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[Diodes Incorporated](#)  
[SBR3U100LP-7](#)

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**SBR3U100LP**

**3A SBR®**

**SUPER BARRIER RECTIFIER**

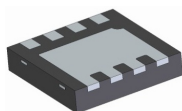
## Features

- 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)**

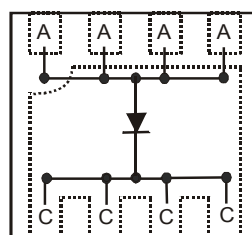
## Mechanical Data

- 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 lead frame. Solderable per MIL-STD-202, Method 208 ④
- Weight: 0.0172 grams (approximate)

U-DFN3030-8



Bottom View



C = CATHODE  
A = ANODE

Top View

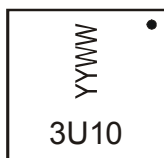
Schematic and Pin Configuration

## Ordering Information (Note 4)

Part Number	Case	Packaging
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) compliant.
  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 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: 06 for 2006)  
WW = Week code (01 ~ 53)



SBR3U100LP

**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 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.



**SBR3U100LP**

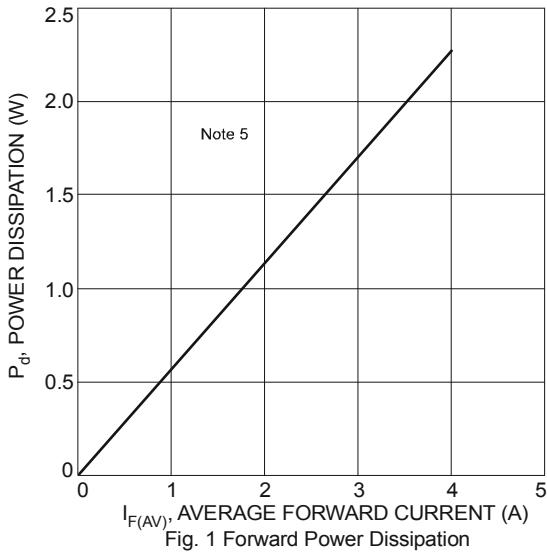


Fig. 1 Forward Power Dissipation

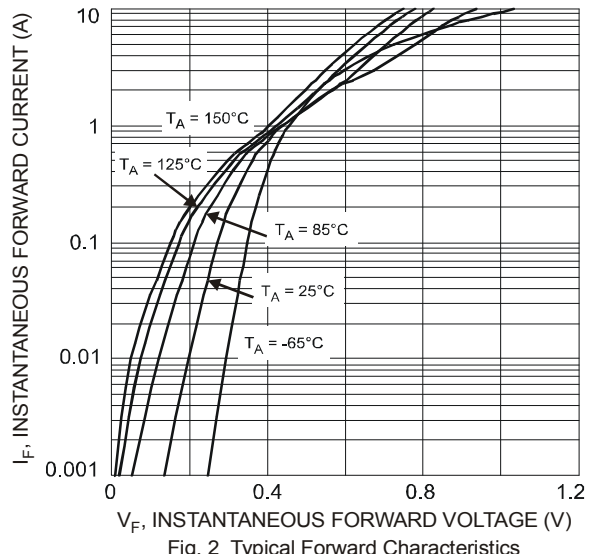


Fig. 2 Typical Forward Characteristics

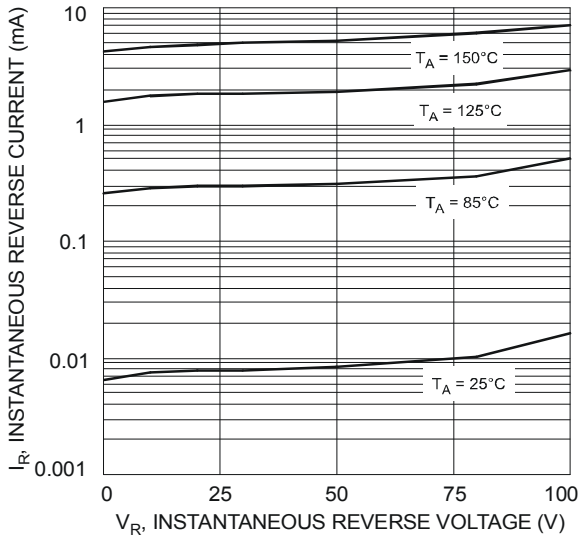


Fig. 3 Typical Reverse Characteristics

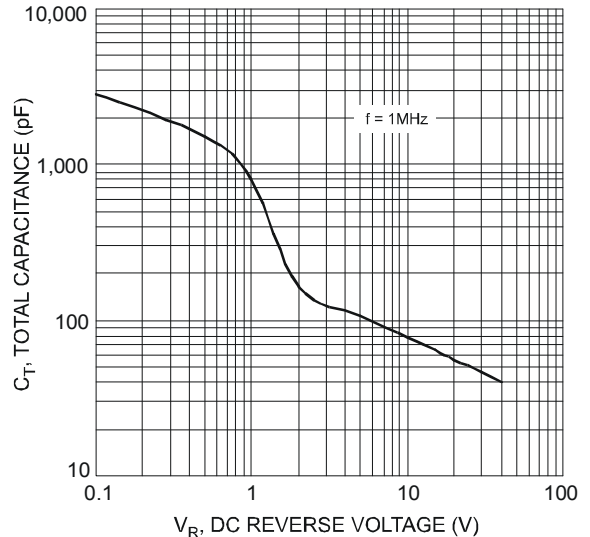


Fig. 4 Total Capacitance vs. Reverse Voltage

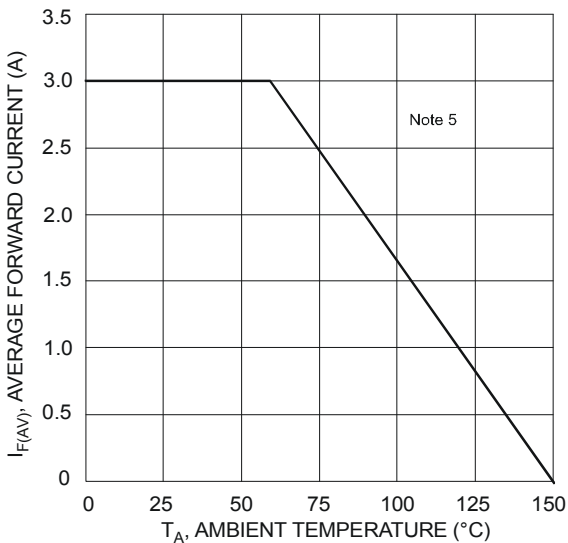


Fig. 5 Forward Current Derating Curve

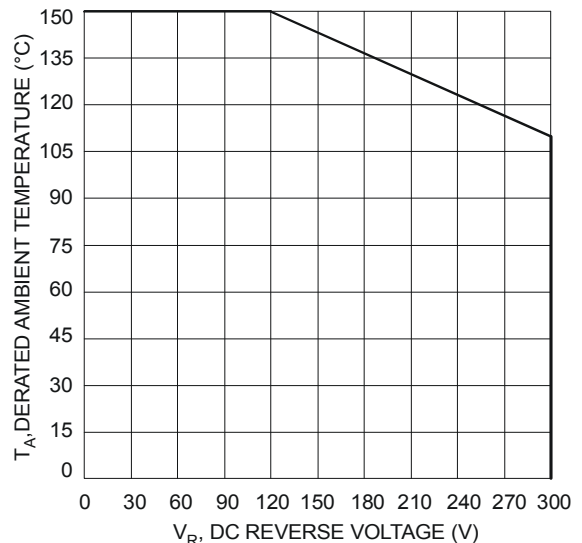
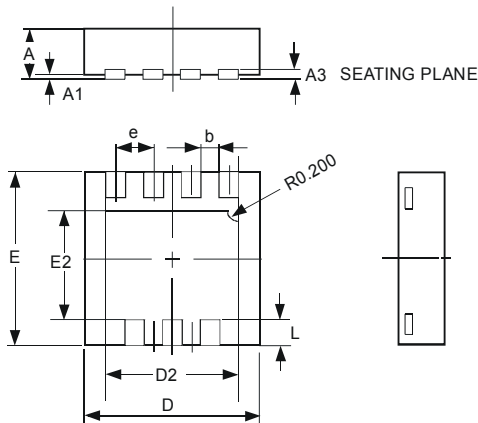


Fig. 6 Operating Temperature Derating

## Package Outline Dimensions

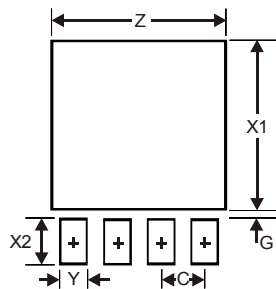
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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 AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



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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