

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)**
- **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-020D
- Polarity Indicator: 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 (approximate)



Top View



Bottom View

Maximum Ratings @T_A = 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 _{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 |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|--------------------------------------|-------------|------|
| Maximum Thermal Resistance | R _{θJS} R _{θJA} | 17 | °C/W |
| Thermal Resistance Junction to Soldering (Note 2) | | 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 = 400μA |
| Forward Voltage Drop | V _F | - | 0.38 0.30 0.44 0.38 | 0.42 0.33 0.48 0.41 | V | I _F = 0.1A, T _J = 25°C I _F = 0.1A, T _J = 150°C I _F = 0.2A, T _J = 25°C I _F = 0.2A, T _J = 150°C |
| Leakage Current (Note 4) | I _R | - | 2 0.43 | 50 1.3 | μA mA | V _R = 20V, T _J = 25°C 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.

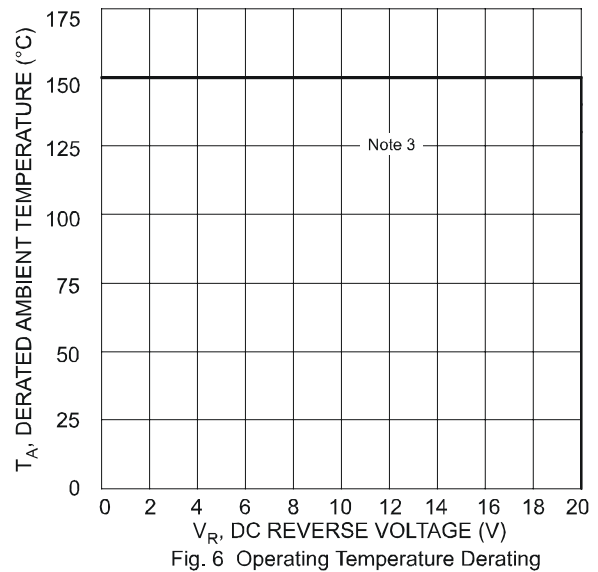
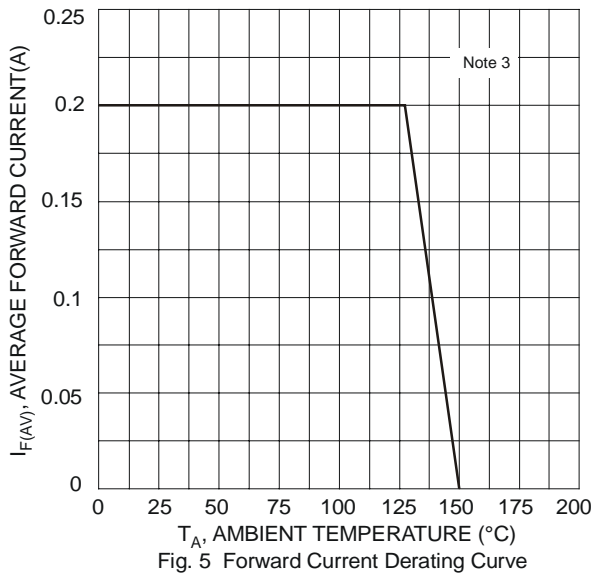
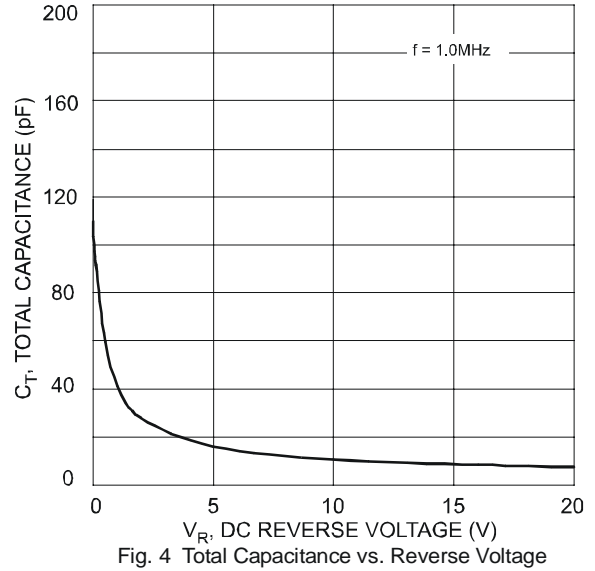
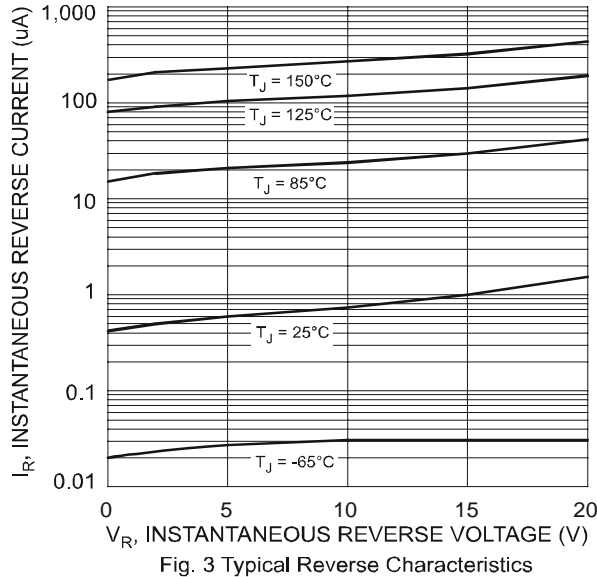
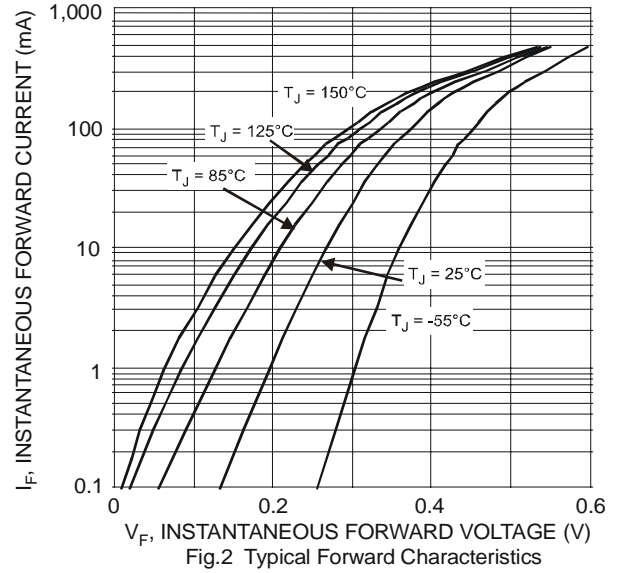
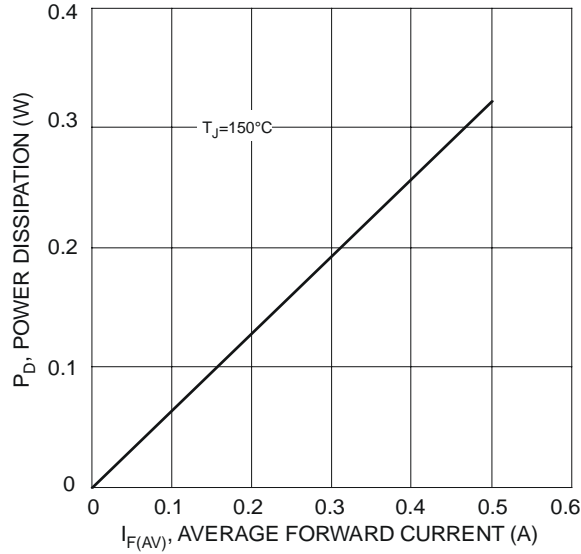
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SBR0220LP

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Ordering Information (Note 5)

| Part Number | Case | Packaging |
|-------------|-----------|------------------|
| SBR0220LP-7 | DFN1006-2 | 3000/Tape & Reel |

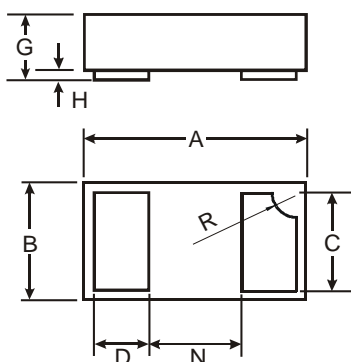
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



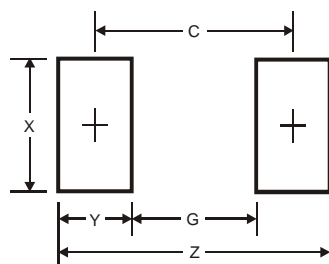
22 = Product Type Marking Code
 Dot Denotes Cathode Side

Package Outline Dimensions



| 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 | | | |

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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