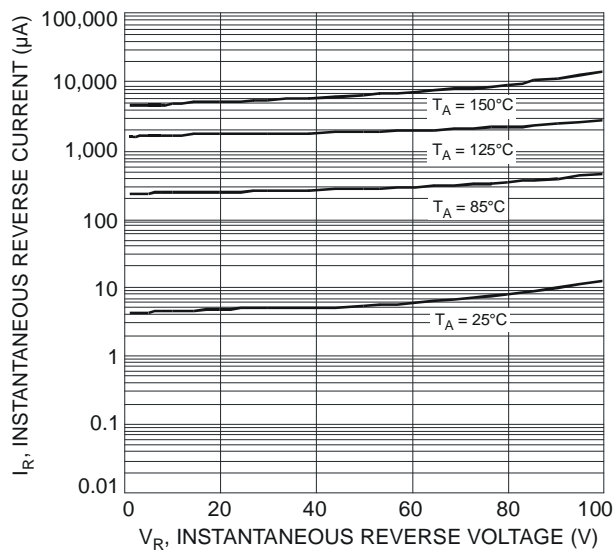


Fig. 3 Typical Reverse Characteristics

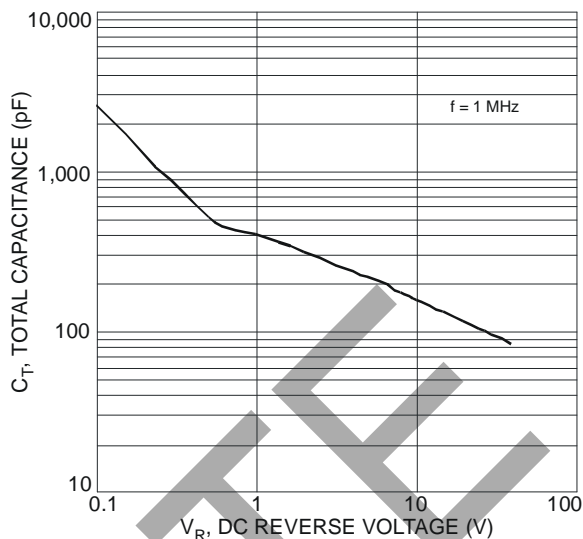


Fig. 4 Total Capacitance vs. Reverse Voltage

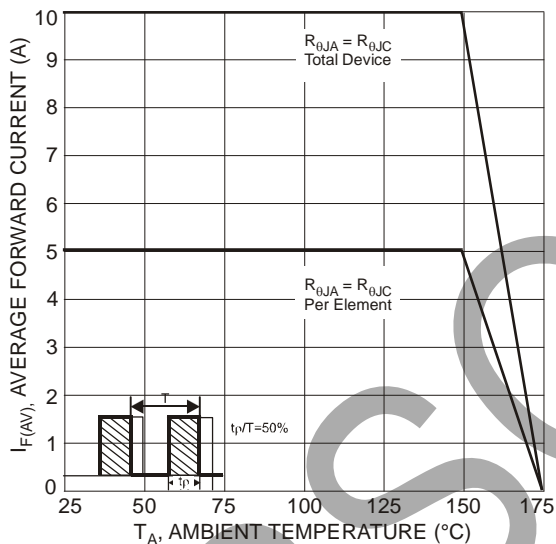


Fig. 5 Forward Current Derating Curve

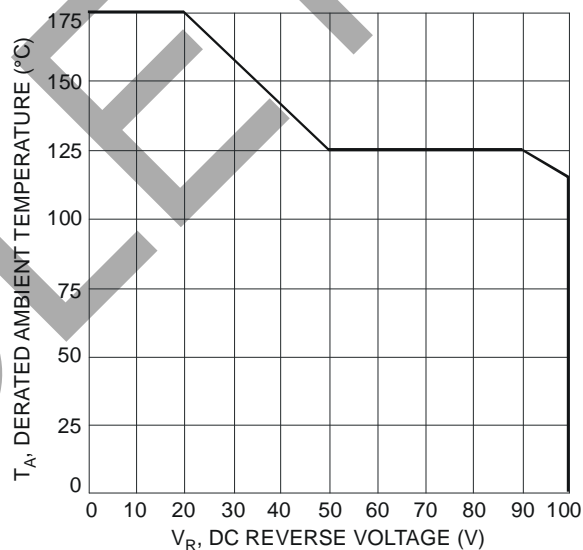
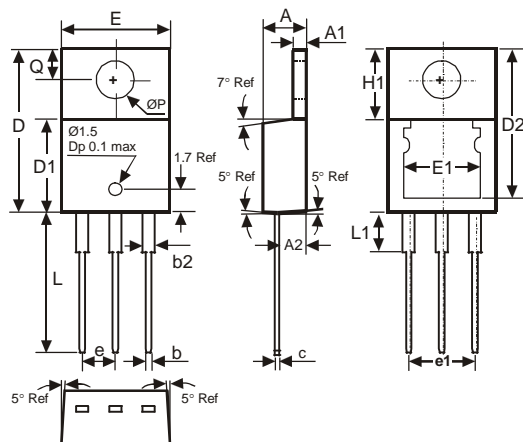


Fig. 6 Operating Temperature Derating

# Package Outline Dimensions



| ITO-220S             |       |       |       |
|----------------------|-------|-------|-------|
| DIM.                 | MIN.  | MAX.  | TYP.  |
| A                    | 4.52  | 4.62  | 4.57  |
| A1                   | 1.17  | 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                   | —     | 4.00  | —     |
| P                    | 3.54  | 4.08  | —     |
| Q                    | 2.54  | 3.42  | —     |
| All Dimensions in mm |       |       |       |

OBSOLETE – PART DISCONTINUED

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