

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 (Note 2)**
- **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
- Terminal Connections: Cathode Dot
- Terminals: Finish - NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.001 grams (approximate)

DFN1006-2



BOTTOM VIEW

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} | 250 | mA | |
| Average Rectified Output Current | I_O | 125 | mA | |
| Non-Repetitive Peak Forward Surge Current | | @ $t = 1.0\mu\text{s}$ | 2.0 | A |
| | | @ $t = 1.0\text{s}$ | 1.0 | |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|--------------------|
| Power Dissipation (Note 4) | P_D | 250 | mW |
| Thermal Resistance Junction to Ambient (Note 4) | $R_{\theta JA}$ | 500 | $^\circ\text{C/W}$ |
| 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 Conditions |
|------------------------------------|-------------|------|-------|---------------|---|
| Reverse Breakdown Voltage (Note 3) | $V_{(BR)R}$ | 80 | — | V | $I_R = 100\mu\text{A}$ |
| Forward Voltage | V_F | 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 3) | I_R | — | 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 | — | 3.0 | pF | $V_R = 0.5\text{V}, f = 1.0\text{MHz}$ |
| 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:
1. No purposefully added lead.
 2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 3. Short duration pulse test used to minimize self-heating effect.
 4. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

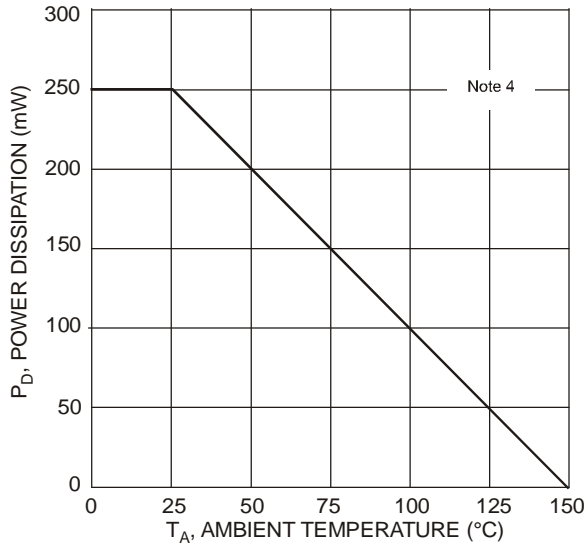


Fig. 1 Power Derating Curve

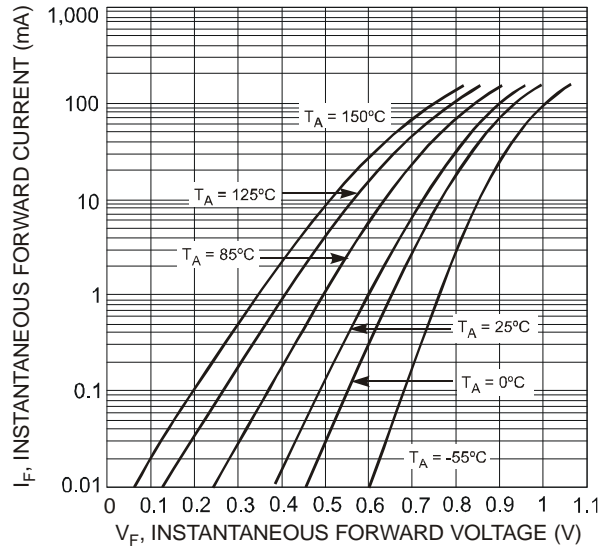


Fig. 2 Typical Forward Characteristics

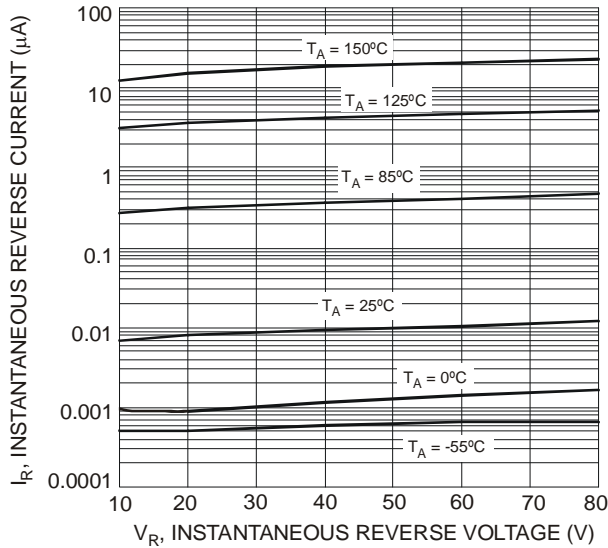


Fig. 3 Typical Reverse Characteristics

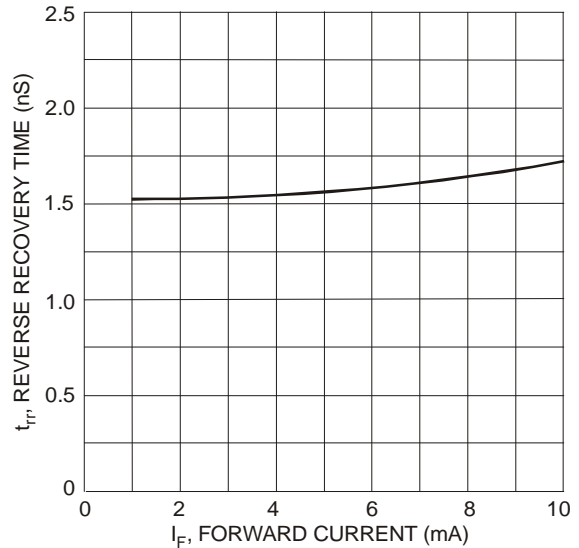


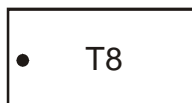
Fig. 4 Reverse Recovery Time vs. Forward Current

Ordering Information (Note 5)

| Part Number | Case | Packaging |
|-------------|-----------|------------------|
| 1N4448HLP-7 | DFN1006-2 | 3000/Tape & Reel |

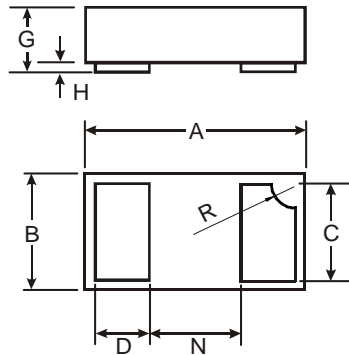
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



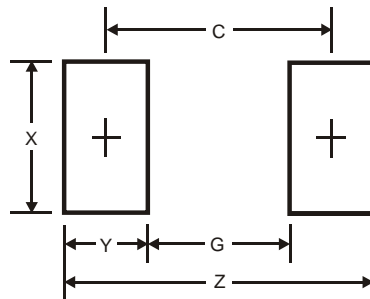
T8 = Product Type Marking Code
Dot Denotes Cathode Side

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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