

Features

- Fast Switching Speed
- Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- **Lead Free/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOD323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Leads: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approximate)

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



Ordering Information (Note 3)

| Part Number | Qualification | Case | Packaging |
|----------------|---------------|--------|--------------------|
| 1N4448HWS-7-F | Commercial | SOD323 | 3,000/Tape & Reel |
| 1N4448HWSQ-7-F | Automotive | SOD323 | 3,000/Tape & Reel |
| 1N4448HWS-13-F | Commercial | SOD323 | 10,000/Tape & Reel |

- Notes:
1. No purposefully added lead.
 2. Diodes Inc.'s "Green" Policy can be found on our website at <http://www.diodes.com>
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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} | 500 | mA | |
| Average Rectified Output Current | I_O | 250 | mA | |
| Non-Repetitive Peak Forward Surge Current | I_{FSM} | @ $t = 1.0\mu\text{s}$ | 4.0 | A |
| | | @ $t = 1.0\text{s}$ | 1.0 | |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|--------------------|
| Power Dissipation (Note 4) | P_D | 200 | mW |
| Thermal Resistance Junction to Ambient Air (Note 4) | $R_{\theta JA}$ | 625 | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_J, T_{STG} | -65 to +150 | $^\circ\text{C}$ |

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Min | Max | Unit | Test Condition |
|------------------------------------|-------------|------|-------|---------------|---|
| Reverse Breakdown Voltage (Note 5) | $V_{BR(R)}$ | 80 | — | V | $I_R = 100\mu\text{A}$ |
| Forward Voltage | V_{FM} | 0.62 | 0.72 | V | $I_F = 5.0\text{mA}$ |
| | | — | 0.855 | | $I_F = 10\text{mA}$ |
| | | — | 1.0 | | $I_F = 100\text{mA}$ |
| | | — | 1.25 | | $I_F = 150\text{mA}$ |
| Peak Reverse Current (Note 5) | I_{RM} | — | 100 | nA | $V_R = 80\text{V}$ |
| | | — | 50 | μA | $V_R = 75\text{V}, T_J = 150^\circ\text{C}$ |
| | | — | 30 | μA | $V_R = 25\text{V}, T_J = 150^\circ\text{C}$ |
| | | — | 25 | nA | $V_R = 20\text{V}$ |
| Total Capacitance | C_T | — | 3.5 | pF | $V_R = 0, f = 1.0\text{MHz}$ |
| Reverse Recovery Time | t_{rr} | — | 4.0 | ns | $I_F = I_R = 10\text{mA}, I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ |

Notes: 4. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.
 5. Short duration pulse test used to minimize self-heating effect.

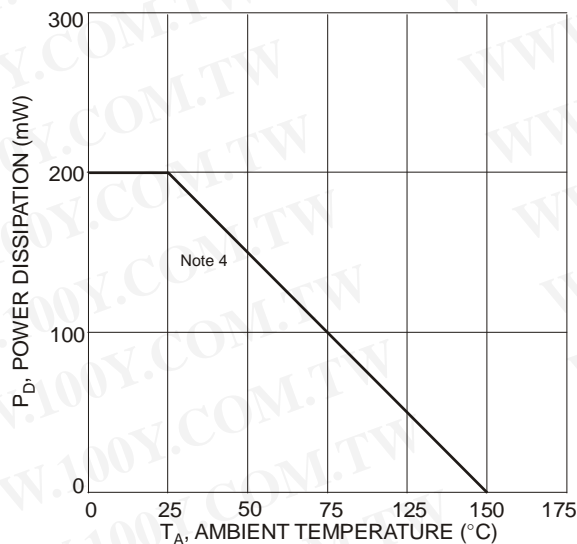


Fig. 1 Power Derating Curve

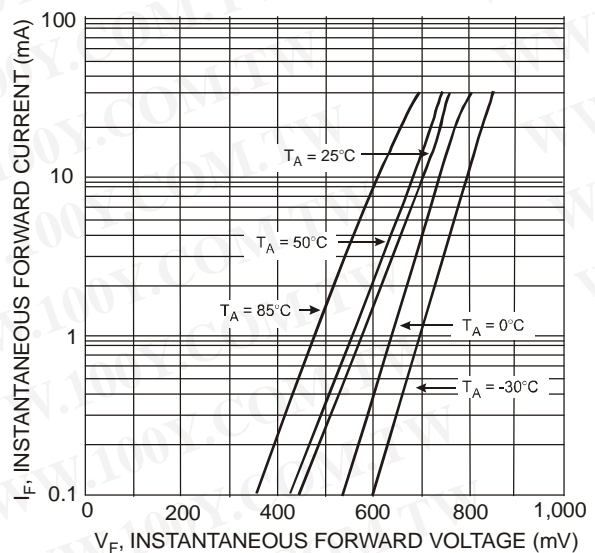


Fig. 2 Typical Forward Characteristics

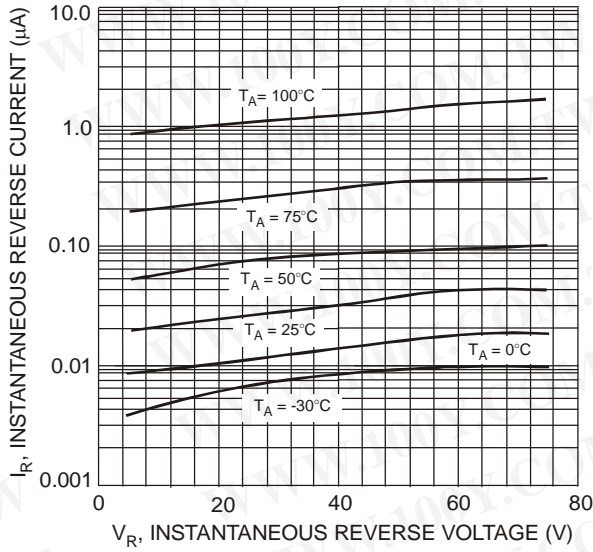


Fig. 3 Typical Reverse Characteristics

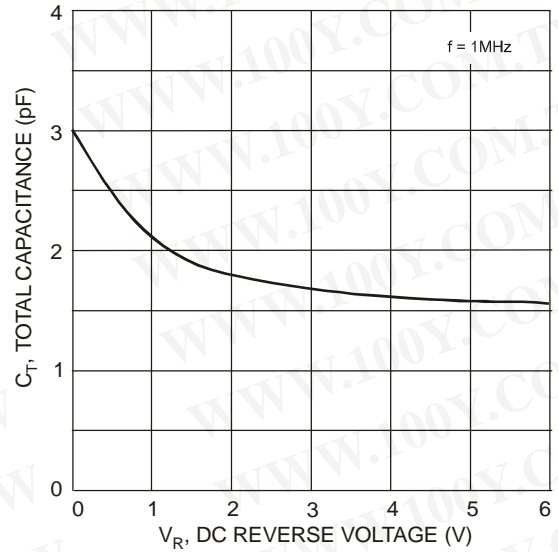


Fig. 4 Total Capacitance vs. Reverse Voltage

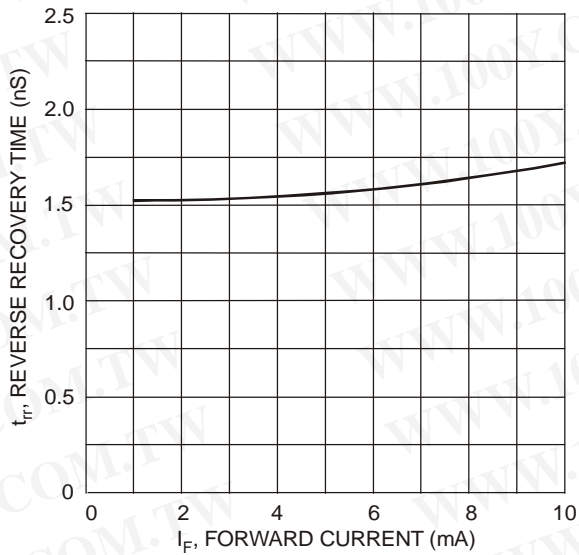
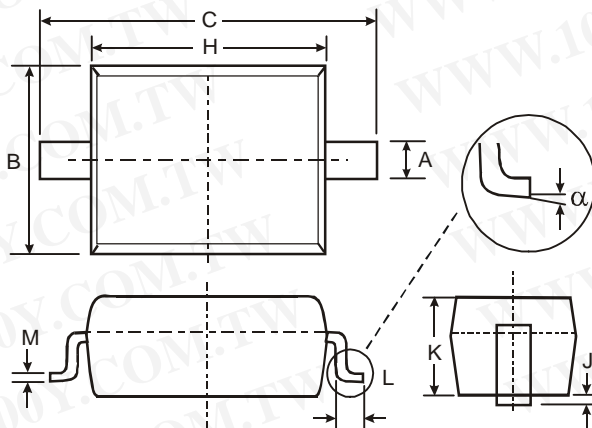


Fig. 5 Reverse Recovery Time vs. Forward Current

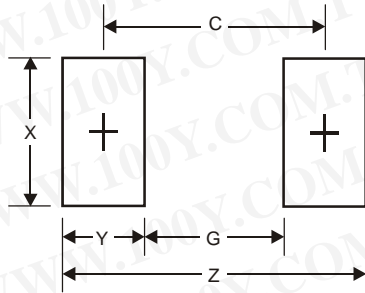
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Package Outline Dimensions



| SOD323 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 0.25 | 0.35 |
| B | 1.20 | 1.40 |
| C | 2.30 | 2.70 |
| H | 1.60 | 1.80 |
| J | 0.00 | 0.10 |
| K | 1.0 | 1.1 |
| L | 0.20 | 0.40 |
| M | 0.10 | 0.15 |
| α | 0° | 8° |
| All Dimensions in mm | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 3.75 |
| G | 1.05 |
| X | 0.65 |
| Y | 1.35 |
| C | 2.40 |

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