



SBR05U20LP

0.5A 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
- 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
- Terminal Connections: 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

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%.

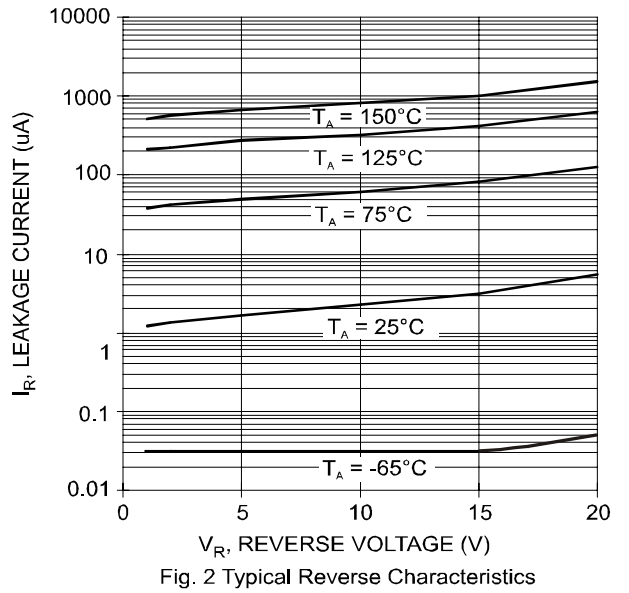
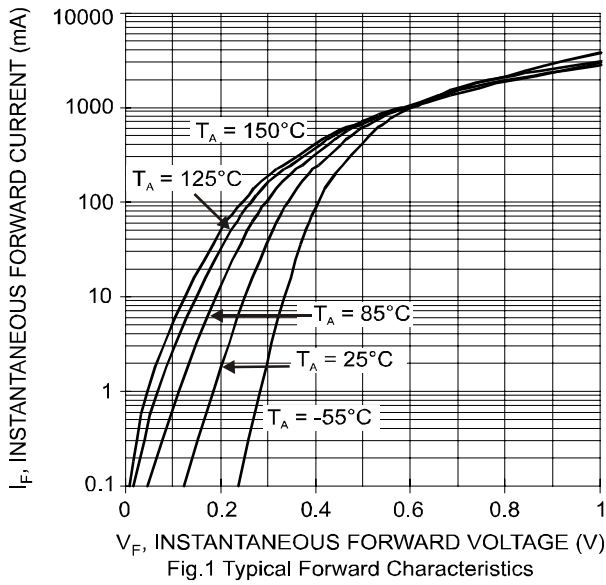
| Characteristic | Symbol | Value | Unit |
|--|-----------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 20 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _{RM} | | |
| RMS Reverse Voltage | V _{R(RMS)} | 14 | V |
| Average Rectified Output Current (See Figure 1) | I _O | 500 | mA |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 5 | A |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

Electrical Characteristics @ T_A = 25°C unless otherwise specified

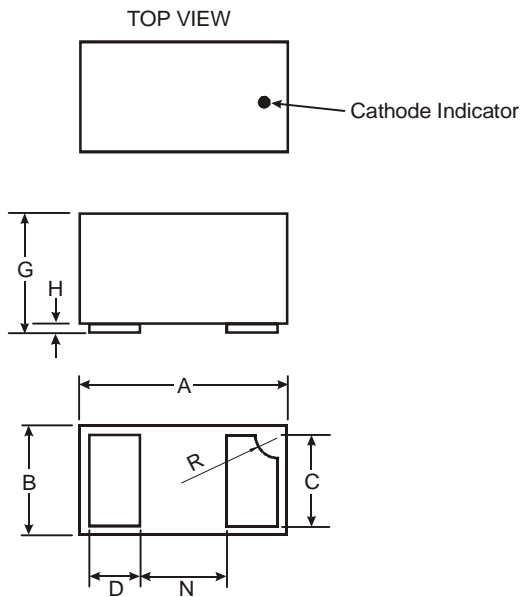
| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|------|------|------|---|
| Reverse Breakdown Voltage (Note 2) | V _{(BR)R} | 20 | - | - | V | I _R = 50 μA |
| Forward Voltage Drop | V _F | - | 0.34 | 0.38 | V | I _F = 0.1A, T _J = 25°C |
| | | | 0.25 | 0.28 | | I _F = 0.1A, T _J = 150°C |
| | | | 0.39 | 0.43 | | I _F = 0.2A, T _J = 25°C |
| | | | 0.31 | 0.34 | | I _F = 0.2A, T _J = 150°C |
| | | | 0.47 | 0.50 | | I _F = 0.5A, T _J = 25°C |
| | | | 0.43 | 0.46 | | I _F = 0.5A, T _J = 150°C |
| Leakage Current (Note 2) | I _R | - | 6 | 50 | μA | V _R = 20V, T _J = 25 °C |
| | | | 1.5 | 5 | 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. Short duration pulse test used to minimize self-heating effect.





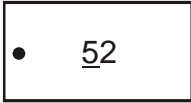


Package Outline Drawing



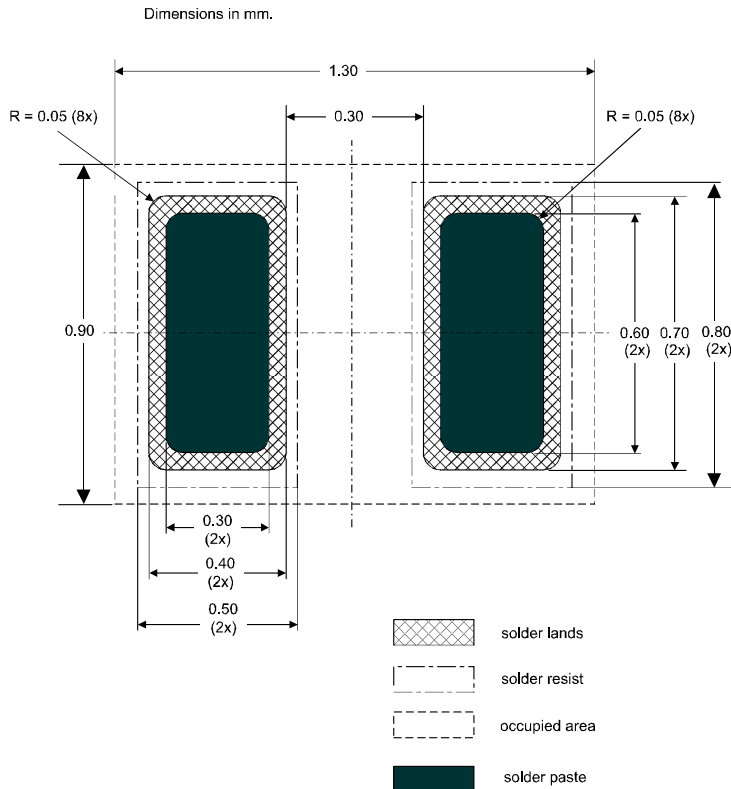
| DFN1006-2 | | | |
|----------------------|------|-------|------|
| Dim | Min | Max | Typ |
| A | 0.95 | 1.075 | 1.00 |
| B | 0.55 | 0.675 | 0.60 |
| C | 0.45 | 0.55 | 0.50 |
| D | 0.20 | 0.30 | 0.25 |
| G | 0.47 | 0.53 | 0.50 |
| H | 0 | 0.05 | 0.03 |
| N | — | — | 0.40 |
| R | 0.05 | 0.15 | 0.10 |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

Marking, Polarity, Weight & Ordering Information

| SBR05U20LP | Case Style (DFN1006-2) | | Marking | Weight |
|------------|---|--|--|------------------|
| |  Top View |  Back View |  | 0.001g (approx.) |

| Ordering Information | Date Code |
|----------------------------------|--|
| SBR05U20LP-7 3000/Tape & Reel | 52 = Product Type Marking Code Dot Denotes Cathode Side |

Suggested Pad Layout



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