**SBR30M100CT**
**SBR30M100CTFP**

**30A SBR®**
**SUPER BARRIER RECTIFIER**

## Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 200ºC 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

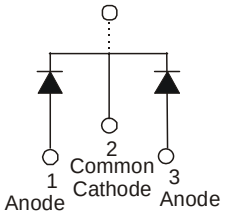
- Case: TO-220AB, ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: TO-220AB – 1.85 grams (approximate)
  ITO-220AB – 1.65 grams (approximate)

TO-220AB
Top View

TO-220AB
Bottom View

ITO-220AB
Top View

ITO-220AB
Bottom View



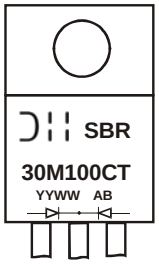

Package Pin Out
Configuration

## Ordering Information (Notes 4 & 5)

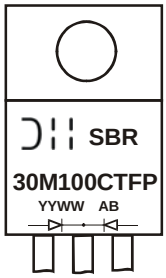
| | Part Number | Case | Packaging |
|---|---|---|---|
| Pb | SBR30M100CT | TO-220AB | 50 pieces/tube |
| Pb Green | SBR30M100CT-G | TO-220AB | 50 pieces/tube |
| Pb | SBR30M100CTFP | ITO-220AB | 50 pieces/tube |
| Pb Green | SBR30M100CTFP-G | ITO-220AB | 50 pieces/tube |
| Pb Green | SBR30M100CTFP-JT-G | ITO-220AB(Alternate) | 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: SBR30M100CT-G.
5. For packaging details, go to our website at http://www.diodes.com.

## Marking Information




SBR30M100CT = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last two digits of year (ex: 06 = 2006)
WW = Week (01 - 53)




SBR30M100CTFP = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last two digits of year (ex: 06 = 2006)
WW = Week (01 – 53)

## Maximum Ratings (Per Leg) (@$T_A$ = +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<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_{RM}$ | 100 | V |
| Average Rectified Output Current Per Device (Per Leg)<br>(Total) | $I_O$ | 15<br>30 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 250 | A |
| Peak Repetitive Reverse Surge Current (2µS-1Khz) | $I_{RRM}$ | 3 | A |
| Isolation Voltage (ITO-220AB Only)<br>From terminal to heatsink t = 3 sec. | $V_{AC}$ | 2000 | V |

## Thermal Characteristics (Per Leg)

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Typical Thermal Resistance<br>Package = TO-220AB<br>Package = ITO-220AB | $R_{\theta JC}$ | <br>2<br>4 | °C/W |
| Operating and Storage Temperature Range | $T_J$, $T_{STG}$ | -65 to +175 | °C |

## Electrical Characteristics (Per Leg) (@$T_A$ = +25°C, unless otherwise specified.)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Forward Voltage Drop | $V_F$ | — | — | 0.85 | V | $I_F$ = 15A, $T_J$ = +25°C |
| | | — | 0.68 | 0.73 | | $I_F$ = 15A, $T_J$ = +125°C |
| | | — | — | 0.96 | | $I_F$ = 30A, $T_J$ = +25°C |
| Leakage Current (Note 6) | $I_R$ | — | — | 12 | µA | $V_R$ = 100V, $T_J$ = +25°C |
| | | — | — | 3 | mA | $V_R$ = 100V, $T_J$ = +125°C |

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

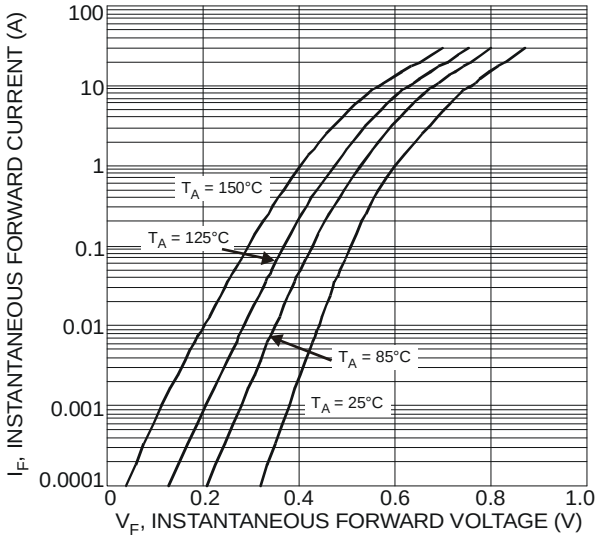



Fig. 1 Typical Forward Characteristics

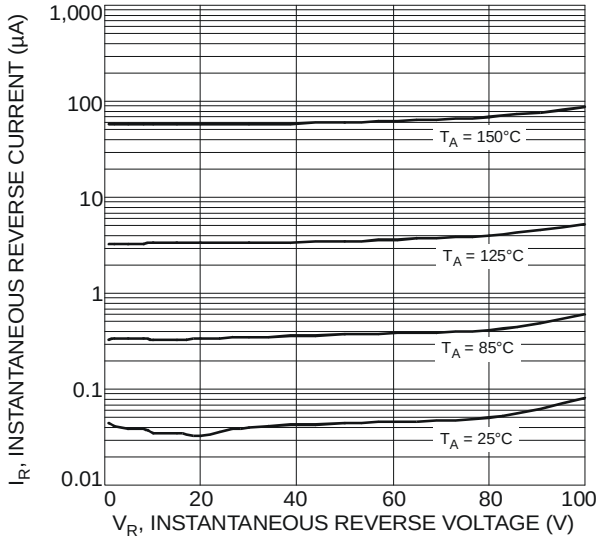



Fig. 2 Typical Reverse Characteristics

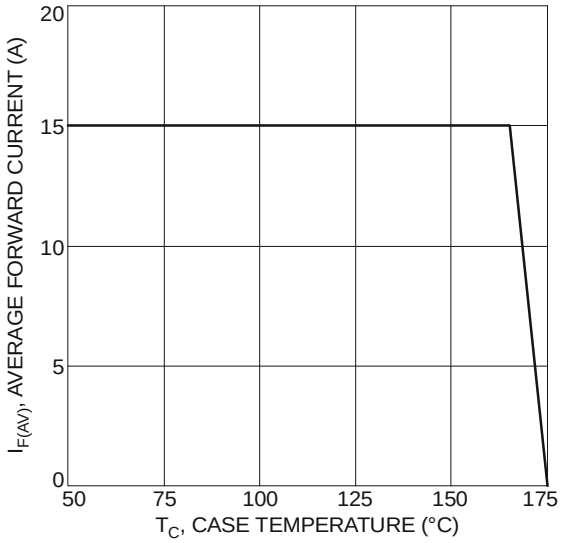
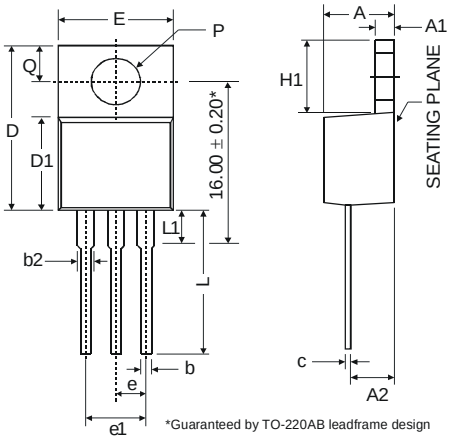
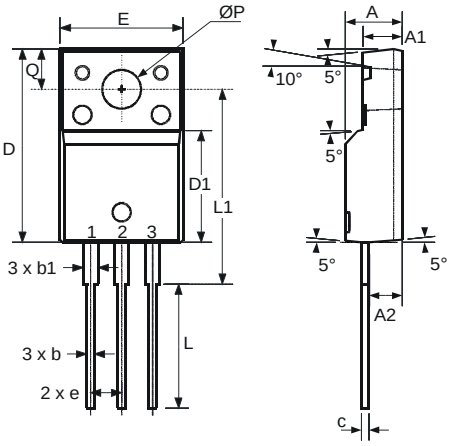



Fig. 3 Forward Current Derating Curve, Per Element

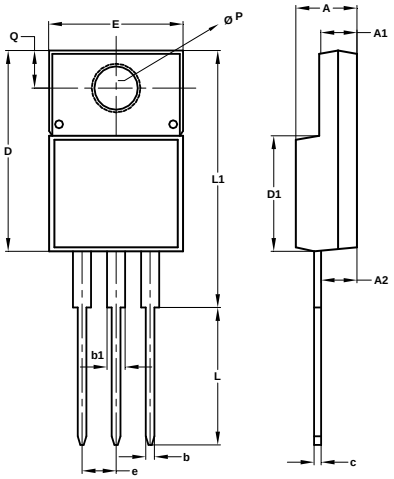
## Package Outline Dimensions




| 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 |
| **All Dimensions in mm** | | | |




| ITO-220AB | | | |
|---|---|---|---|
| **Dim** | **Min** | **Typ** | **Max** |
| **A** | 4.50 | 4.70 | 4.90 |
| **A1** | 3.04 | 3.24 | 3.44 |
| **A2** | 2.56 | 2.76 | 2.96 |
| **b** | 0.50 | 0.60 | 0.75 |
| **b1** | 1.10 | 1.20 | 1.35 |
| **c** | 0.50 | 0.60 | 0.70 |
| **D** | 15.67 | 15.87 | 16.07 |
| **D1** | 8.99 | 9.19 | 9.39 |
| **e** | 2.54 | | |
| **E** | 9.91 | 10.11 | 10.31 |
| **L** | 9.45 | 9.75 | 10.05 |
| **L1** | 15.80 | 16.00 | 16.20 |
| **P** | 2.98 | 3.18 | 3.38 |
| **Q** | 3.10 | 3.30 | 3.50 |
| **All Dimensions in mm** | | | |




| ITO-220AB (Alternate) | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 4.36 | 4.77 |
| **A1** | 2.54 | 3.10 |
| **A2** | 2.54 | 2.80 |
| **b** | 0.55 | 0.75 |
| **b1** | 1.20 | 1.50 |
| **c** | 0.38 | 0.68 |
| **D** | 14.50 | 15.50 |
| **D1** | 8.38 | 8.89 |
| **e** | 2.41 | 2.67 |
| **E** | 9.72 | 10.27 |
| **L** | 9.87 | 10.67 |
| **L1** | 15.8 | 17.00 |
| **P** | 3.08 | 3.39 |
| **Q** | 2.60 | 3.00 |
| **All Dimensions in mm** | | |

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