

## Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- Low Reverse Leakage Current
- Ideal for Battery Powered Portable Applications
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

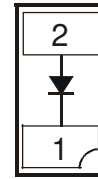
## Mechanical Data

- Case: X1-DFN1006-2
- Case Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Marking Information
- Terminals: Finish—NiPdAu over Copper Leadframe; Solderable per MIL-STD-202, Method 208 **(e4)**
- Weight: 0.001 grams (Approximate)

X1-DFN1006-2



Bottom View



Device Schematic

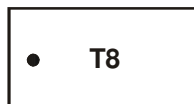
## Ordering Information (Note 4)

Part Number	Case	Packaging
1N4448HLP-7	X1-DFN1006-2	3000/Tape & Reel
1N4448HLP-7B	X1-DFN1006-2	10,000/Tape & Reel

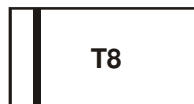
- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information (Note 5)

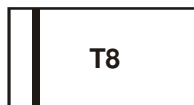
1N4448HLP-7


 Top View  
Dot Denotes  
Cathode Side

1N4448HLP-7B


 Top View  
Bar Denotes  
Cathode Side

T8 = Product Type Marking Code


 Top View  
Bar Denotes  
Cathode Side

- Note: 5. From date code 1527 (YYWW), dot marking was changed to bar marking for 1N4448HLP-7.

**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	$I_{FM}$	300	mA
Average Rectified Output Current	$I_O$	95	mA
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	@ $t = 1.0\mu\text{s}$	2.0
		@ $t = 1.0\text{s}$	1.0

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	$P_D$	250	mW
Thermal Resistance Junction to Ambient (Note 6)	$R_{\theta JA}$	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 7)	$V_{(BR)R}$	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 7)	$I_R$	—	100	nA	$V_R = 80\text{V}$
		—	50	$\mu\text{A}$	$V_R = 75\text{V}, T_J = +150^\circ\text{C}$
		—	30	$\mu\text{A}$	$V_R = 25\text{V}, T_J = +150^\circ\text{C}$
		—	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: 6. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.  
7. Short duration pulse test used to minimize self-heating effect.

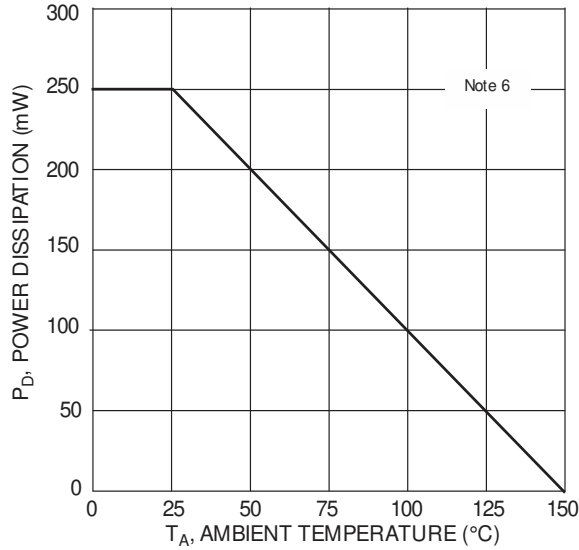


Fig. 1 Power Derating Curve

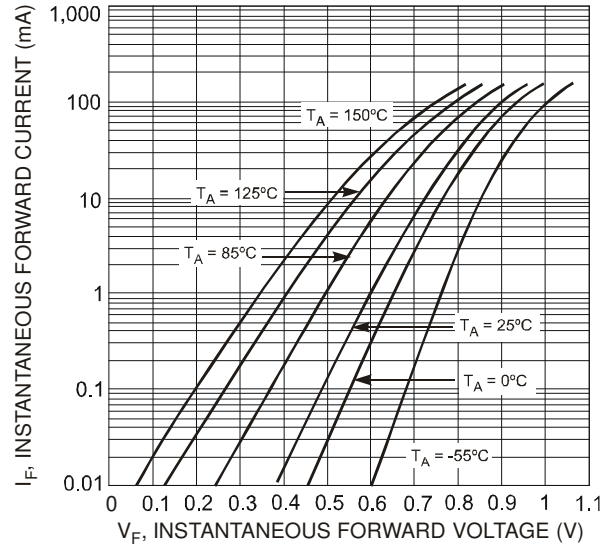


Fig. 2 Typical Forward Characteristics

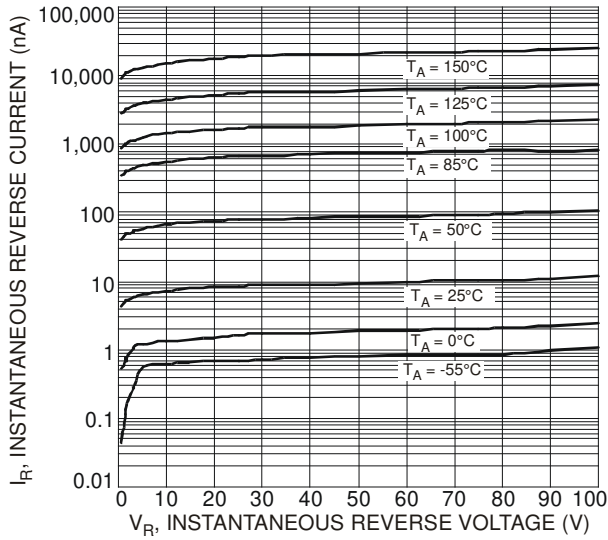


Fig. 3 Typical Reverse Characteristics

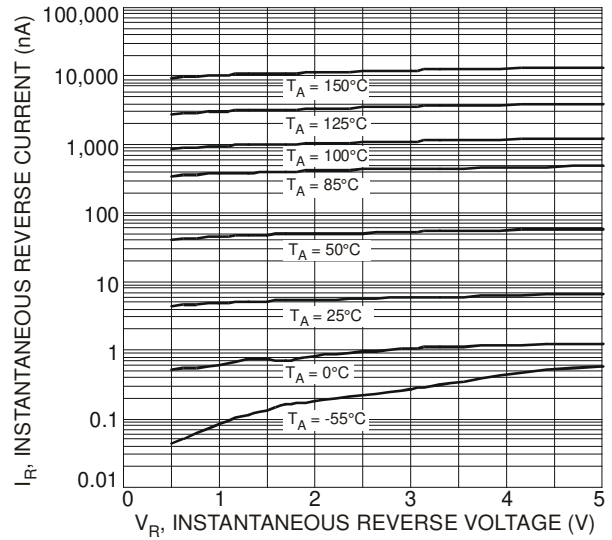


Fig. 4 Typical Reverse Characteristics - Low Bias

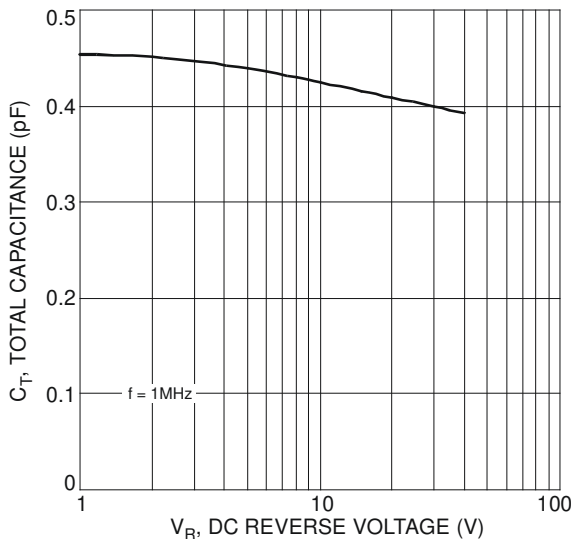


Fig. 5 Typical Total Capacitance vs. Reverse Voltage

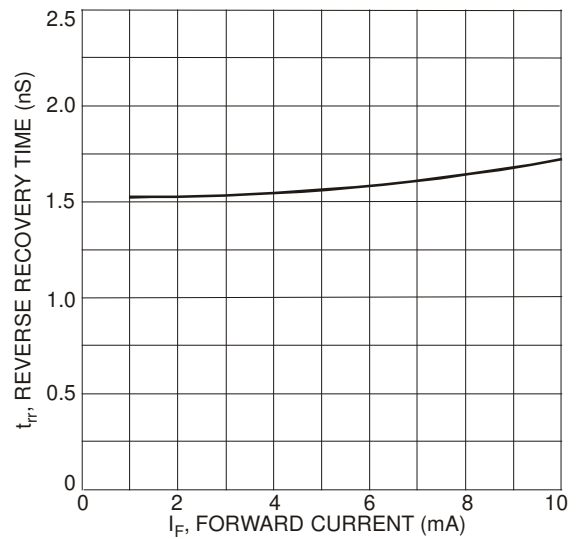
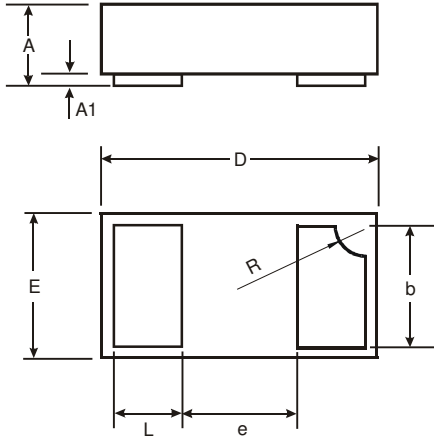


Fig. 6 Typical Reverse Recovery Time vs. Forward Current

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

X1-DFN1006-2

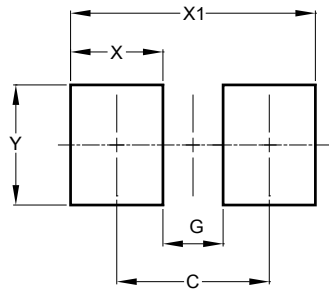


X1-DFN1006-2			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.03
b	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	-	-	0.40
L	0.20	0.30	0.25
R	0.05	0.15	0.10
All Dimensions in mm			

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

X1-DFN1006-2



Dimensions	Value (in mm)
C	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70

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