Product Summary

V_{RRM} (V)	I_O (A)	$V_{F\ MAX}$ (V)	$I_{R\ MAX}$ (mA)
60	0.5	0.49	0.10

Features

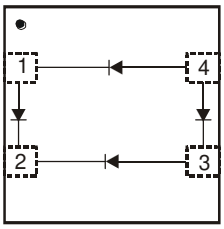
- Low Forward Voltage Drop (V_F) and Low Reverse Leakage (I_R)
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier SBR® Technology
- Low Profile Package with Excellent Thermal Dissipation
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

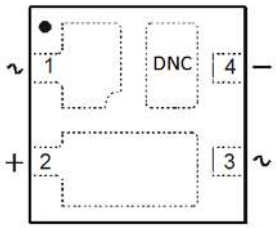
Description and Applications

The SBR05M60BLP 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.

Mechanical Data

- Case: U-DFN3030-4
- Case 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)





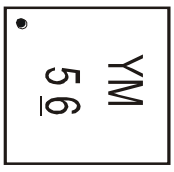
Top View
Pin Configuration
Do Not Connect the DNC Pad

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR05M60BLP-7	U-DFN3030-4	3000/Tape & Reel

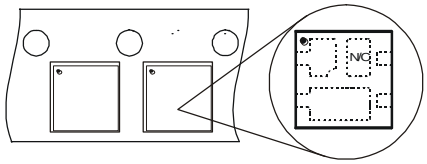
Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "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



5 6 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: D = 2016)
M = Month (ex: 9 = September)

U-DFN3030-4



Date Code Key

Year	2015	2016	2017	2018	2019	2020	2021
Code	C	D	E	F	G	H	I

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_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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	60	V
Average Rectified Output Current	I_O	500	mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Per Diode)	I_{FSM}	8	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	215	-	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150		°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage (Per Diode)	V_F	-	- 0.43 0.40	0.42 0.49 0.46	V	I_F = 0.25A, T_J = +25ºC I_F = 0.5A, T_J = +25ºC I_F = 0.5A, T_J = +125ºC
Reverse Current (Note 6) (Per Diode)	I_R	-	17 2.8	100 20	µA mA	V_R = 60V, T_J = +25ºC V_R = 60V, T_J = +125ºC

Notes: 5. Polymide PCB, 2 oz. copper; minimum recommended pad layout per http://www.diodes.com/package-outlines.html.
6. Short duration pulse test used to minimize self-heating effect.

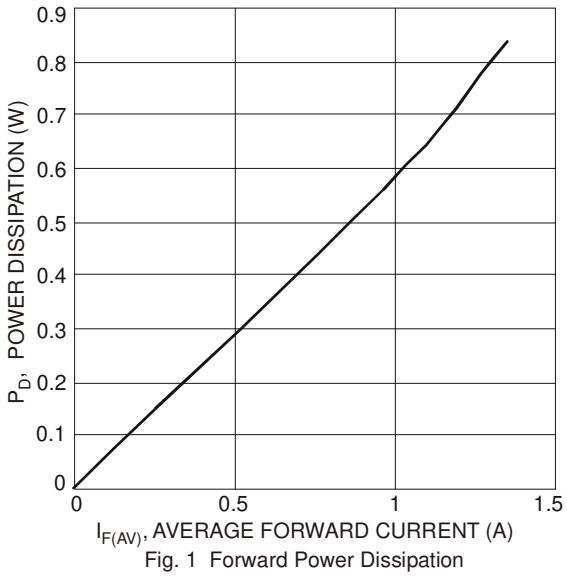


Fig. 1 Forward Power Dissipation

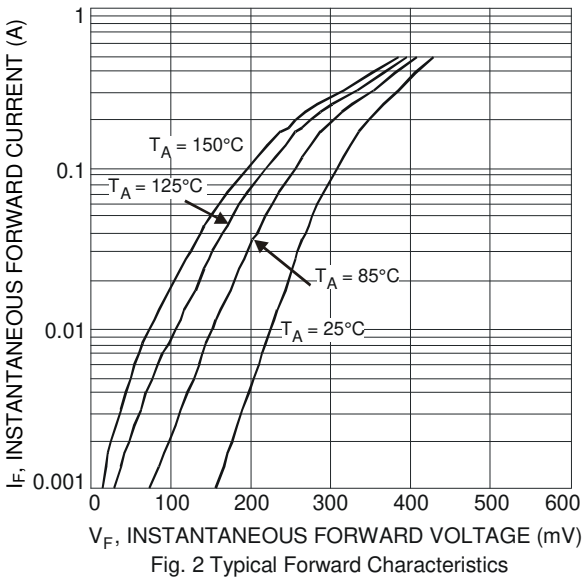


Fig. 2 Typical Forward Characteristics

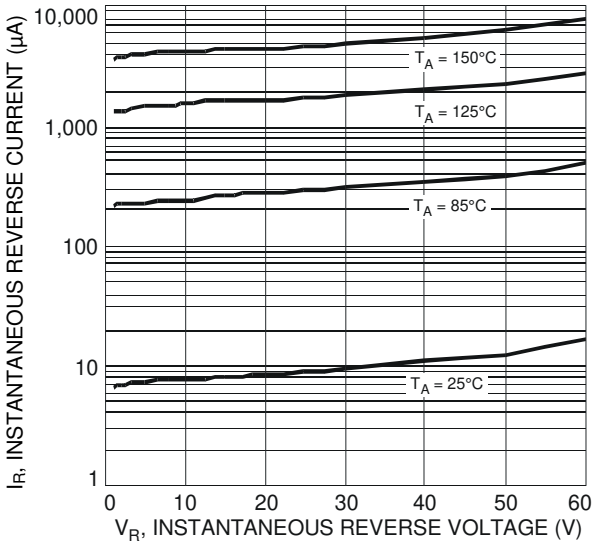


Fig. 3 Typical Reverse Characteristics

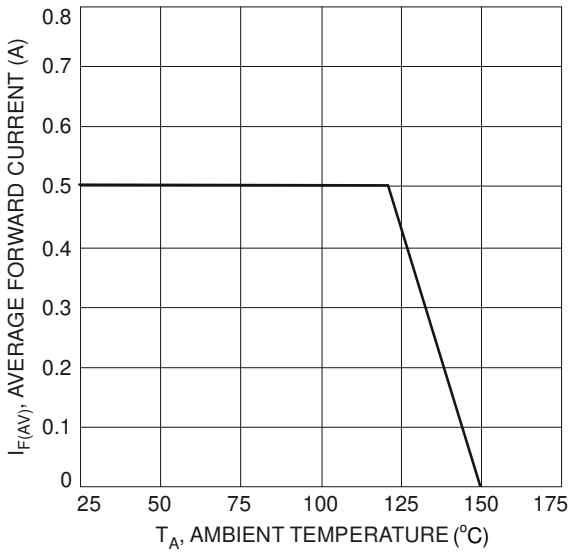


Fig. 4 Forward Current Derating Curve

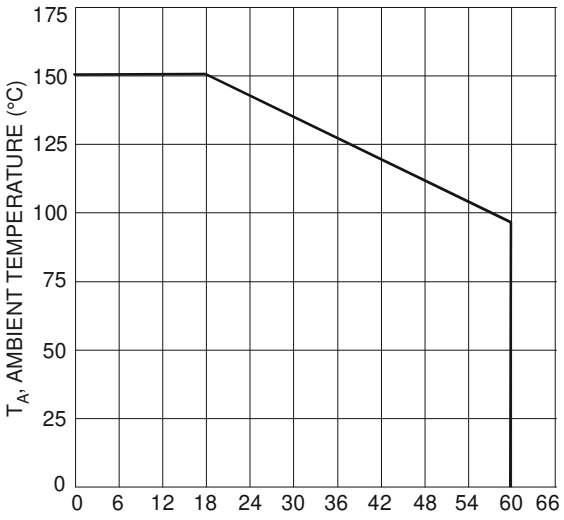
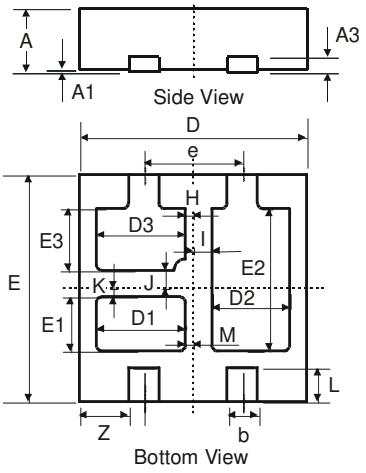


Fig. 5 Operating Temperature Derating

Package Outline Dimensions

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

U-DFN3030-4

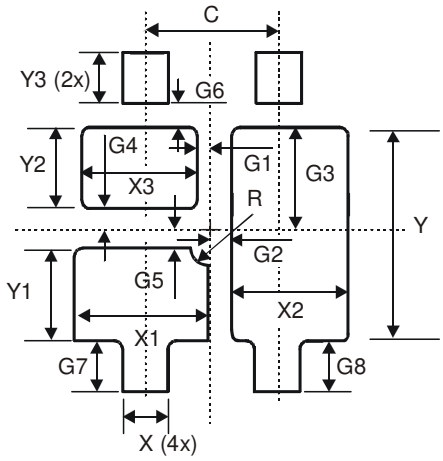


U-DFN3030-4							
Dim	**Min**	**Max**	**Typ**	**Dim**	**Min**	**Max**	**Typ**
A	0.57	0.63	0.60	**E1**	0.615	0.815	0.715
A1	0	0.05	0.02	**E2**	1.78	1.98	1.88
A3	-	-	0.15	**E3**	0.715	0.915	0.815
B	0.35	0.45	0.40	**H**	0.05	0.15	0.10
D	2.90	3.10	3.00	**I**	0.20	0.30	0.25
D1	1.075	1.275	1.175	**J**	0.185	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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