

SBR0220LP

0.2A SBR[®] Super Barrier Rectifier

Features

- Low Leakage Current
- Patented Super Barrier Rectifier Technology
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant (Note 1)
- "Green" Molding Compound (No Br, Sb)

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
- Polarity Indicator: Cathode Dot
- Terminals: Finish NiPdAu annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 (3)
- Marking Information: See Page 3
 Ordering Information: See Page 3
 Weight: 0.001 grams (Approx.)

Maximum Ratings @ T_A = 25°C 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	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	20	V
DC Blocking Voltage	V_{RM}		
RMS Reverse Voltage	$V_{R(RMS)}$	14	V
Average Rectified Output Current (See Figure 1)	Io	0.2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	5.0	А
Maximum Thermal Resistance Thermal Resistance Junction to Soldering (Note 2) Thermal Resistance Junction to Ambient (Note 3)	R _{eJs} R _{eJA}	17 304	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

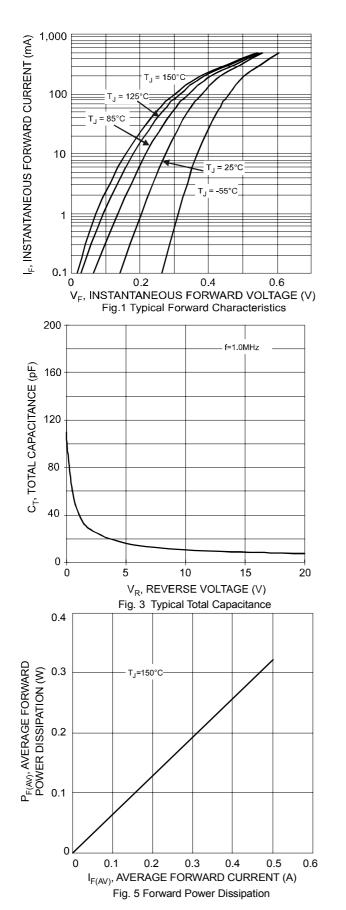
Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	$V_{(BR)R}$	20	-	-	V	Ι _R = 400 μΑ
Forward Voltage Drop	V _F	-	0.38	0.42	V	I _F = 0.1A, T _J = 25°C
			0.30	0.33		I _F = 0.1A, T _J = 150°C
			0.44	0.48		$I_F = 0.2A, T_J = 25^{\circ}C$
			0.38	0.41		I _F = 0.2A, T _J = 150°C
Leakage Current (Note 4)	I _R	-	2	50	μA	V _R = 20V, T _J = 25°C
			0.43	1.3	mA	$V_R = 20V, T_J = 150^{\circ}C$

Notes:

- 1. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note* 7.
- 2. Theoretical R_{eus} calculated from the top center of the die straight down to the PCB cathode tab solder junction.
- 3. FR-4 PCB, 2oz. Copper, minimum recommended pad layout per http://www.diodes.com/datasheets/ap02001.pdf.
- 4. Short duration pulse test used to minimize self-heating effect.



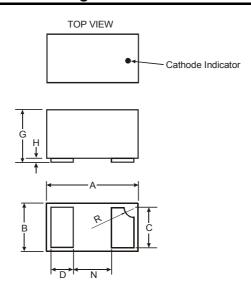


SBR0220LP 1000 IR, INSTANTANEOUS REVERSE CURRENT (uA) $T_{J} = 150^{\circ}C$ 100 T_J = 85°C 10 $T_J = 25^{\circ}C$ $T_J = -65^{\circ}C$ 0.01 Ó 20 10 V_R, REVERSE VOLTAGE (V) Fig. 2 Typical Reverse Characteristics 0.25 I_{F(AV)}, AVERAGE FORWARD CURRENT(A) Note 3 0.2 0.15 0.1 0.05 0 100 0 25 50 75 125 175 150 T_A , AMBIENT TEMPERATURE (°C) Fig. 4 Forward Current Derating Curve 175 $\mathsf{T}_\mathsf{A},$ DERATED AMBIENT TEMPERATURE (°C) 150 125 Note 3 100 75 50 25 0 0 2 6 8 10 12 14 16

 $V_{\rm R}$, DC REVERSE VOLTAGE (V) Fig. 6 Operating Temperature Derating



Package Outline Drawing



DFN1006-2					
Dim	Min	Max	Тур		
Α	0.95	1.075	1.00		
В	0.55	0.675	0.60		
С	0.45	0.55	0.50		
D	0.20	0.30	0.25		
G	0.47	0.53	0.50		
Н	0	0.05	0.03		
N	_	_	0.40		
R	0.05	0.15	0.10		
All Dimensions in mm					

Marking, Polarity, Weight & Ordering Information

0	Case Style (DFN1006-2)		Marking	Weight
SBR0220LF	Top View	Back View	• 22	0.001g (approx.)

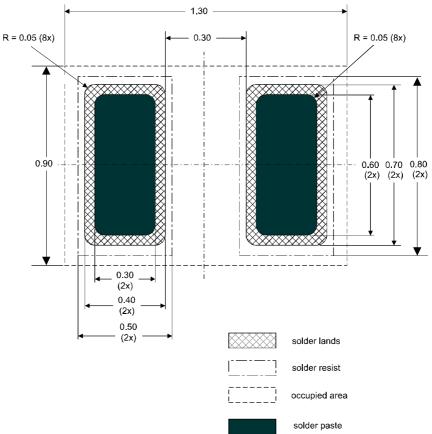
Ordering Information	Date Code
SBR0220LP-7 3000/Tape & Reel	22 = Product Type Marking Code Dot Denotes Cathode Side



Suggested Pad Layout



Dimensions in mm.



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