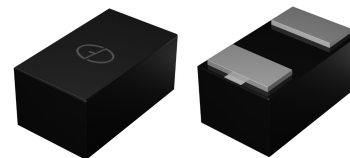


Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- Lead Free/RoHS Compliant
- PN Junction Guard Ring for Transient and ESD Protection



Package: DFN1006-2L



Mechanical Data

- Case Material: Molded plastic, "Green" molding compound, compliant to UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Dot
- Terminals Finish - NiPdAu annealed over Copper lead frame solderable per MIL-STD-202, Method 208
- Weight: 0.001 grams (approximately)

Applications

- Mobile Handsets
- MP3 Players
- Digital Camera and Camcorders
- Notebook PCs & PDAs
- GPS

Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------------------|-------|------|
| V_{RRM} | Peak Repetitive Reverse Voltage | 30 | V |
| V_{RWM} | Working Peak Reverse Voltage | | |
| V_R | DC Blocking Voltage | | |
| I_F | Forward Continuous Current | 200 | mA |
| I_{FRM} | Repetitive Peak Forward Current | 300 | mA |
| I_{FSM} | Forward Surge Current @ $t < 1.0\text{s}$ | 600 | mA |

Thermal Characteristics

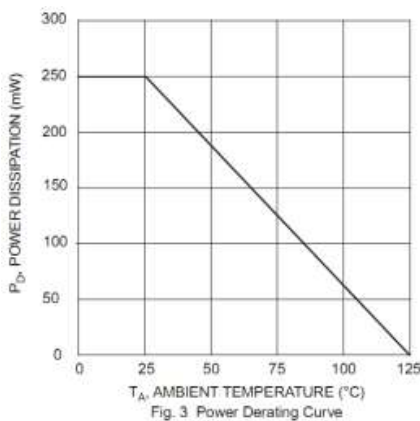
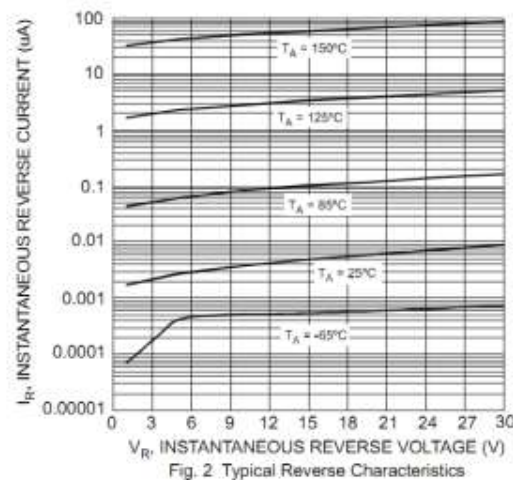
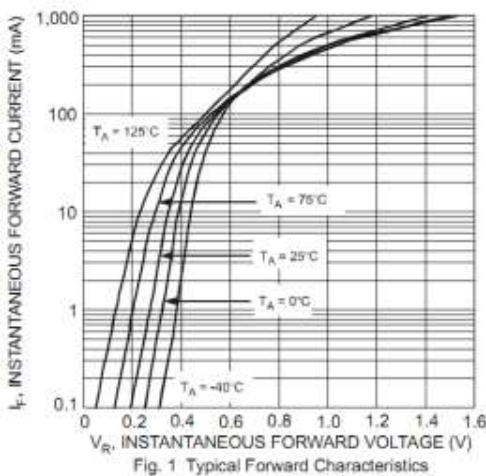
| Symbol | Parameter | Value | Unit |
|-----------------|------------------------------------------------------|-------------|-----------------------------|
| P_D | Power Dissipation (Note 1) | 250 | mW |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient Air (Note 1) | 400 | $^{\circ}\text{C}/\text{W}$ |
| T_J | Operating Temperature Range | -55 to +125 | $^{\circ}\text{C}$ |
| T_{STG} | Storage Temperature Range | -65 to +150 | $^{\circ}\text{C}$ |

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

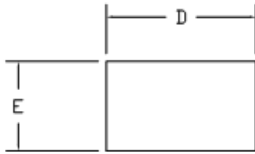
| Parameter | Symbol | Test conditions | Min | Max | Unit |
|------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------|---------------|
| Reverse Breakdown Voltage (Note 2) | $V_{(BR)R}$ | $I_R = 100\mu\text{A}$ | 30 | - | V |
| Forward Voltage | V_F | $I_F = 0.1\text{mA}$ $I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 30\text{mA}$ $I_F = 200\text{mA}$ | - | 0.24 0.32 0.40 0.50 0.65 | V |
| Reverse Leakage Current (Note 2) | I_R | $V_R = 25\text{V}$ | | 2.0 | μA |
| Total Capacitance | C_T | $V_R = 1.0\text{V}$, $f = 1.0\text{MHz}$ | | 10 | pF |
| Reverse Recovery Time | T_{rr} | $I_F=10\text{mA}$ through $I_R= 10\text{mA}$ to $I_R = 1.0\text{mA}$, $R_L = 100\Omega$ | | 5.0 | nS |

- Notes: 1. Part mounted on FR-4 PC board with recommended pad layout
2. Short duration pulse test used to minimize self-heating effect.

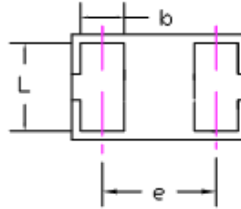
Electrical Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise specified)



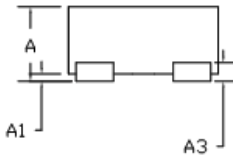
Package Outline Dimensions DFN1006-2L (Dimensions in mm)



TOP VIEW



BOTTOM VIEW

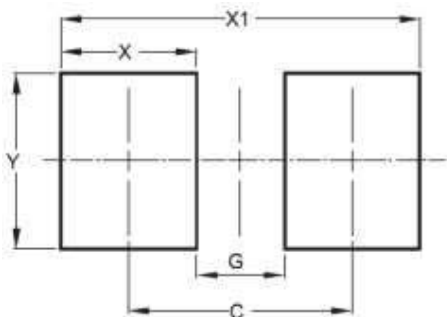


SIDE VIEW

| COMMON DIMENSIONS (MM) | | | |
|------------------------|------------|------|------|
| PKG. | DFN1006-2L | | |
| REF. | MIN. | NOM. | MAX. |
| A | >0.40 | - | 0.50 |
| A1 | 0.00 | - | 0.05 |
| A3 | 0.125REF | | |
| D | 0.95 | 1.00 | 1.05 |
| E | 0.55 | 0.60 | 0.65 |
| b | 0.20 | 0.25 | 0.30 |
| L | 0.45 | 0.50 | 0.55 |
| e | 0.65 BSC | | |

Lead finish: NiPdAu

DFN1006-2L Suggested Pad Layout



| DIMENSIONS | VALUE (MM) |
|------------|------------|
| C | 0.70 |
| G | 0.30 |
| X | 0.40 |
| X1 | 1.10 |
| Y | 0.70 |

Packing Information

| Package Type | Carrier | Reel Size | Quantity | Marking |
|--------------|-------------|-----------|-----------------|---------------|
| DFN1006-2L | Tape & Reel | 7" | 8,000pcs / Reel | (Date Code) C |