

Features

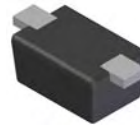
- Low Forward Voltage Drop
- Superior Reverse Avalanche Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant**
- **“Green” Molding Compound (No Br, Sb)**

Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Polarity Indicator: Cathode Band
- Terminals: Finish – Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208 **e3**
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.002 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 | A |

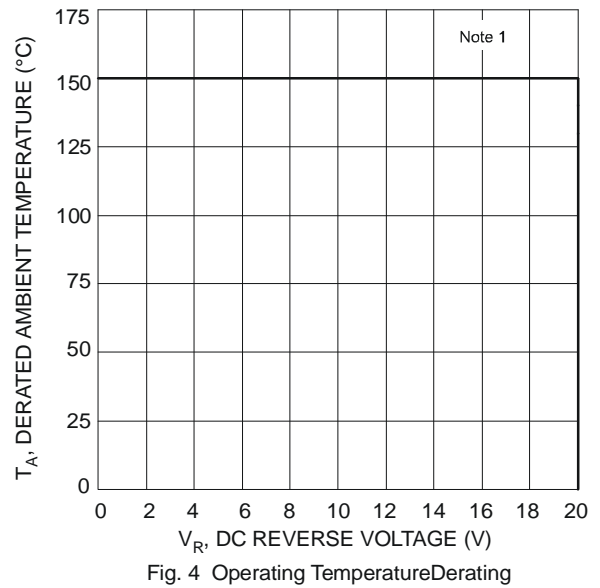
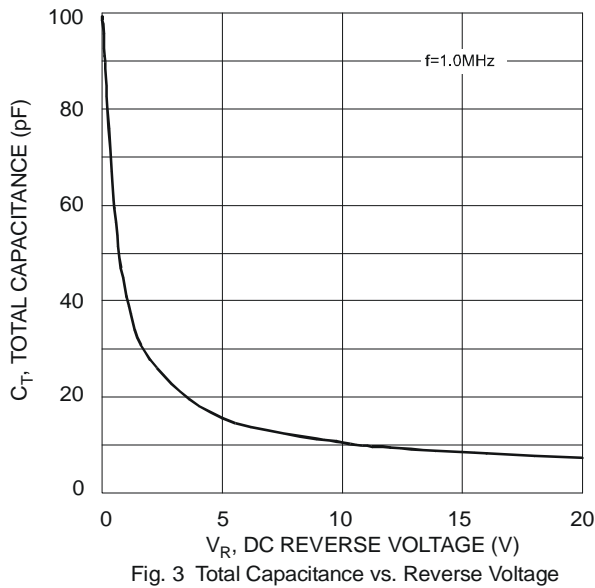
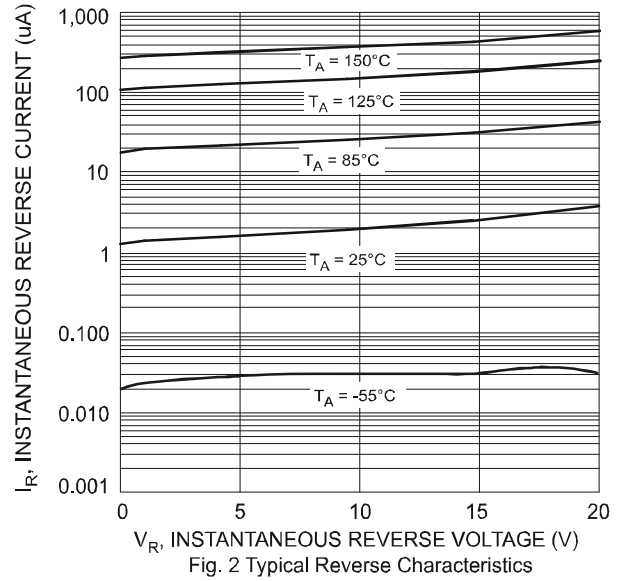
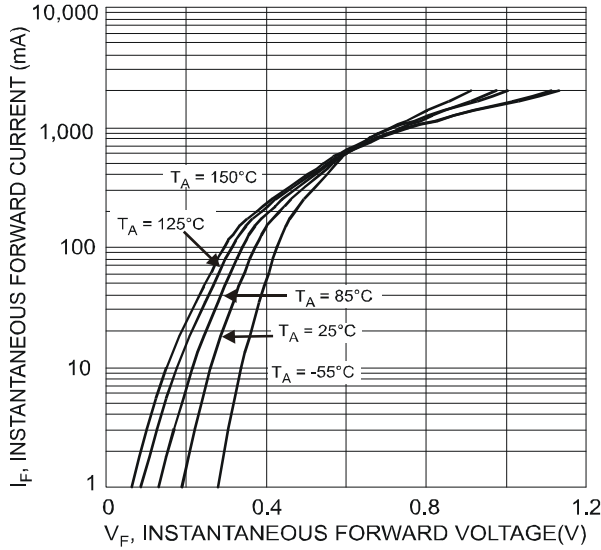
Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Maximum Thermal Resistance | R _{θJA} | 400 | °C/W |
| Thermal Resistance Junction to Soldering (Note 1) | | | |
| 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 = 400μA |
| Forward Voltage Drop | V _F | - | 0.37 | 0.41 | V | I _F = 0.1A, T _J = 25°C |
| | | | 0.34 | 0.38 | | I _F = 0.1A, T _J = 85°C |
| | | | 0.43 | 0.47 | | I _F = 0.2A, T _J = 25°C |
| | | | 0.41 | 0.45 | | I _F = 0.2A, T _J = 85°C |
| Leakage Current (Note 2) | I _R | - | - | 40 | μA mA | V _R = 20V, T _J = 25°C |
| | | | | 0.5 | | V _R = 20V, T _J = 85°C |

- Notes: 1. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.
2. Short duration pulse test used to minimize self-heating effect.

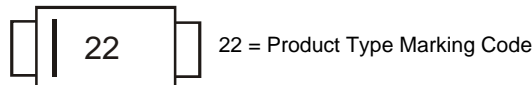


Ordering Information (Note 3)

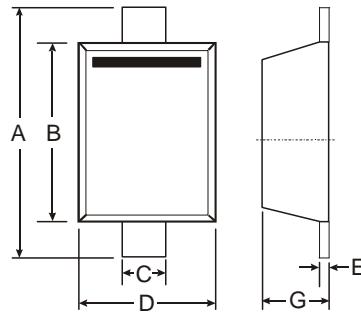
| Part Number | Case | Packaging |
|----------------------|---------|------------------|
| SBR0220T5-7 (Note 4) | SOD-523 | 3000/Tape & Reel |

Notes: 3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
4. Dispensed in every other cavity of the tape.

Marking Information

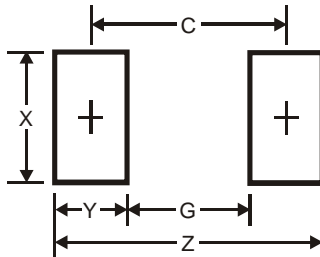


Package Outline Dimensions



| SOD-523 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 1.50 | 1.70 |
| B | 1.10 | 1.30 |
| C | 0.25 | 0.35 |
| D | 0.70 | 0.90 |
| E | 0.10 | 0.20 |
| G | 0.50 | 0.70 |
| All Dimensions in mm | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 2.3 |
| G | 1.1 |
| X | 0.8 |
| Y | 0.6 |
| C | 1.7 |

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