

Features

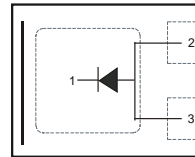
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free By Design, RoHS Compliant (Note 1)**
- **“Green” Molding Compound (No Br, Sb)**



Top View



Bottom View


 Top View
 Internal Schematic

Mechanical Data

- Case: DFN1411-3
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: See Diagram
- Terminals: Finish – NiPdAu over Copper Lead Frame. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 2.35mg (approximate)

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}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
RMS Reverse Voltage	V _{R(RMS)}	28	V
Average Rectified Output Current (See Figure 1)	I _O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance	R _{θJA}	190	°C/W
Thermal Resistance Junction to Ambient (Note 2)			
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 3)	V _{(BR)R}	40	-	-	V	I _R = 100μA
Forward Voltage Drop	V _F	-	0.39	0.42	V	I _F = 0.5A, T _J = 25°C
		-	0.46	0.49		I _F = 1.0A, T _J = 25°C
		-	0.34	0.37		I _F = 0.5A, T _J = 125°C
		-	0.43	0.47		I _F = 1.0A, T _J = 125°C
Leakage Current (Note 3)	I _R	-	-	50	μA	V _R = 40V, T _J = 25°C
			-	100	mA	V _R = 40V, T _J = 125°C

- Notes:
1. No purposefully added lead.
 2. Device mounted on Polymide substrate 1" x 1", 2oz. Copper double sided PCB board.
 3. Short duration pulse test used to minimize self-heating effect.

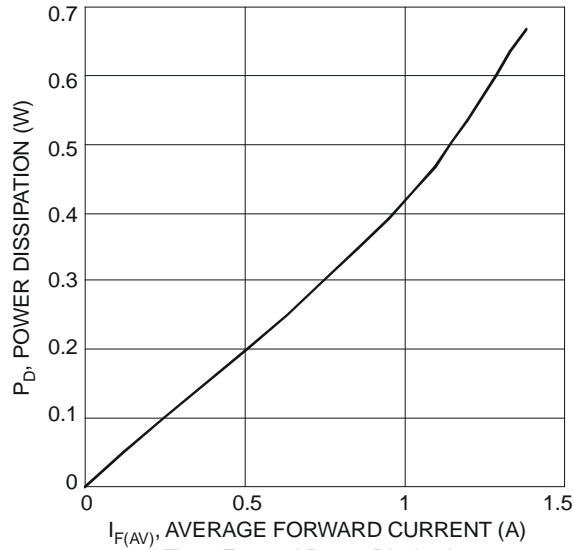


Fig. 1 Forward Power Dissipation

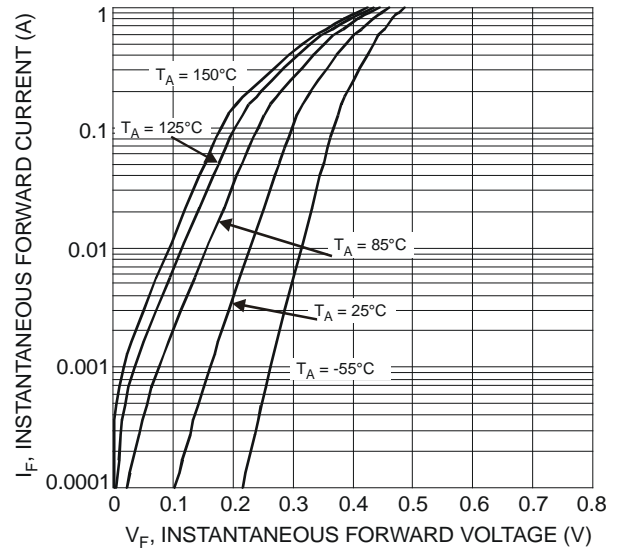


Fig. 2 Typical Forward Characteristics

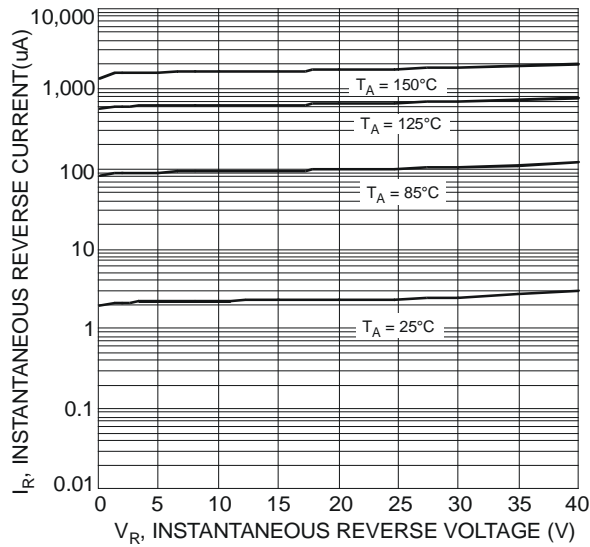


Fig. 3 Typical Reverse Characteristics

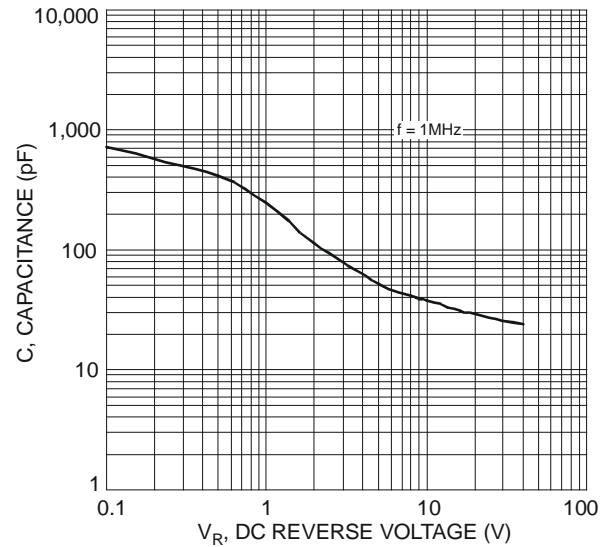


Fig. 4 Total Capacitance vs. Reverse Voltage

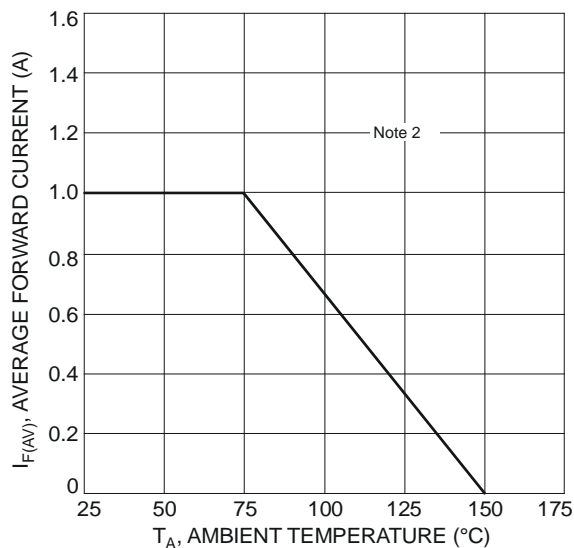


Fig. 5 Forward Current Derating Curve

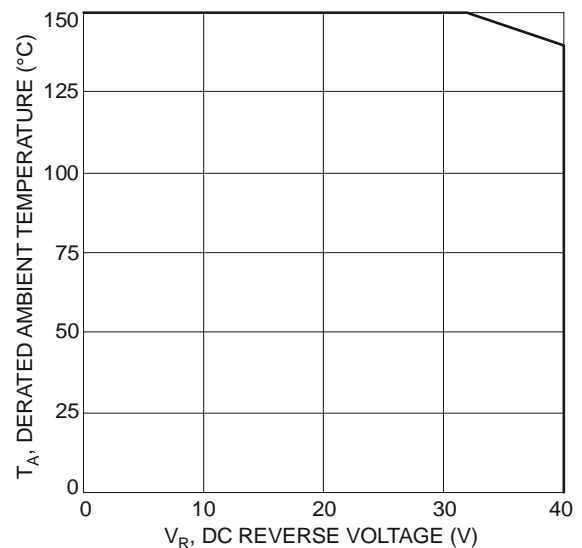


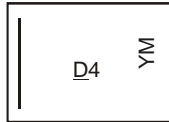
Fig. 6 Operating Temperature Derating

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR1U40LP-7	DFN1411-3	3000/Tape & Reel

Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



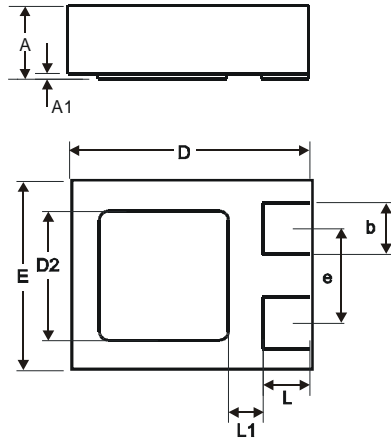
D4 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: U = 2007
 M = Month (ex: 9 = September)

Date Code Key

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	U	V	W	X	Y	Z	A	B	C

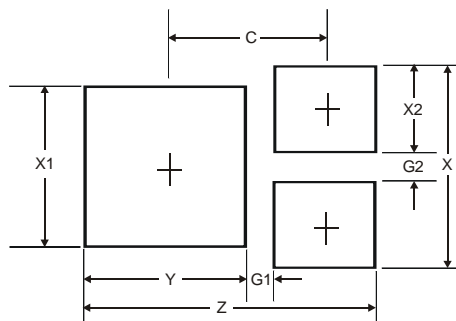
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



DFN1411-3			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.02
b	0.25	0.35	0.30
D	1.35	1.475	1.40
D2	0.65	0.85	0.75
E	1.05	1.18	1.10
e	—	—	0.55
L	0.225	0.325	0.275
L1	—	—	0.20
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.38
G1	0.15
G2	0.15
X	0.95
X1	0.75
X2	0.40
Y	0.75
C	0.76

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SBR1U40LP

Document number: DS31108 Rev. 7 - 2

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June 2008

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