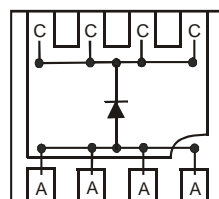


## Features

- Ultra Low Forward Voltage Drop
- Superior Reverse Avalanche Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **“Green” Molding Compound Device (Note 2)**

## Mechanical Data

- Case: DFN3030-8
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish – NiPdAu annealed over Copper lead frame. Solderable per MIL-STD-202, Method 208 (E3)
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.0172 grams (approximate)



C = CATHODE  
A = ANODE

Bottom View

BOTTOM VIEW  
Schematic and Pin Configuration

## Maximum Ratings @T<sub>A</sub> = 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  | V <sub>RRM</sub>    | 150   | V    |
| Working Peak Reverse Voltage   | V <sub>RWM</sub>    |       |      |
| DC Blocking Voltage  | V <sub>RM</sub>     |       |      |
| RMS Reverse Voltage  | V <sub>R(RMS)</sub> | 106   | V    |
| Average Rectified Output Current (See Figure 1)  | I <sub>O</sub>      | 3.0   | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>    | 33    | A    |

## Thermal Characteristics

| Characteristic  | Symbol                            | Value       | Unit |
|---|-----------------------------------|-------------|------|
| Maximum Thermal Resistance  |                                   |             |      |
| Thermal Resistance Junction to Ambient (Note 3) @ T <sub>A</sub> = 25°C | R <sub>θJA</sub>                  | 60          | °C/W |
| Operating and Storage Temperature Range                                 | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                     | Symbol             | Min | Typ | Max  | Unit | Test Condition                               |
|------------------------------------|--------------------|-----|-----|------|------|--|
| Reverse Breakdown Voltage (Note 4) | V <sub>(BR)R</sub> | 150 | -   | -    | V    | I <sub>R</sub> = 2mA                         |
| Forward Voltage                    | V <sub>F</sub>     | -   | -   | 0.91 | V    | I <sub>F</sub> = 3.0A, T <sub>J</sub> = 25°C |
| Reverse Current (Note 4)           | I <sub>R</sub>     | -   | -   | 2    | mA   | V <sub>R</sub> = 150V, T <sub>J</sub> = 25°C |

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes*.
  2. Diodes Inc.'s “Green” policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php)
  3. Device mounted on polyimide substrate, 2oz. Copper, 75mm<sup>2</sup> pad area, double side PCB.
  4. Short duration pulse test used to minimize self-heating effect.

SBR is a registered trademark of Diodes Incorporated.

SBR3U150LP

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December 2008  
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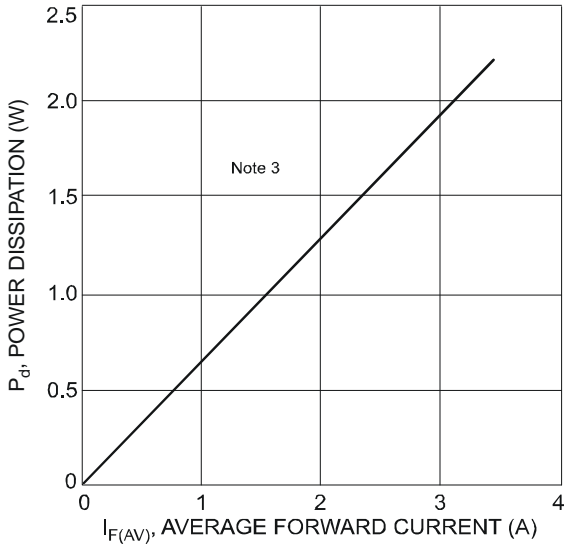


Fig. 1 Forward Power Dissipation

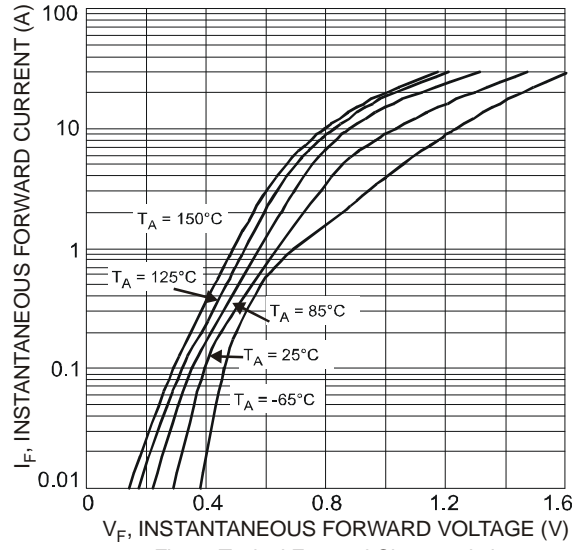


Fig. 2 Typical Forward Characteristics

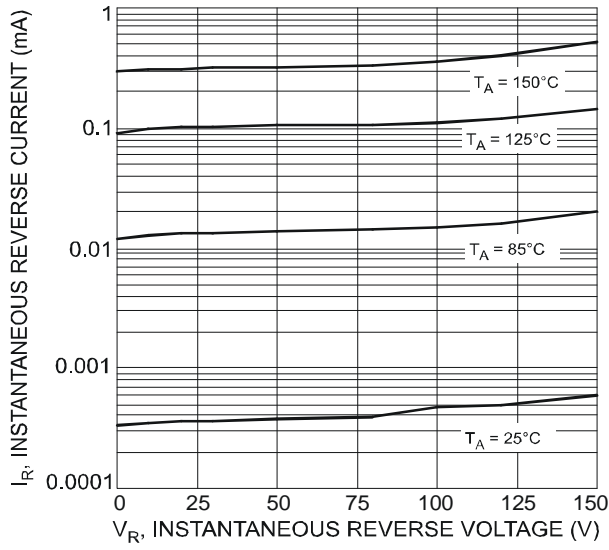


Fig. 3 Typical Reverse Characteristics

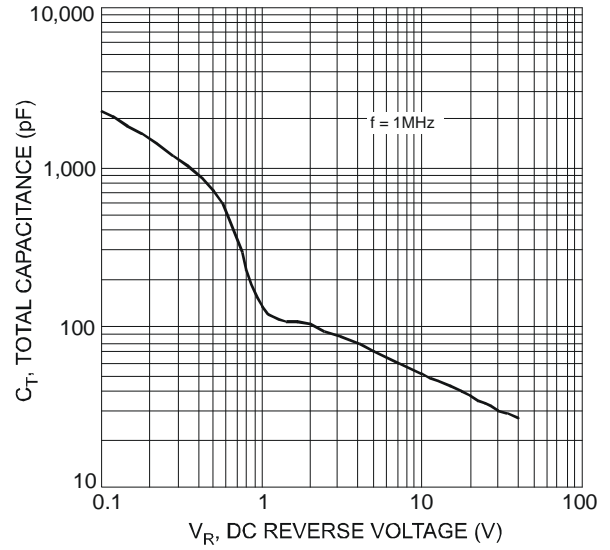


Fig. 4 Total Capacitance vs. Reverse Voltage

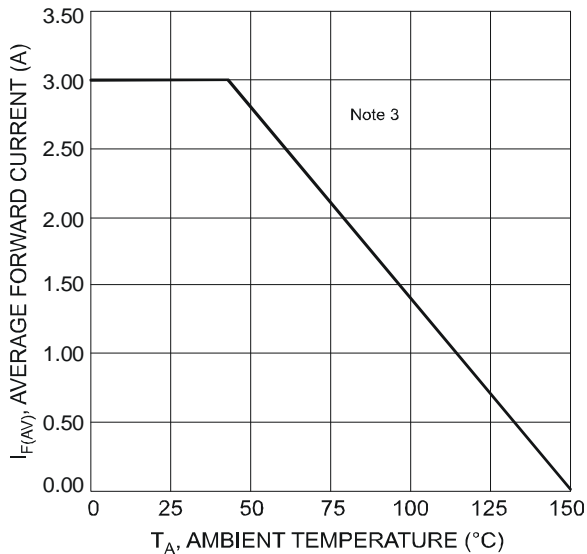


Fig. 5 Forward Current Derating Curve

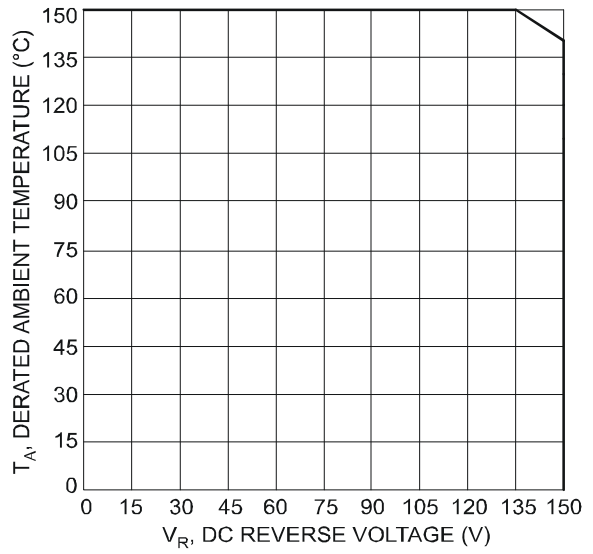


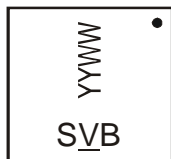
Fig. 6 Operating Temperature Derating

**Ordering Information** (Note 5)

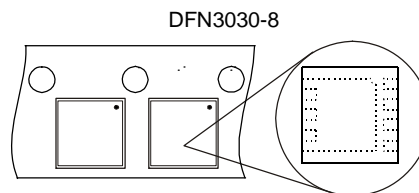
| Part Number  | Case      | Packaging        |
|--------------|-----------|------------------|
| SBR3U150LP-7 | DFN3030-8 | 3000/Tape & Reel |

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

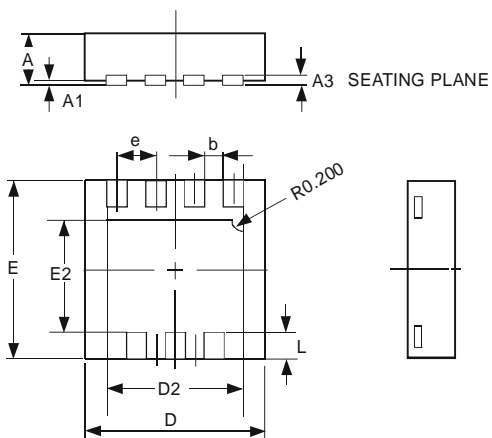
**Marking Information**



SVB = Product marking code  
 YYWW = Date code marking  
 YY = Last digit of year ex: 06 for 2006  
 WW = Week code 01 to 52

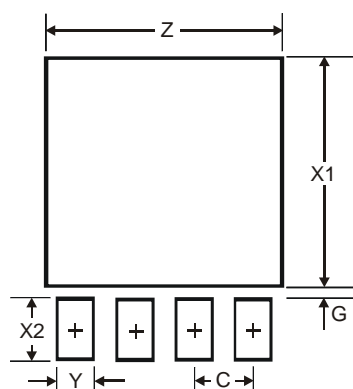


**Package Outline Dimensions**



| DFN3030-8            |      |      |      |
|----------------------|------|------|------|
| Dim                  | Min  | Max  | Typ  |
| A                    | 0.57 | 0.63 | 0.60 |
| A1                   | 0    | 0.05 | 0.02 |
| A3                   | —    | —    | 0.15 |
| b                    | 0.29 | 0.39 | 0.34 |
| D                    | 2.90 | 3.10 | 3.00 |
| D2                   | 2.19 | 2.39 | 2.29 |
| e                    | —    | —    | 0.65 |
| E                    | 2.90 | 3.10 | 3.00 |
| E2                   | 1.64 | 1.84 | 1.74 |
| L                    | 0.30 | 0.60 | 0.45 |
| All Dimensions in mm |      |      |      |

**Suggested Pad Layout**



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 2.59          |
| G          | 0.11          |
| X1         | 2.49          |
| X2         | 0.65          |
| Y          | 0.39          |
| C          | 0.65          |

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