NEW PRODUCT

SBR02U100LP

0.2A SBR®
Surface Mount Super Barrier Rectifier

Features

- Ultra Low Forward Voltage Drop
- Superior Reverse Avalanche Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150ºC 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-020C
- Terminal Connections: Cathode Dot
- Terminals: Finish - NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.001 grams

Maximum Ratings @ T_A = 25ºC 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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	100	V
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
Maximum Thermal Resistance Thermal Resistance, Junction to Ambient (Note 2) T_A = 25ºC Thermal Resistance, Junction to Ambient (Note 3) T_A = 25ºC	 $R_{\theta JA}$ $R_{\theta JA}$	 270 235	ºC/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	ºC

Electrical Characteristics @ T_A = 25ºC unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	$V_{(BR)R}$	100	-	-	V	I_R = 1mA
Forward Voltage Drop	V_F	-	0.67 0.76 0.60	0.72 0.80 0.65	V	I_F = 100mA, T_j = 25ºC I_F = 200mA, T_j = 25ºC I_F = 200mA, T_j = 125ºC
Leakage Current (Note 4)	I_R	-	0.04 6	1.0 50	µA	V_R = 75V, T_j = 25ºC V_R = 75V, T_j = 85ºC

Notes:
1. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7.*
2. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com/datasheets/ap02001.pdf
3. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com/datasheets/ap02001.pdf
4. Short duration pulse test used to minimize self-heating effect.

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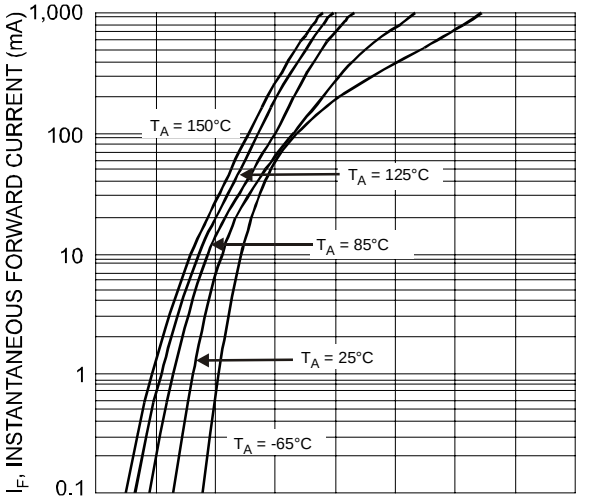

Fig. 1 Typical Forward Characteristics

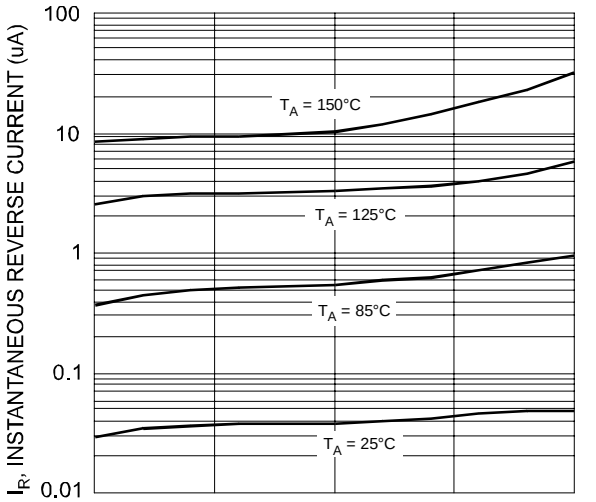

Fig. 2 Typical Reverse Characteristics

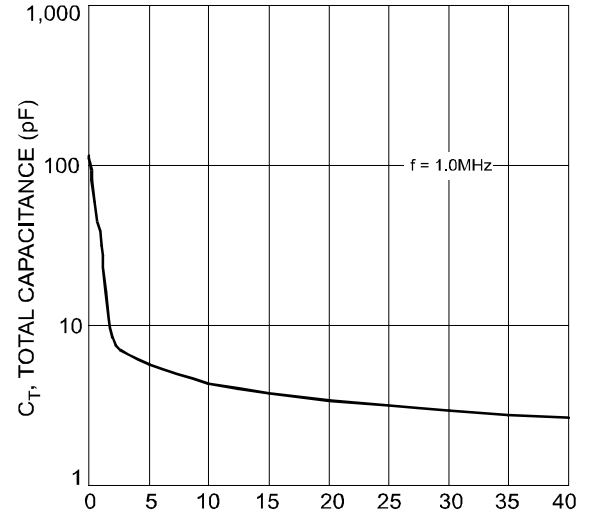

Fig. 3 Typical Total Capacitance

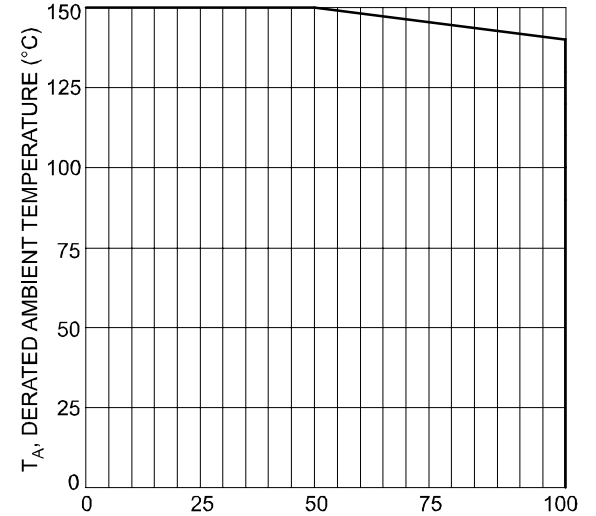

Fig. 4 Operating Temperature Derating

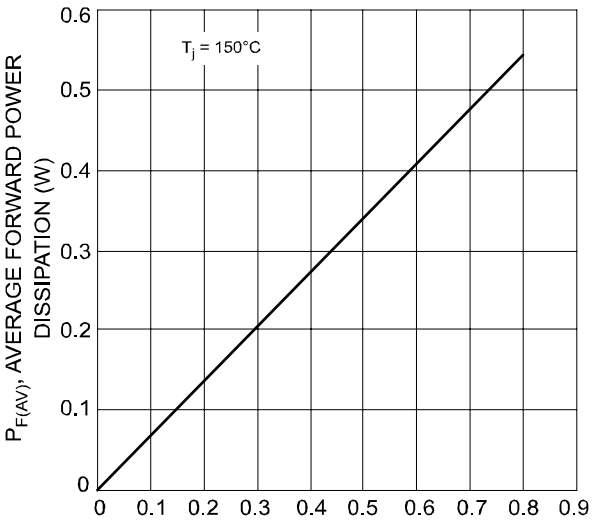

Fig. 5 Forward Power Dissipation

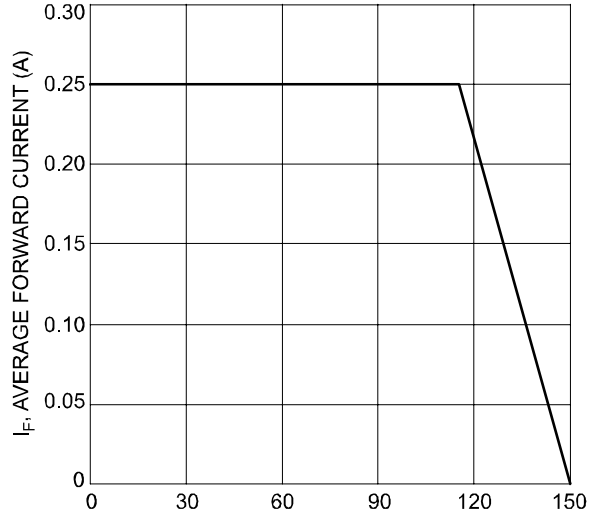

Fig. 6 DC Forward Current Derating

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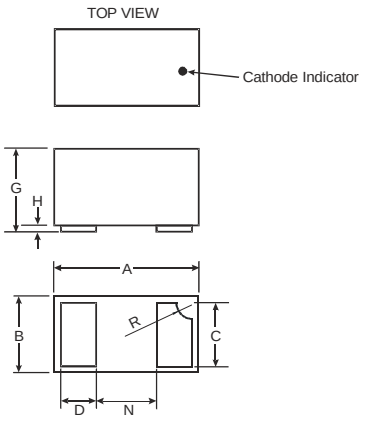
Package Outline Drawing



DFN1006-2			
Dim	**Min**	**Max**	**Typ**
A	0.95	1.075	1.00
B	0.55	0.675	0.60
C	0.45	0.55	0.50
D	0.20	0.30	0.25
G	0.47	0.53	0.50
H	0	0.05	0.03
N	—	—	0.40
R	0.05	0.15	0.10
All Dimensions in mm			

Marking, Polarity, Weight & Ordering Information

	Case Style (DFN1006-2)		Marking	Weight
SBR02U100LP	 Top View	 Back View	• 2A • 2A	0.001g (approx.)

Ordering Information	Date Code
SBR02U100LP-7 3000/Tape & Reel	2A, 2A = Product Type Marking Code Dot Denotes Cathode Side

Suggested Pad Layout