

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- **Lead Free by Design/RoHS Compliant (Note 1)**
- **"Green" Device (Notes 3 and 4)**

Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound, Note 4. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: Cathode Band
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish) annealed over Alloy 42 leadframe.
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.002 grams (approximate)

SOD-523



TOP VIEW

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---------------------|-------------|------|
| Non-Repetitive Peak Reverse Voltage | V _{RM} | 100 | V |
| Peak Repetitive Reverse Voltage | V _{RRM} | 80 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 57 | V |
| Forward Continuous Current | I _{FM} | 250 | mA |
| Average Rectified Output Current | I _O | 125 | mA |
| Non-Repetitive Peak Forward Surge Current | | @ t = 1.0μs | 2.0 |
| | | @ t = 1.0s | 1.0 |
| | I _{FSM} | | A |

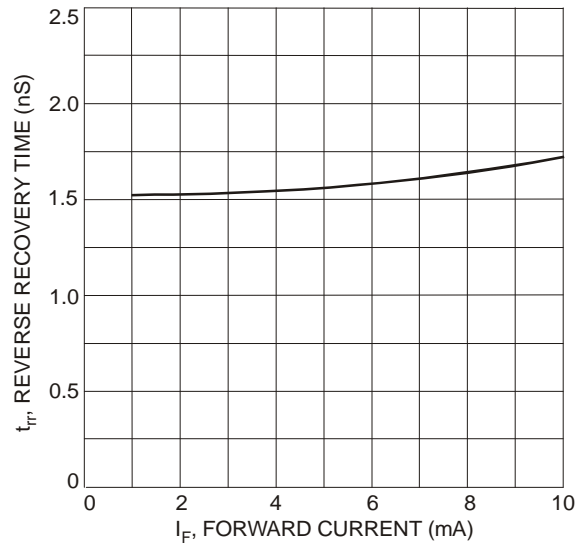
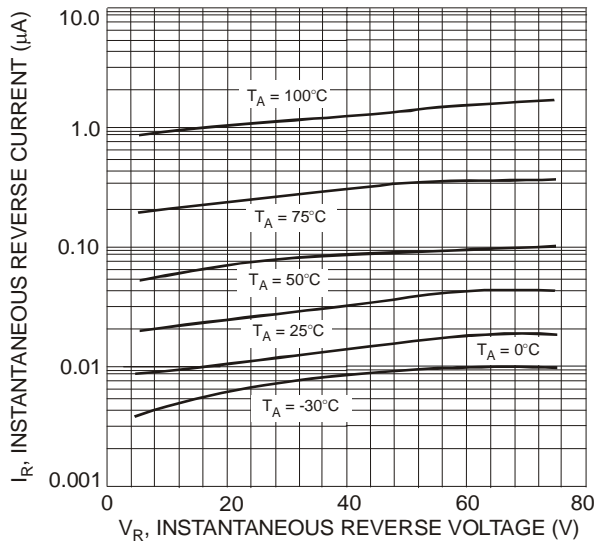
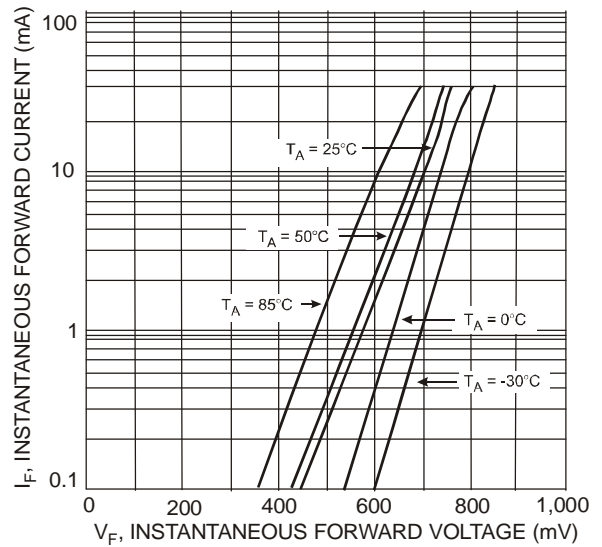
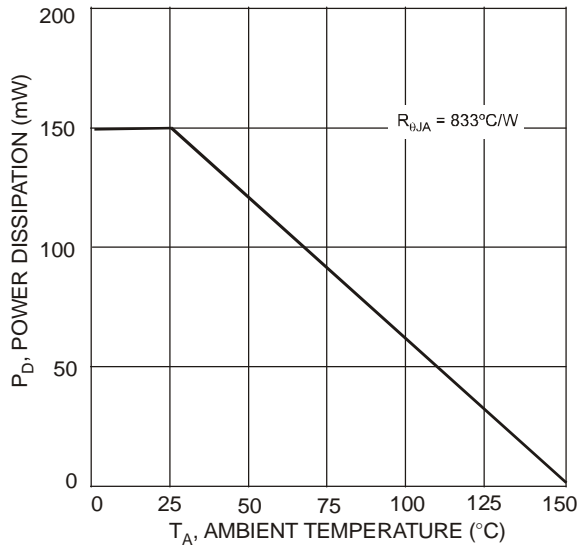
Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation (Note 2) | P _D | 150 | mW |
| Thermal Resistance Junction to Ambient (Note 2) | R _{θJA} | 833 | °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 | Max | Unit | Test Conditions |
|------------------------------------|--------------------|------|-------|------|---|
| Reverse Breakdown Voltage (Note 5) | V _{(BR)R} | 80 | — | V | I _R = 100μA |
| Forward Voltage | V _F | 0.62 | 0.72 | V | I _F = 5.0mA |
| | | — | 0.855 | | I _F = 10mA |
| | | — | 1.0 | | I _F = 100mA |
| | | — | 1.25 | | I _F = 150mA |
| Peak Reverse Current (Note 5) | I _R | — | 100 | nA | V _R = 80V |
| | | — | 50 | μA | V _R = 75V, T _J = 150°C |
| | | — | 30 | μA | V _R = 25V, T _J = 150°C |
| | | — | 25 | nA | V _R = 20V |
| Total Capacitance | C _T | — | 3.0 | pF | V _R = 0.5V, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | 4.0 | ns | I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω |

- Notes:
1. No purposefully added lead.
 2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 3. Diode's Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.
 5. Short duration pulse test used to minimize self-heating effect.

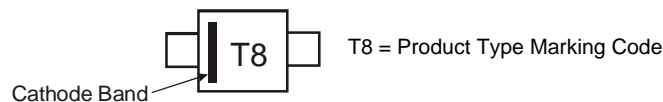


Ordering Information (Notes 4 & 6)

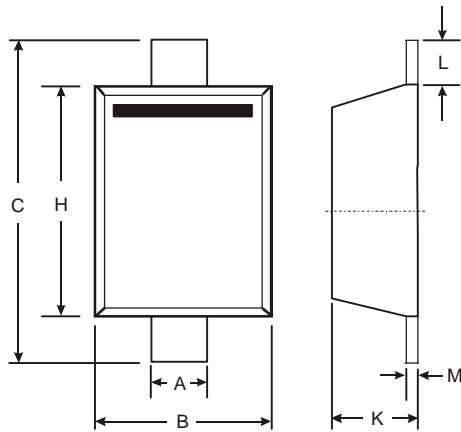
| Part Number | Case | Packaging |
|----------------------|---------|------------------|
| 1N4448HWT-7 (Note 7) | SOD-523 | 3000/Tape & Reel |

- Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
7. Dispensed in every other cavity of the tape.

Marking Information

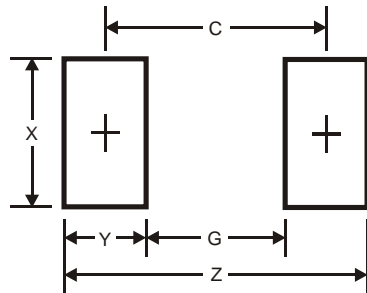


Package Outline Dimensions



| SOD-523 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 0.25 | 0.35 |
| B | 0.70 | 0.90 |
| C | 1.50 | 1.70 |
| H | 1.10 | 1.30 |
| K | 0.55 | 0.65 |
| L | 0.10 | 0.30 |
| M | 0.10 | 0.12 |
| 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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