



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 **(e3)**
- 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}	20	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
RMS Reverse Voltage	V _{R(RMS)}	14	V
Average Rectified Output Current (See Figure 1)	I _O	0.2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	5.0	A
Maximum Thermal Resistance	R _{θJS}	17	°C/W
Thermal Resistance Junction to Soldering (Note 2)	R _{θJA}	304	
Thermal Resistance Junction to Ambient (Note 3)			
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 4)	V _{(BR)R}	20	-	-	V	I _R = 400 μA
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°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°C

Notes:

1. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
2. Theoretical R_{θJS} 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.



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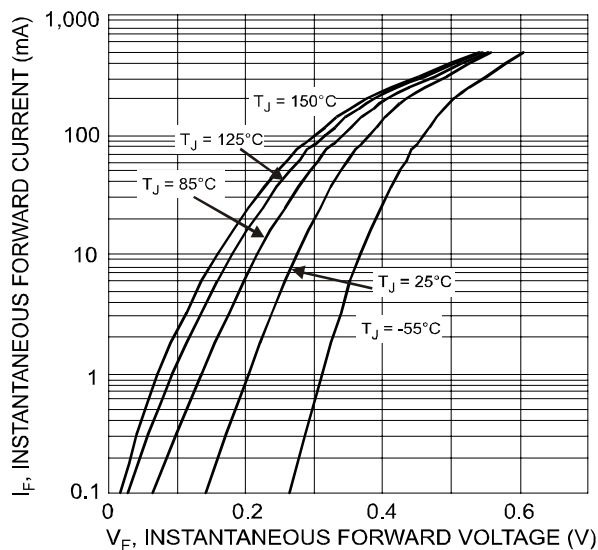


Fig. 1 Typical Forward Characteristics

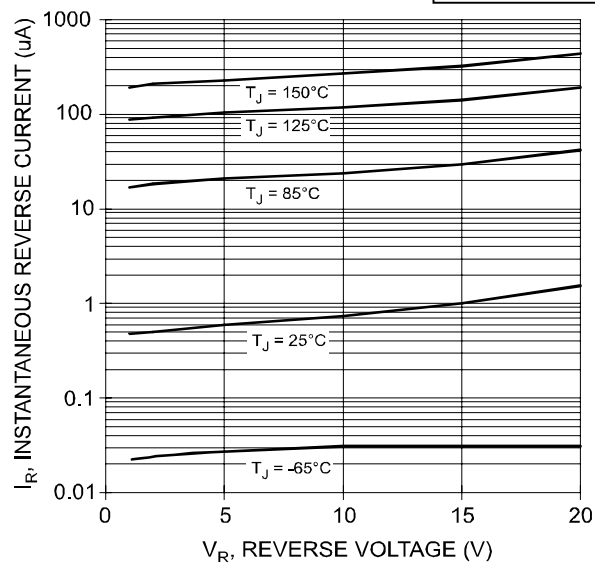


Fig. 2 Typical Reverse Characteristics

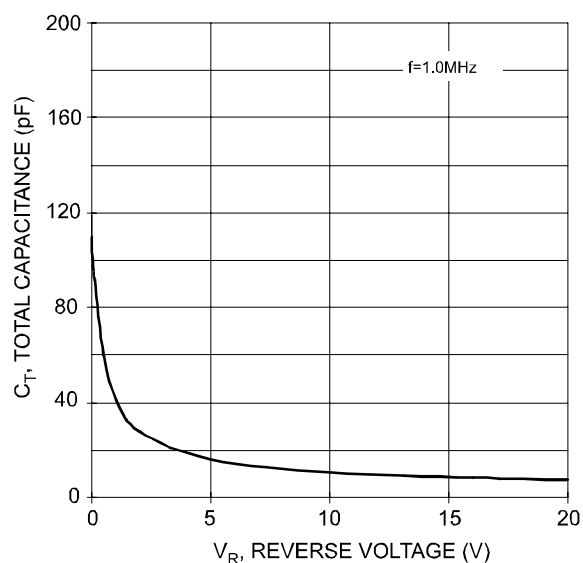


Fig. 3 Typical Total Capacitance

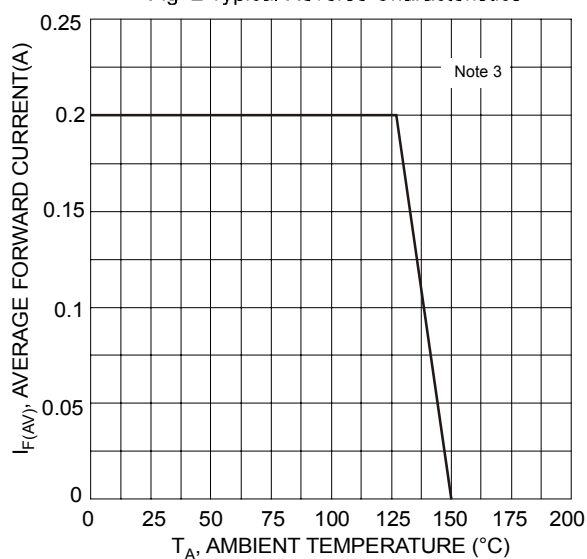


Fig. 4 Forward Current Derating Curve

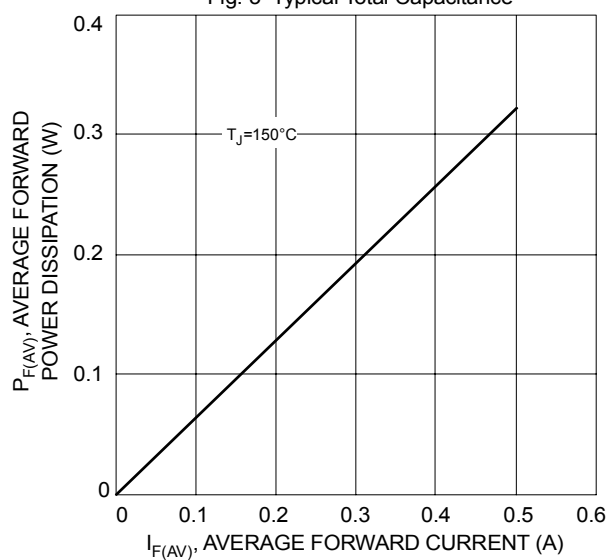


Fig. 5 Forward Power Dissipation

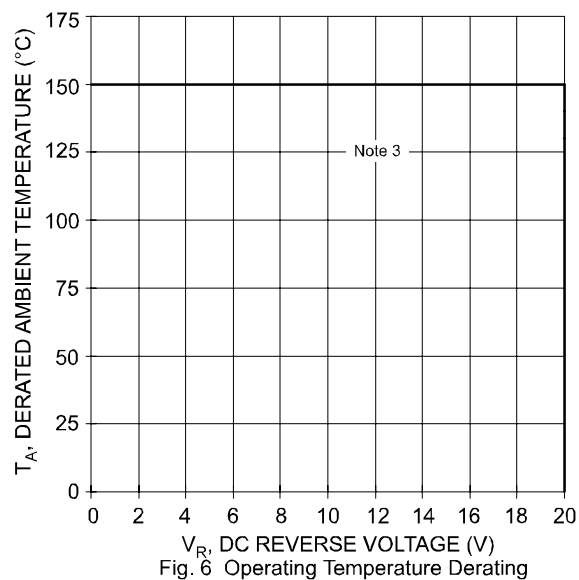
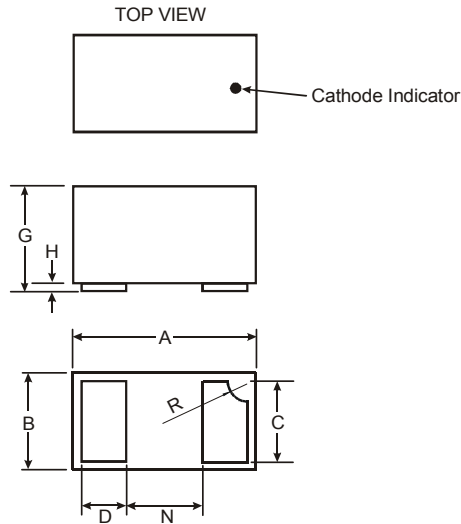


Fig. 6 Operating Temperature Derating



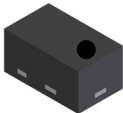


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Package Outline Drawing



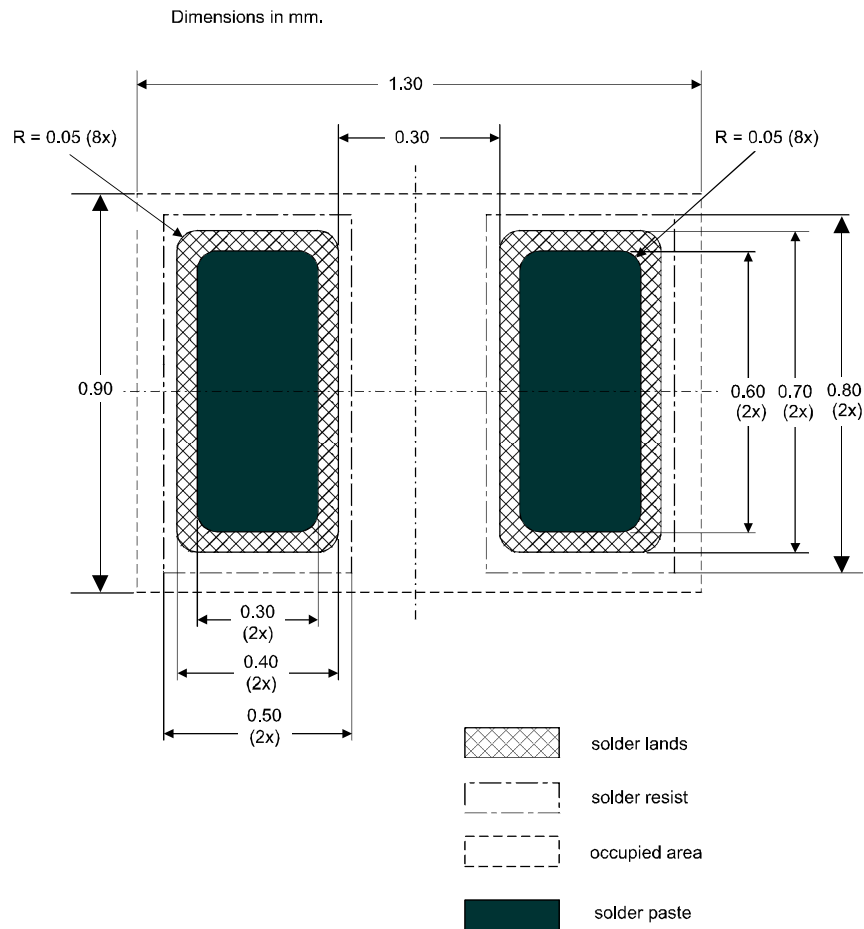
DFN1006-2			
Dim	Min	Max	Typ
A	0.95	1.075	1.00
B	0.55	0.675	0.60
C	0.45	0.55	0.50
D	0.20	0.30	0.25
G	0.47	0.53	0.50
H	0	0.05	0.03
N	—	—	0.40
R	0.05	0.15	0.10
All Dimensions in mm			

Marking, Polarity, Weight & Ordering Information

SBR0220LP	Case Style (DFN1006-2)		Marking	Weight
	 Top View	 Back View		0.001g (approx.)

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

Suggested Pad Layout



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