

Features

- Ultra Low Forward Voltage Drop
- Superior Reverse Avalanche Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **“Green” Molding Compound (No Br, Sb)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: DFN1006-2
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Dot
- Terminals: Finish - NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.001 grams



Top View



Bottom View

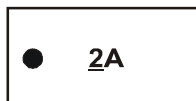
Ordering Information (Note 2)

Part Number	Case	Packaging
SBR02U100LP-7	DFN1006-2	3000/Tape & Reel
SBR02U100LP-7B	DFN1006-2	10,000/Tape & Reel

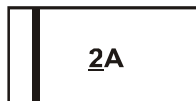
- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
 2. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information

SBR02U100LP-7


 Top View
 Dot Denotes
 Cathode Side

SBR02U100LP-7B


 Top View
 Bar Denotes
 Cathode Side

 $\underline{2}A$ = Product Type Marking Code

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectified Output Current (See Figure 1)	I_O	250	mA
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			
Thermal Resistance, Junction to Ambient (Note 3) $T_A = 25^\circ\text{C}$	$R_{\theta JA}$	270	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient (Note 4) $T_A = 25^\circ\text{C}$	$R_{\theta JA}$	235	
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	100	-	-	V	$I_R = 1\text{mA}$
Forward Voltage Drop	V_F	-	0.67	0.72	V	$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$
			0.76	0.80		$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$
			0.60	0.65		$I_F = 200\text{mA}, T_J = 125^\circ\text{C}$
Leakage Current (Note 5)	I_R	-	0.04 6	1.0 50	μA	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$ $V_R = 75\text{V}, T_J = 85^\circ\text{C}$

- Notes:
3. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>
 4. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>
 5. Short duration pulse test used to minimize self-heating effect.

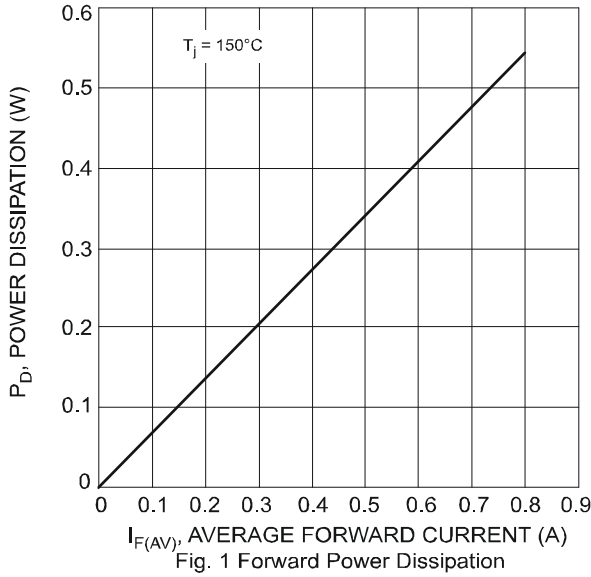


Fig. 1 Forward Power Dissipation

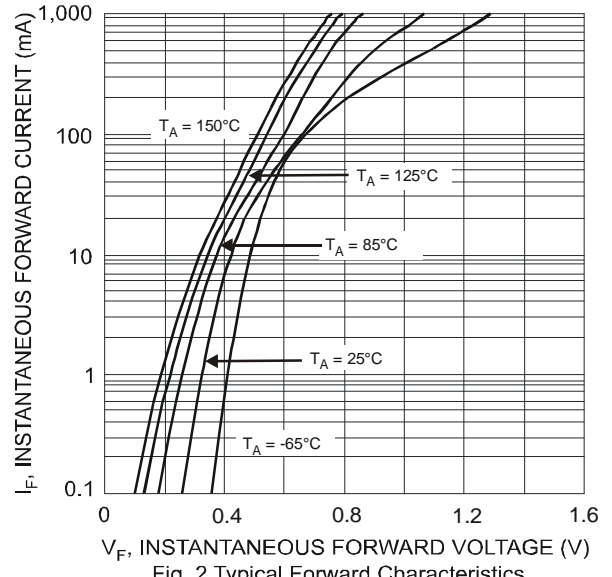


Fig. 2 Typical Forward Characteristics

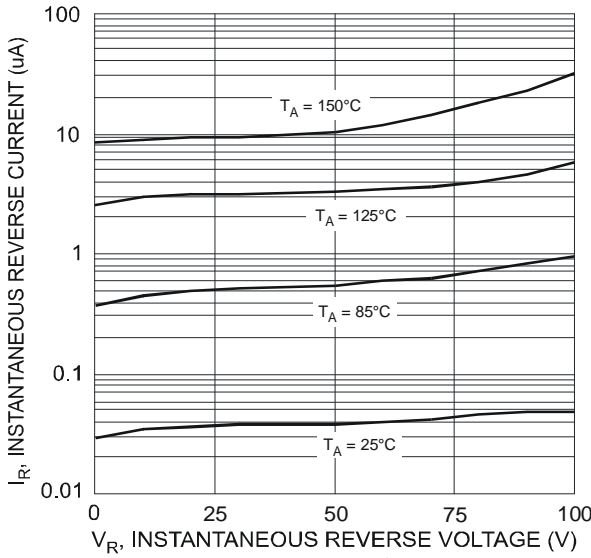


Fig. 3 Typical Reverse Characteristics

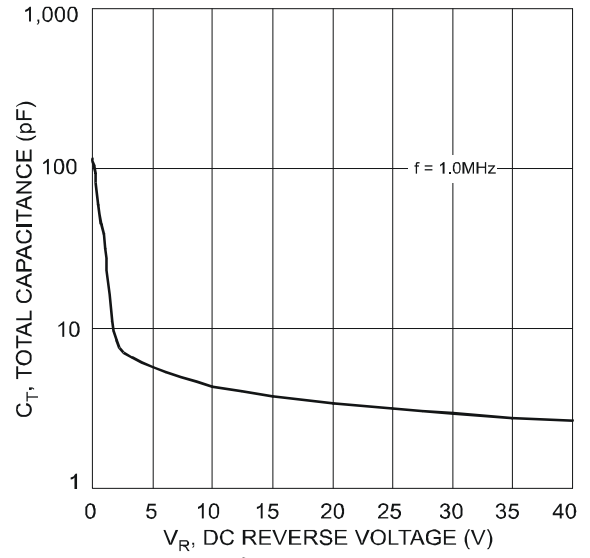


Fig. 4 Typical Capacitance vs. Reverse Voltage

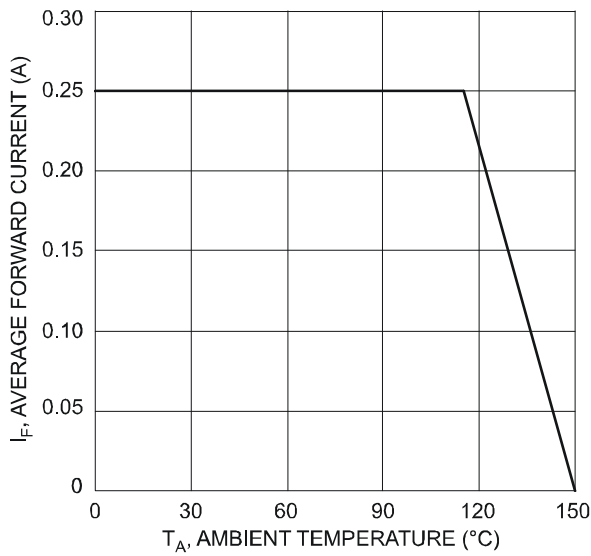


Fig. 5 Forward Current Derating Curve

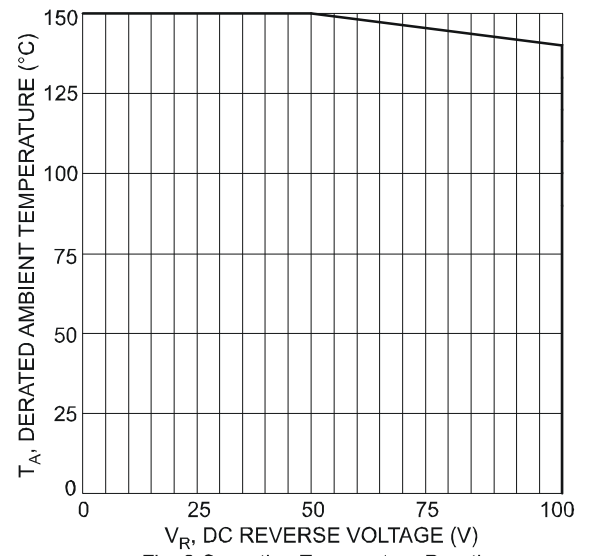
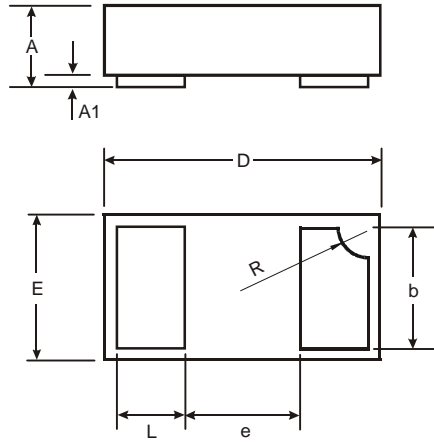


Fig. 6 Operating Temperature Derating

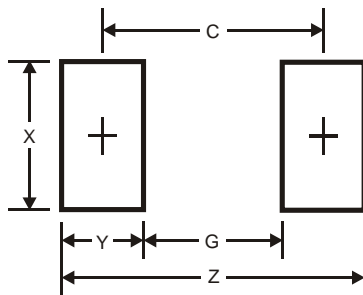
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Package Outline Dimensions



DFN1006-2			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.03
b	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	-	-	0.40
L	0.20	0.30	0.25
R	0.05	0.15	0.10
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.1
G	0.3
X	0.7
Y	0.4
C	0.7

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