

## Features

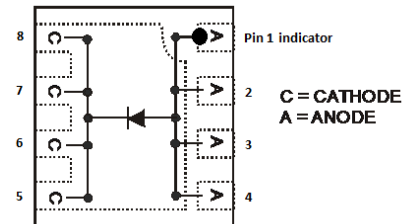
- Ultra Low Forward Voltage Drop
- Superior Reverse Avalanche Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: U-DFN3030-8
- Case Material: Molded Plastic, "Green" Molding Compound.  
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish—NiPdAu annealed over Copper Leadframe.  
Solderable per MIL-STD-202, Method 208 <sup>(e4)</sup>
- Weight: 0.0172 grams (Approximate)



Bottom View



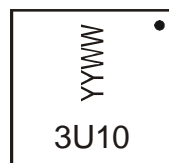
Top View  
Schematic and Pin Configuration

## Ordering Information (Note 4)

| Part Number  | Case        | Packaging        |
|--------------|-------------|------------------|
| SBR3U100LP-7 | U-DFN3030-8 | 3000/Tape & Reel |

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  2. See <https://www.diodes.com/quality/lead-free/> 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 packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



3U10 = Product marking code  
YYWW = Date code marking  
YY = Last digit of year (ex: 18 for 2018)  
WW = Week code (01 ~ 53)

**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>    | 100   | V    |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>    |       |      |
| DC Blocking Voltage   | V <sub>RM</sub>     |       |      |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub> | 70    | V    |
| Average Rectified Output Current  | I <sub>O</sub>      | 3.0   | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>    | 32    | A    |

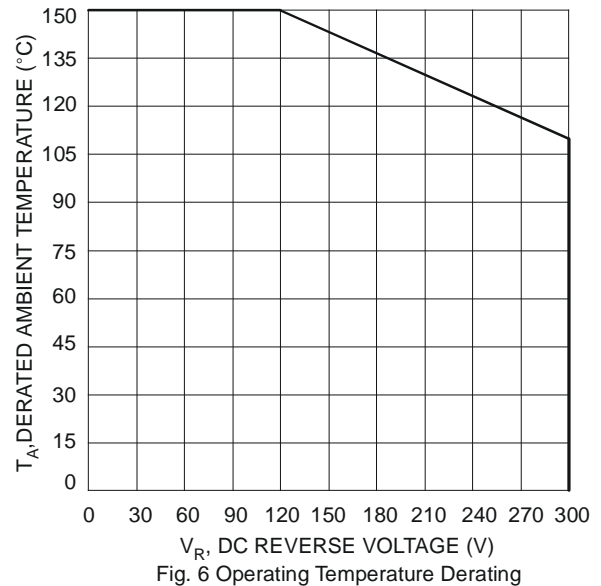
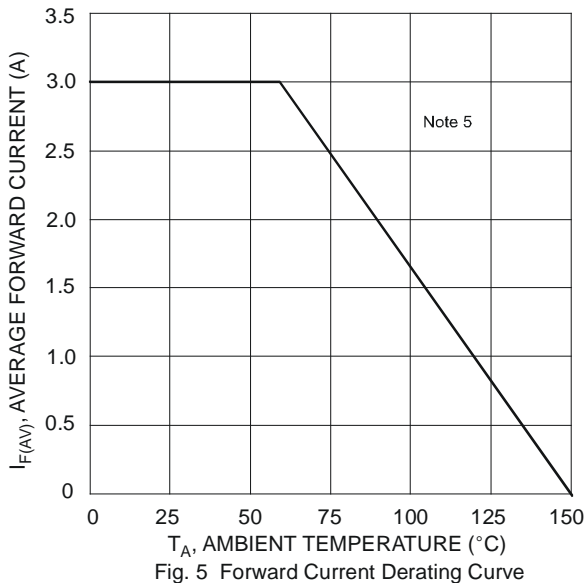
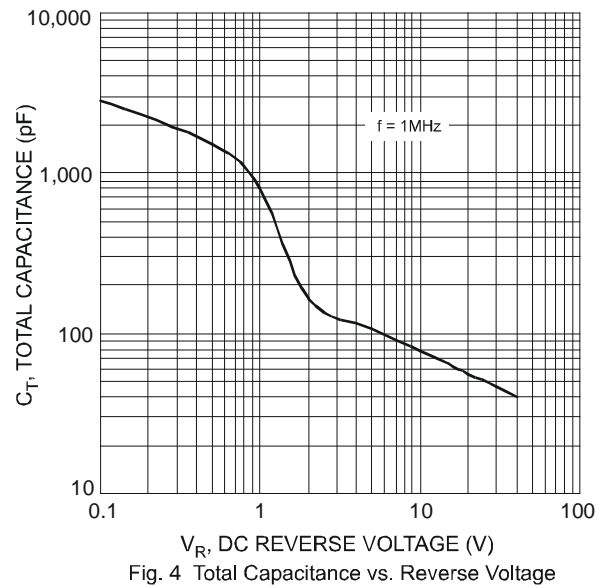
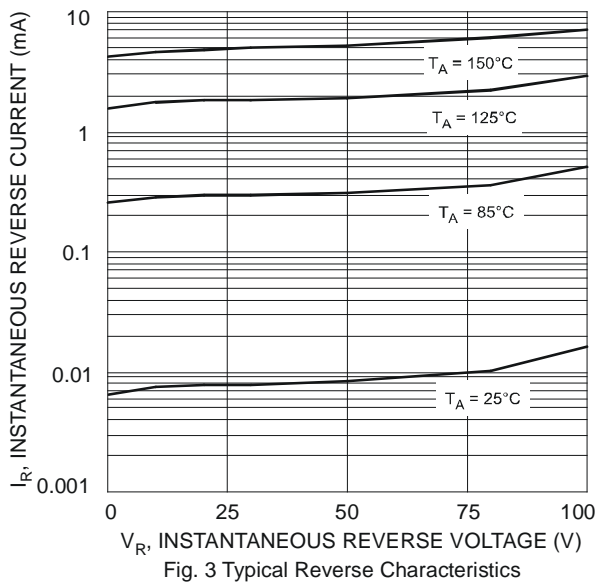
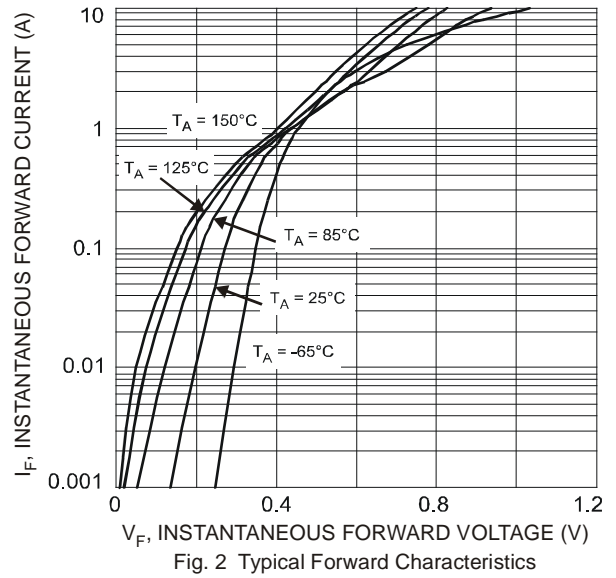
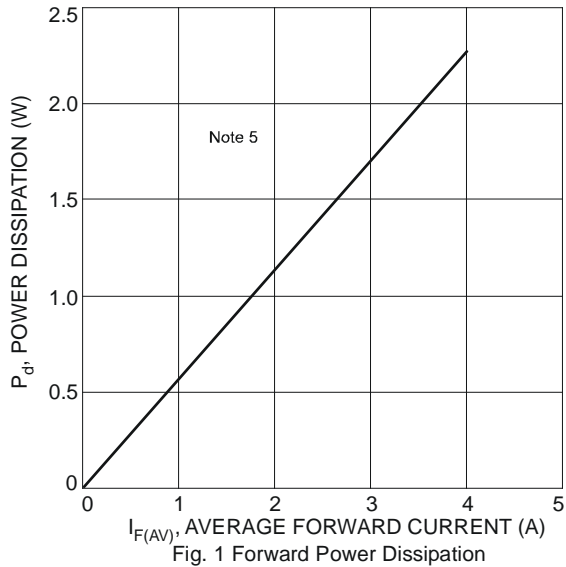
**Thermal Characteristics**

| Characteristic   | Symbol                            | Value       | Unit |
|--|-----------------------------------|-------------|------|
| Maximum Thermal Resistance Junction to Ambient (Note 5) T <sub>A</sub> = +25°C | R <sub>θJA</sub>                  | 61          | °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 6) | V <sub>(BR)R</sub> | 100 | —   | —    | V    | I <sub>R</sub> = 0.2mA                         |
| Forward Voltage                    | V <sub>F</sub>     | —   | —   | 0.79 | V    | I <sub>F</sub> = 3.0A, T <sub>J</sub> = +25°C  |
| Reverse Current (Note 6)           | I <sub>R</sub>     | —   | 16  | 200  | μA   | V <sub>R</sub> = 100V, T <sub>J</sub> = +25°C  |
|                                    |                    | —   | 3   | 15   | mA   | V <sub>R</sub> = 100V, T <sub>J</sub> = +125°C |

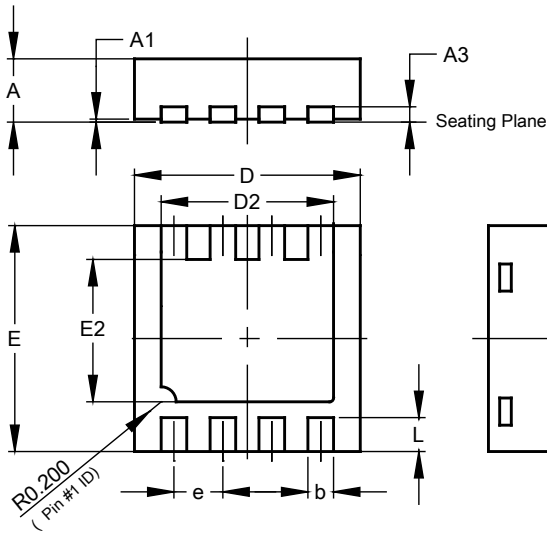
Notes: 5. Device mounted on Polyimide substrate, 2 oz. Copper, 75mm<sup>2</sup> pad area, double side PCB.  
6. Short duration pulse test used to minimize self-heating effect.



## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN3030-8

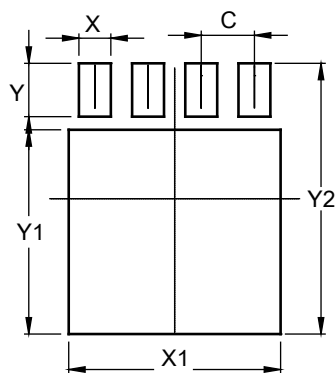


| U-DFN3030-8          |      |      |      |
|----------------------|------|------|------|
| Dim                  | Min  | Max  | Typ  |
| A                    | 0.57 | 0.63 | 0.60 |
| A1                   | 0    | 0.05 | 0.02 |
| A3                   | -    | -    | 0.15 |
| b                    | 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

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN3030-8



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 0.650         |
| X          | 0.390         |
| X1         | 2.590         |
| Y          | 0.650         |
| Y1         | 2.490         |
| Y2         | 3.300         |

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