

## Product Summary

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F</sub> MAX (V)	I <sub>R</sub> MAX (μA)
100	1	0.82	25

## Description and Applications

The DIODES™ SBR1M100BLP has four diodes in full bridge configuration packaged in the low profile U-DFN3030-4 package. Offering low forward voltage drop and excellent high temperature stability, this device is ideal for use as bridge diodes where small footprint and low profile is desired.

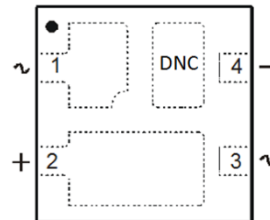
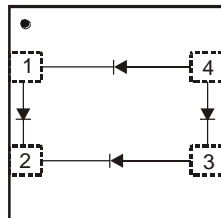
## Features

- Low Forward Voltage Drop (V<sub>F</sub>) and Low Reverse Leakage (I<sub>R</sub>)
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology (SBR®)
- Low Profile Package with Excellent Thermal Dissipation
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.**

## Mechanical Data

- Package: U-DFN3030-4
- Package Material: Molded Plastic “Green” Molding Compound, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – NiPdAu Over Copper Lead Frame, Solderable per MIL-STD-202, Method 208 (e4)
- Polarity: See Diagram
- Weight: 0.02 grams (Approximate)

U-DFN3030-4



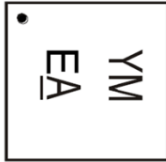
Top View  
Pin Configuration  
\*\*Do Not Connect the DNC Pad\*\*

## Ordering Information (Note 4)

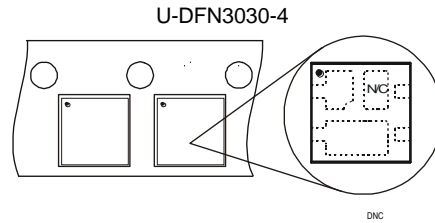
Part Number	Package	Packing	
		Qty.	Carrier
SBR1M100BLP-7	U-DFN3030-4	3000	Tape & Reel

- 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 <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



EA = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: J = 2022)  
 M = Month (ex: 7 = July)



### Date Code Key

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Code	J	K	L	M	N	O	P	R	S	T	U	V

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

## Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive 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>	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Per Diode)	I <sub>FSM</sub>	8	A

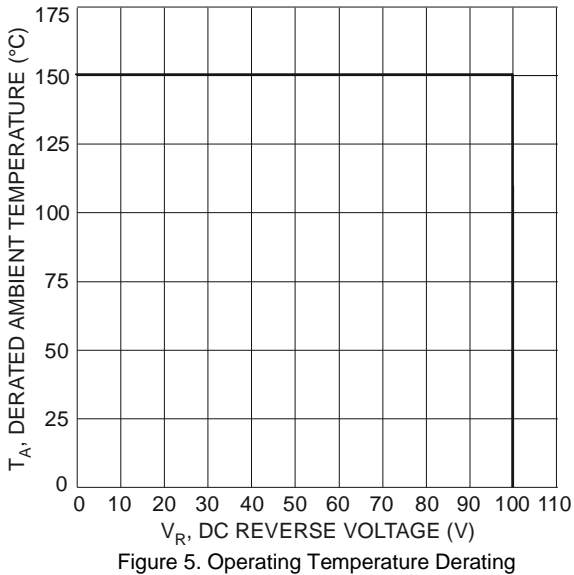
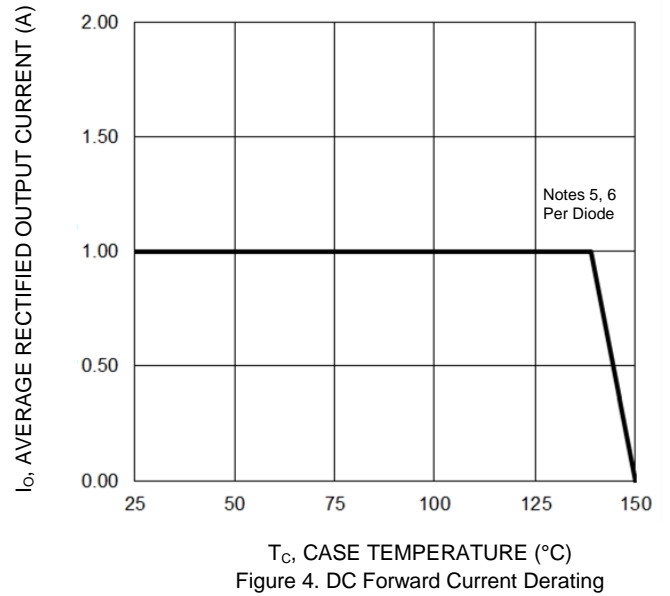
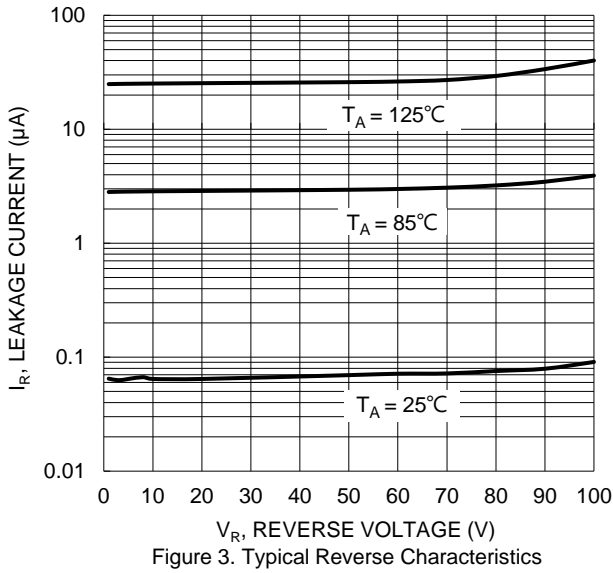
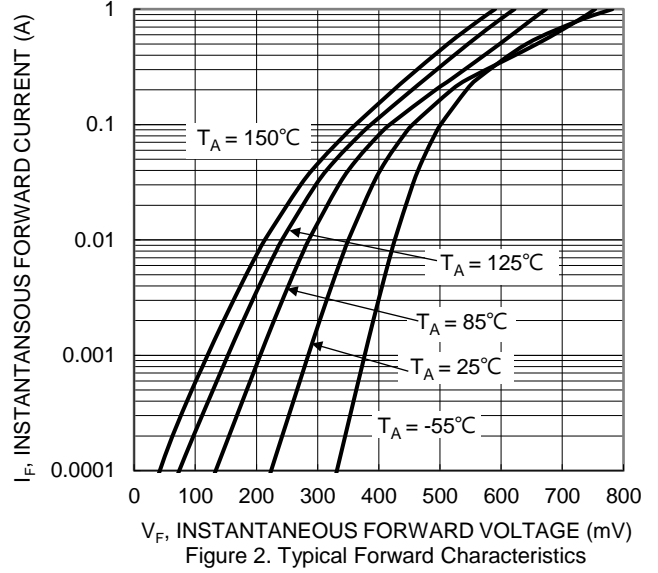
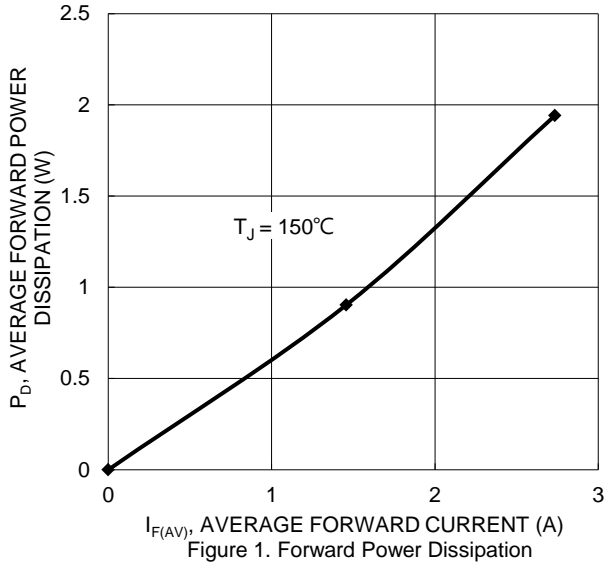
## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	0.91	W
Thermal Resistance Junction to Ambient Air (Note 5)	R <sub>θJA</sub>	140	°C/W
Thermal Resistance Junction to Ambient Air (Note 6)	R <sub>θJA</sub>	65	°C/W
Thermal Resistance Junction to Case (Note 5)	R <sub>θJC</sub>	12	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 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	V <sub>(BR)R</sub>	100	—	—	V	I <sub>R</sub> = 250μA
Forward Voltage (Per Diode)	V <sub>F</sub>	—	0.73 0.76 0.63	0.79 0.82 0.7	V	I <sub>F</sub> = 0.8A, T <sub>J</sub> = +25°C I <sub>F</sub> = 1A, T <sub>J</sub> = +25°C I <sub>F</sub> = 1A, T <sub>J</sub> = +125°C
Reverse Current (Note 7) (Per Diode)	I <sub>R</sub>	—	0.3 32	25 250	μA	V <sub>R</sub> = 100V, T <sub>J</sub> = +25°C V <sub>R</sub> = 100V, T <sub>J</sub> = +125°C

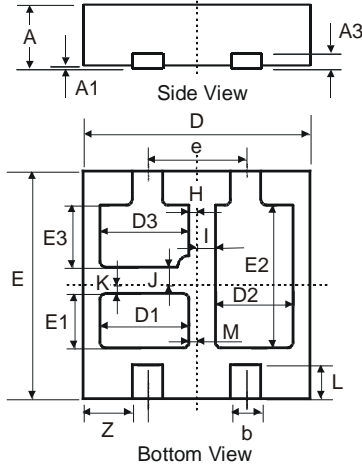
- Notes:
- FR-4 PCB, 2oz copper, minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.
  - Polymide PCB, 1inch sq. copper pad, 2oz; minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.
  - Short duration pulse test used to minimize self-heating effect.



**Package Outline Dimensions**

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

**U-DFN3030-4**



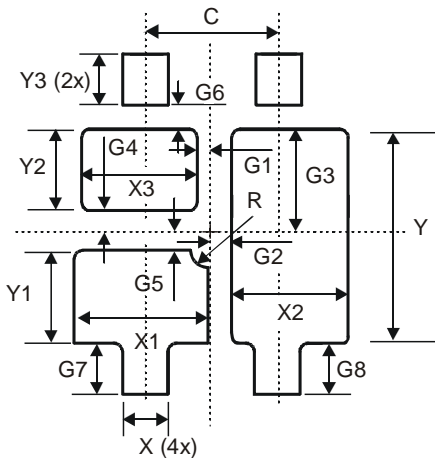
U-DFN3030-4							
Dim	Min	Max	Typ	Dim	Min	Max	Typ
A	0.57	0.63	0.60	E1	0.615	0.815	0.715
A1	0	0.05	0.02	E2	1.78	1.98	1.88
A3	-	-	0.15	E3	0.715	0.915	0.815
B	0.35	0.45	0.40	H	0.05	0.15	0.10
D	2.90	3.10	3.00	I	0.20	0.30	0.25
D1	1.075	1.275	1.175	J	0.185	0.285	0.235
D2	0.925	1.125	1.025	K	0.065	0.165	0.115
D3	1.075	1.275	1.175	L	0.30	0.60	0.45
E	2.90	3.10	3.00	M	0.05	0.15	0.10
e	-	-	1.30	Z	-	-	0.65

All Dimensions in mm

**Suggested Pad Layout**

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

**U-DFN3030-4**



Dimensions	Value (in mm)
C	1.300
G1	0.100
G2	0.150
G3	0.830
G4	0.115
G5	0.135
G6	0.170
G7	0.500
G8	0.500
R	0.150
X	0.500
X1	1.375
X2	1.225
X3	1.175
Y	1.980
Y1	1.015
Y2	0.715
Y3	0.650

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