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[Diodes Incorporated](#)
[SBR4U130LP-7](#)

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SBR4U130LP

4A SBR®

SUPER BARRIER RECTIFIER

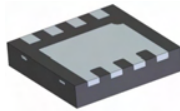
Features

- 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)**

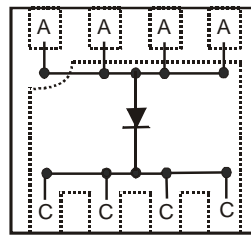
Mechanical Data

- 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 (E3)
- Weight: 0.0172 grams (approximate)

U-DFN3030-8



Bottom View



C = CATHODE
A = ANODE

Top View

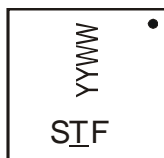
Schematic and Pin Configuration

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR4U130LP-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



SIF = Product marking code
YYWW = Date code marking
YY = Last digit of year (ex: 08 for 2008)
WW = Week code (01 ~ 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}	130	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
RMS Reverse Voltage	V _{R(RMS)}	92	V
Average Rectified Output Current	I _O	4	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	40	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance Junction to Ambient	R _{θJA}	55 180	°C/W
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 7)	V _{(BR)R}	130	-	-	V	I _R = 0.1mA
Forward Voltage	V _F	-	0.68	0.75	V	I _F = 4A, T _J = +25°C
		-	0.55	0.62		I _F = 4A, T _J = +125°C
		-	-	0.88		I _F = 10A, T _J = +25°C
Reverse Current (Note 7)	I _R	-	18	100	μA mA	V _R = 130V, T _J = +25°C
		-	2.5	20		V _R = 130V, T _J = +125°C

 Notes: 5. Device mounted on Polyimide Substrate, 140mm² copper pad, double sided, PC board.

6. Device mounted on FR-4 Substrate, 1" x 1", 2oz. Copper, single-sided PC board.

7. Short duration pulse test used to minimize self-heating effect.



SBR4U130LP

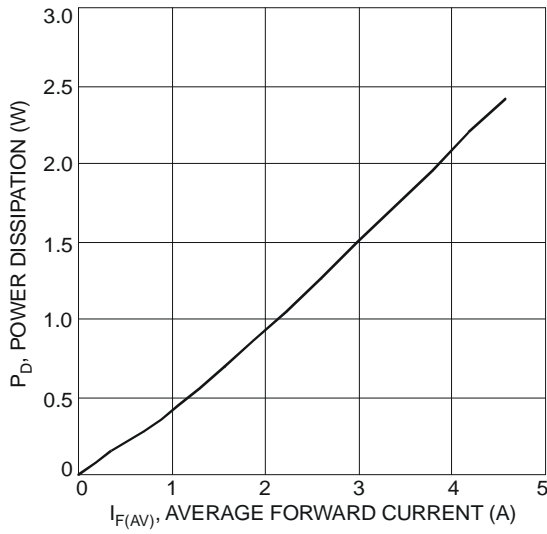


Fig. 1 Forward Power Dissipation

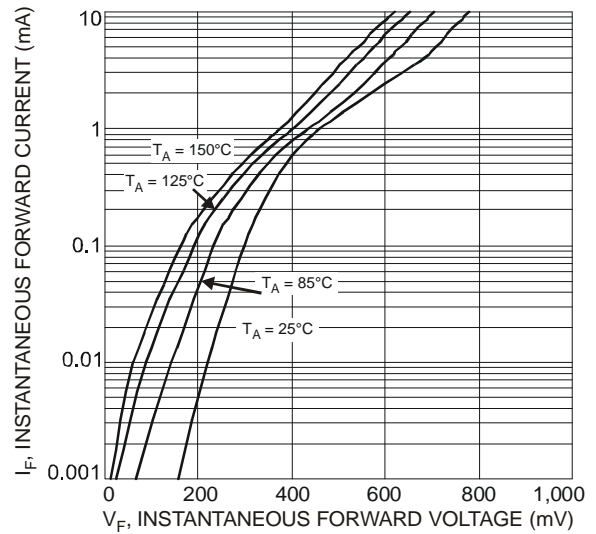


Fig. 2 Typical Forward Characteristics

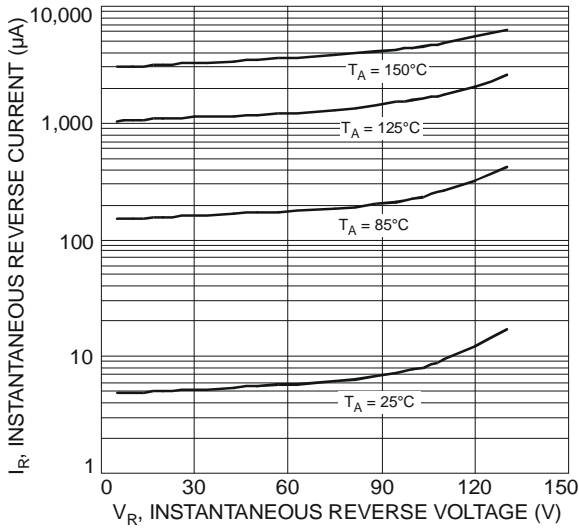


Fig. 3 Typical Reverse Characteristics

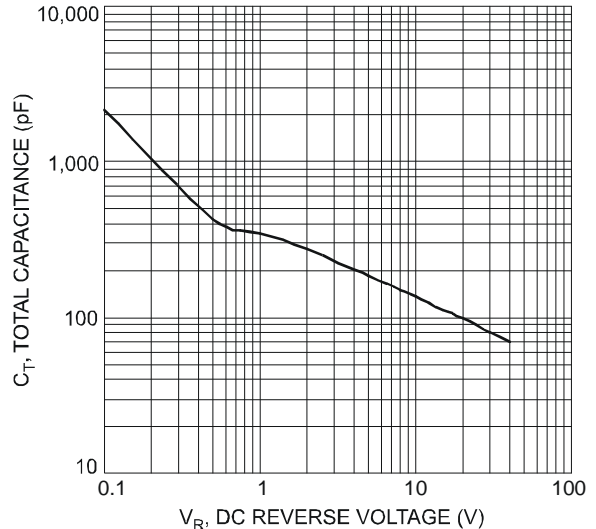


Fig. 4 Total Capacitance vs. Reverse Voltage

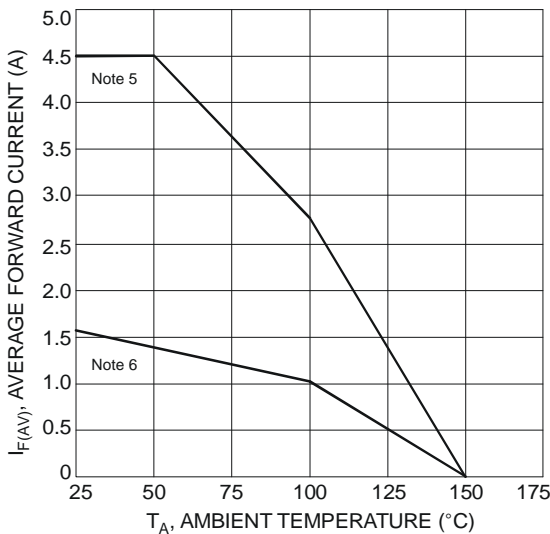


Fig. 5 Forward Current Derating Curve

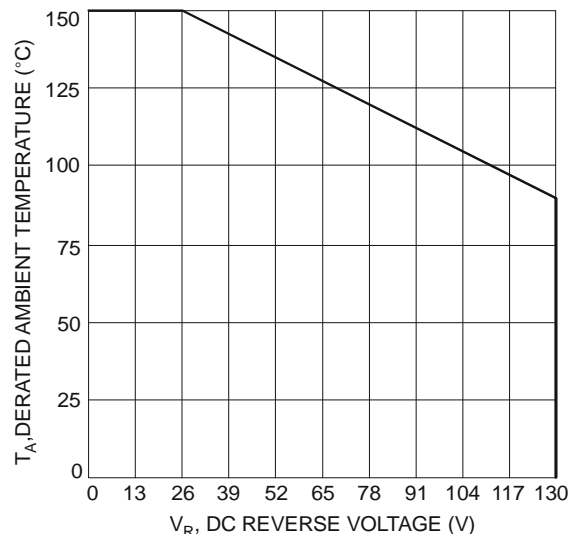
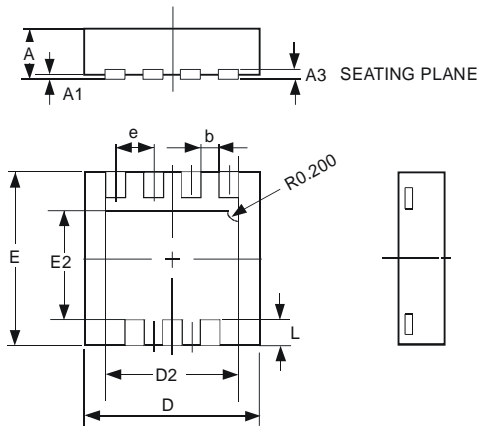


Fig. 6 Operating Temperature Derating

Package Outline Dimensions

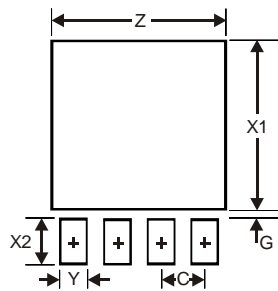
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



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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