

Features

V_{RRM} (V)	I_O (A)	$V_{F\ MAX}$ (V)	$I_{R\ MAX}$ (μ A)
150	3	0.91	10

Description and Applications

The SBR3U150LP is a single rectifier in the low profile U-DFN3030-8 package. Offering excellent high-temperature stability and low forward voltage, this device is ideal for use in general rectification applications such as:

- Boost Diode
- Blocking Diode
- Recirculating Diode

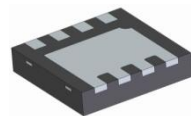
Features

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

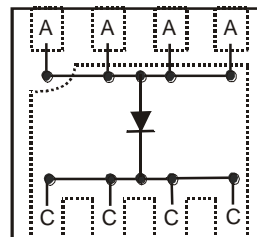
Mechanical Data

- 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 ^(e4)
- Weight: 0.0172 grams (Approximate)

U-DFN3030-8



Bottom View



C = CATHODE
A = ANODE

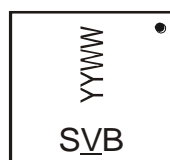
Top View
Schematic and Pin Configuration

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR3U150LP-7	U-DFN3030-8	3,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See http://www.diodes.com/quality/lead_free.html 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/products/packages.html>.

Marking Information



SVB = Product Marking Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 15 for 2015)
WW = Week Code (01 to 53)

Maximum Ratings (@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	V _{RRM}	150	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
RMS Reverse Voltage	V _{R(RMS)}	106	V
Average Rectified Output Current	I _O	3.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	33	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R _{θJA}	60	°C/W
Thermal Resistance Junction to Ambient (Note 5) @ T _A = +25°C			
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	150	-	-	V	I _R = 2mA
Forward Voltage	V _F	-	-	0.91	V	I _F = 3.0A, T _J = +25°C
Leakage Current (Note 6)	I _R	-	-	10	μA	V _R = 150V, T _J = +25°C

Notes: 5. Device mounted on 2oz. Copper, 75mm² pad area, double side PCB.
6. Short duration pulse test used to minimize self-heating effect.

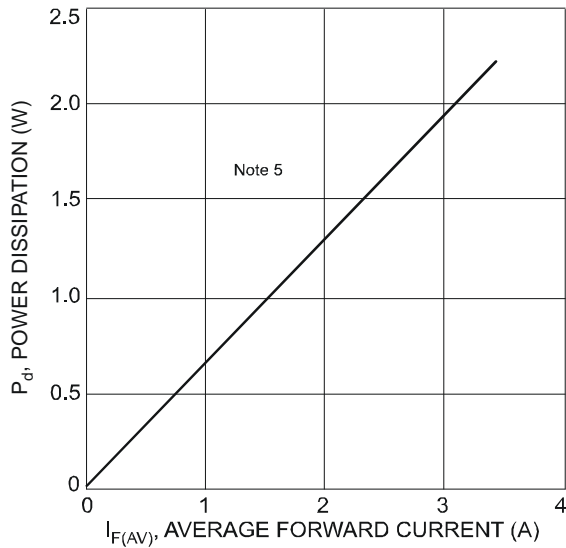


Fig. 1 Forward Power Dissipation

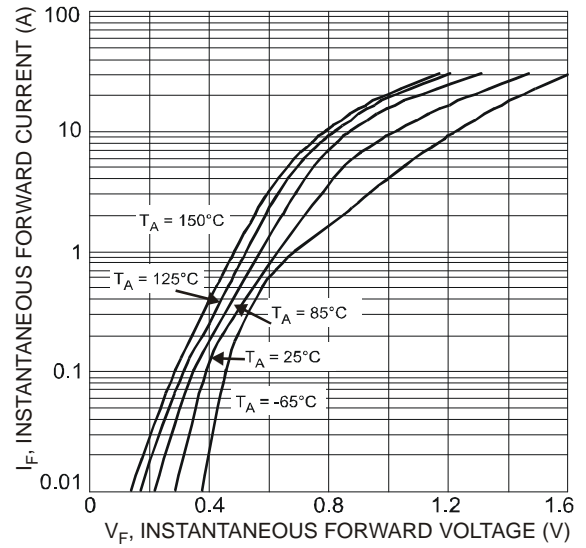


Fig. 2 Typical Forward Characteristics

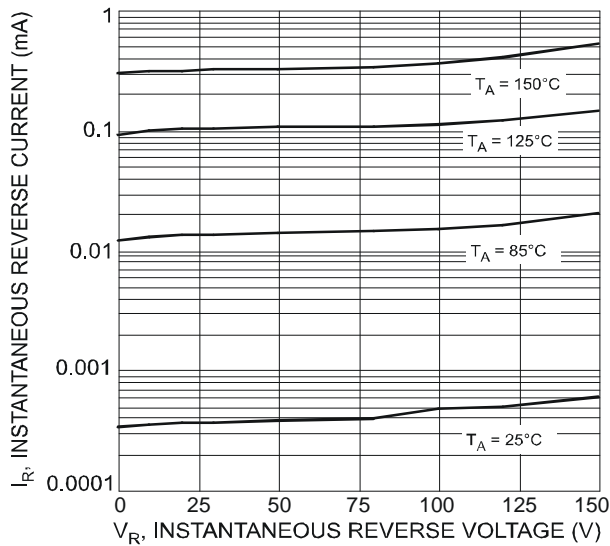


Fig. 3 Typical Reverse Characteristics

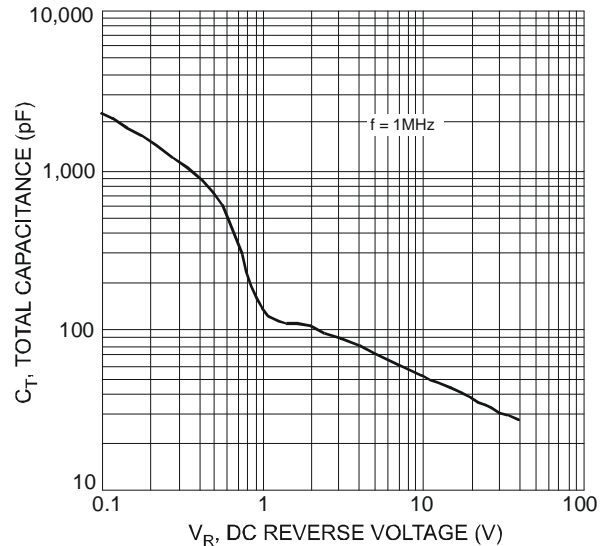


Fig. 4 Total Capacitance vs. Reverse Voltage

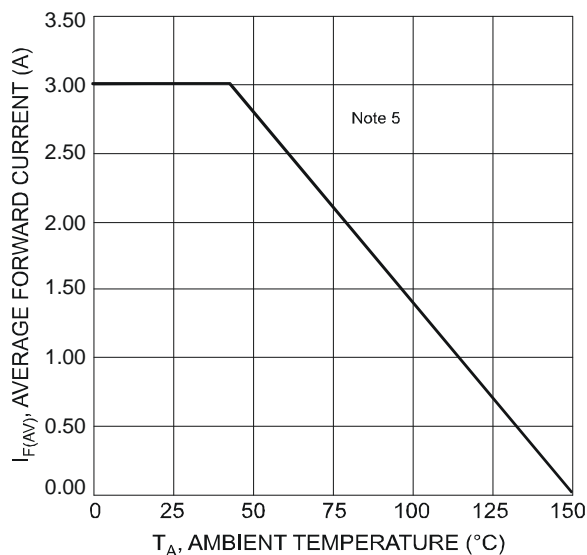


Fig. 5 Forward Current Derating Curve

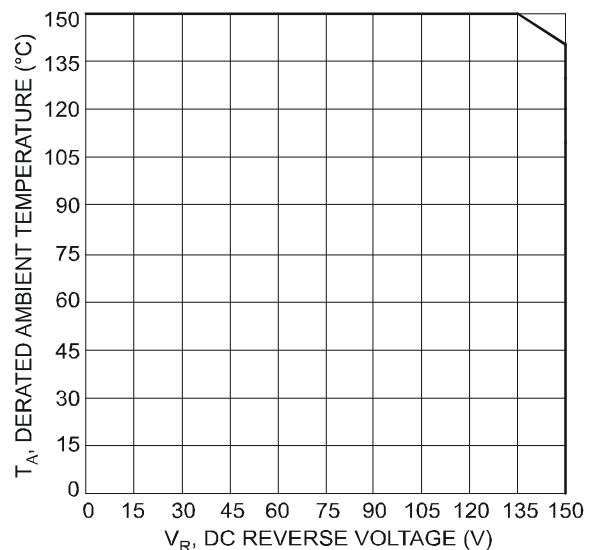
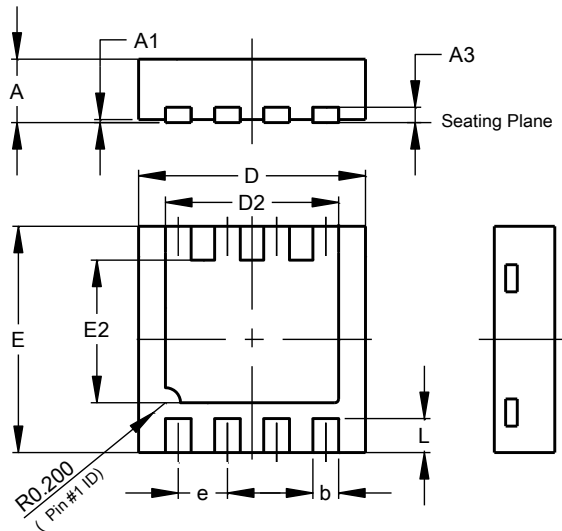


Fig. 6 Operating Temperature Derating

Package Outline Dimensions

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

U-DFN3030-8

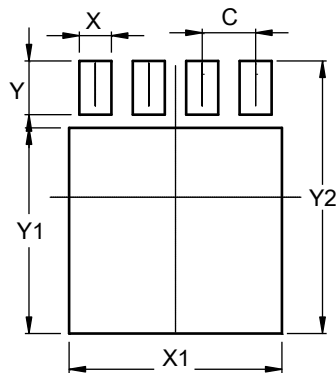


U-DFN3030-8			
Dim	Min	Max	Typ
A	0.57	0.63	0.60
A1	0	0.05	0.02
A3	—	—	0.15
b	0.29	0.39	0.34
D	2.90	3.10	3.00
D2	2.19	2.39	2.29
e	—	—	0.65
E	2.90	3.10	3.00
E2	1.64	1.84	1.74
L	0.30	0.60	0.45
All Dimensions in mm			

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
Y3	3.300

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