

## Features

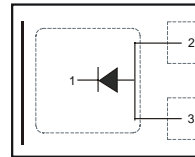
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free By Design, RoHS Compliant (Note 1)**
- **“Green” Molding Compound (No Br, Sb)**



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-020C
- Terminal Connections: See Diagram
- Terminals: Finish - Matte Tin annealed over Copper lead frame. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: TBD grams (approximate)

## 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>	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V
Average Rectified Output Current (See Figure 1)	I <sub>O</sub>	1.0	A

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance	R <sub>θJA</sub>	190	°C/W
Thermal Resistance Junction to Ambient (Note 2)			
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 3)	V <sub>(BR)R</sub>	40	-	-	V	I <sub>R</sub> = 100μA
Forward Voltage Drop	V <sub>F</sub>	-	0.39	0.42	V	I <sub>F</sub> = 0.5A, T <sub>j</sub> = 25°C
		-	0.46	0.49		I <sub>F</sub> = 1.0A, T <sub>j</sub> = 25°C
		-	0.34	0.37		I <sub>F</sub> = 0.5A, T <sub>j</sub> = 125°C
		-	0.43	0.47		I <sub>F</sub> = 1.0A, T <sub>j</sub> = 125°C
Leakage Current (Note 3)	I <sub>R</sub>	-	-	50	μA	V <sub>R</sub> = 20V, T <sub>j</sub> = 25°C
		-	-	100		V <sub>R</sub> = 40V, T <sub>j</sub> = 25°C

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

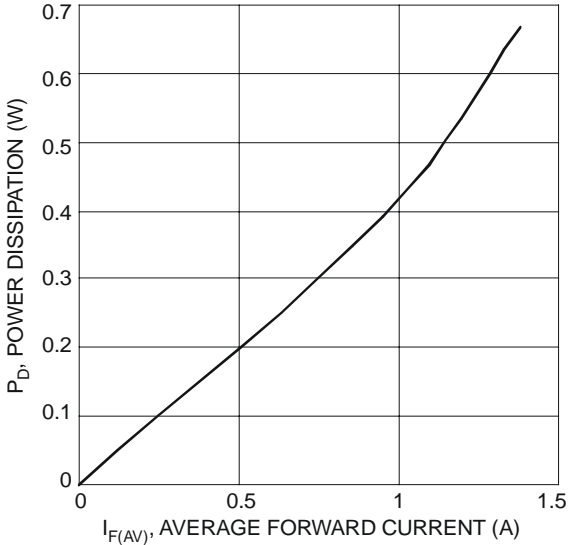


Fig. 1 Forward Power Dissipation

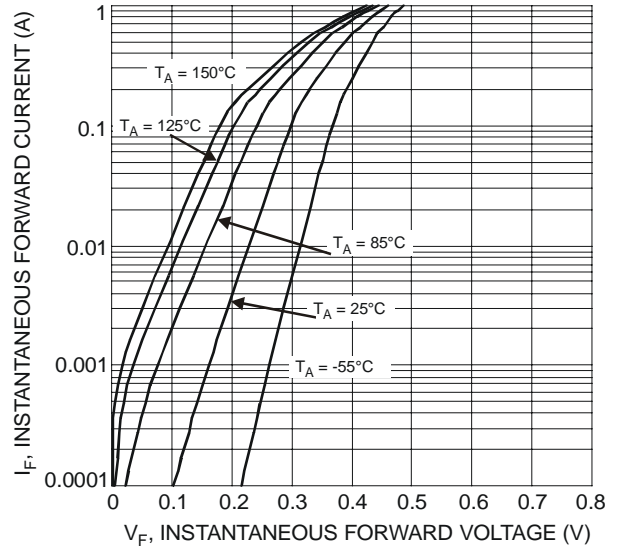


Fig. 2 Typical Forward Characteristics

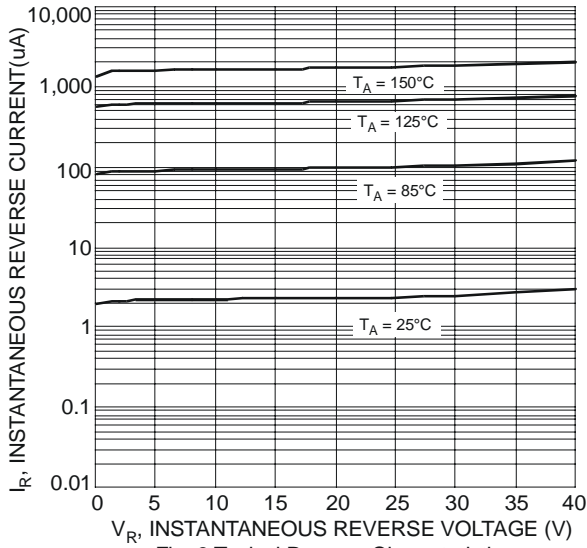


Fig. 3 Typical Reverse Characteristics

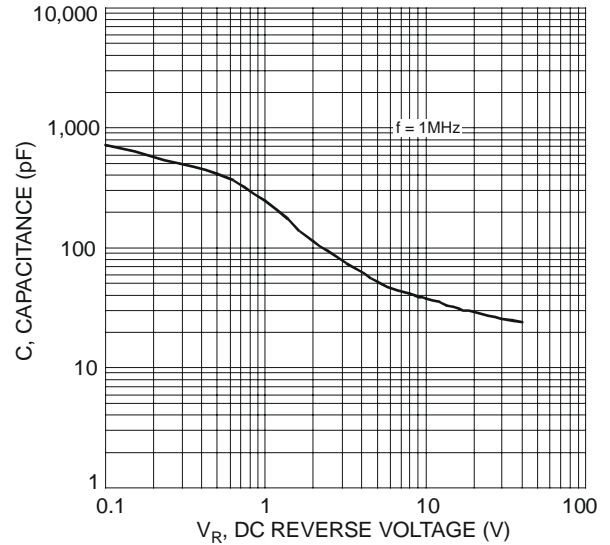


Fig. 4 Total Capacitance vs. Reverse Voltage

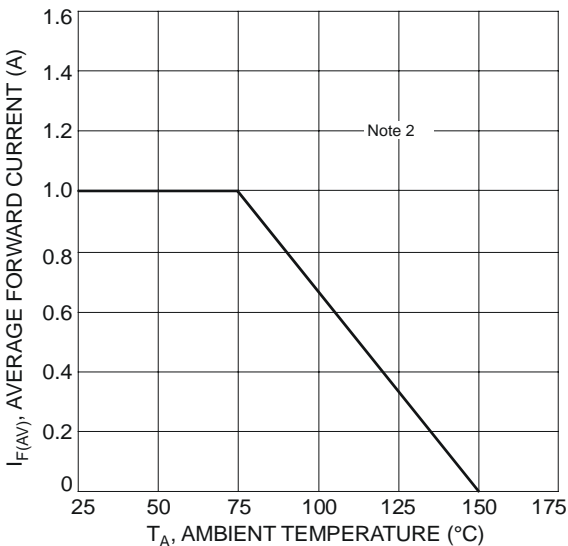


Fig. 5 Forward Current Derating Curve

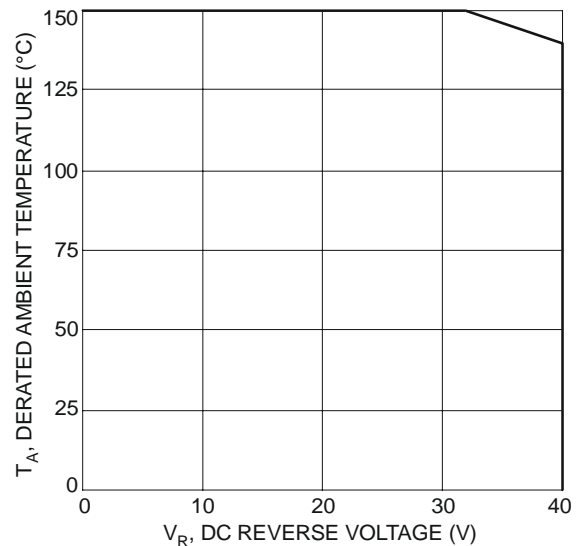


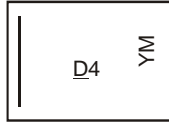
Fig. 6 Operating Temperature Derating

**Ordering Information** (Note 4)

Part Number	Case	Packaging
SBR1U40LP-7	DFN1411-3	5000/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)

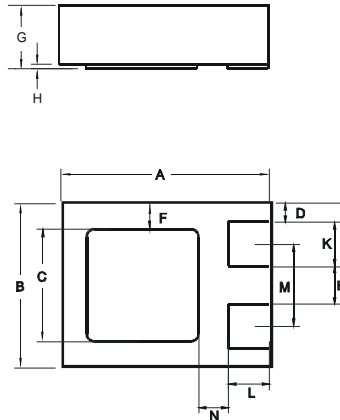
Date Code Key

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

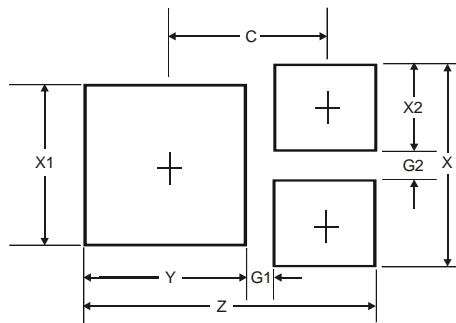
**Package Outline Dimensions**



DFN1411-3			
Dim	Min	Max	Typ
A	1.35	1.48	1.40
B	1.05	1.18	1.10
C	0.65	0.85	0.75
D	—	—	0.125
E	—	—	0.25
F	—	—	0.175
G	0.47	0.53	0.50
H	0	0.05	0.02
K	0.25	0.35	0.30
L	0.22	0.33	0.275
M	—	—	0.55
N	—	—	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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