

## Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Breakdown Voltage
- 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 3
- Ordering Information: See Page 3
- Weight: 0.001 grams (approximate)

DFN1006-2



BOTTOM VIEW

## Maximum Ratings

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

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	125	V
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	100	V
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	71	V
Forward Continuous Current	$I_{FM}$	215	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$	$I_{FSM}$	4	A
@ $t = 1.0\text{ms}$		1	
@ $t = 1.0\text{s}$		0.5	

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	$P_D$	250	mW
Thermal Resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

## Electrical Characteristics

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

Characteristic	Symbol	Min	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 4)	$V_{(BR)R}$	100	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	$V_F$	—	0.715	V	$I_F = 1.0\text{mA}$
		—	0.855		$I_F = 10\text{mA}$
		—	1.0		$I_F = 50\text{mA}$
		—	1.25		$I_F = 150\text{mA}$
		—	500		$V_R = 80\text{V}$
Peak Reverse Current (Note 4)	$I_R$	—	50	$\mu\text{A}$	$V_R = 80\text{V}, T_J = 150^\circ\text{C}$
		—	30		$V_R = 25\text{V}, T_J = 150^\circ\text{C}$
		—	30		$V_R = 25\text{V}$
		—	1.5		$V_R = 0\text{V}, f = 1.0\text{MHz}$
Total Capacitance	$C_T$	—	1.5	pF	
Reverse Recovery Time	$t_{rr}$	—	4.0	ns	$I_F = I_R = 10\text{mA}, t_{rr} = 0.1 \times I_R, R_L = 100\Omega$

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](http://www.diodes.com/products/lead_free/index.php).
3. 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>.
4. Short duration pulse test used to minimize self-heating effect.

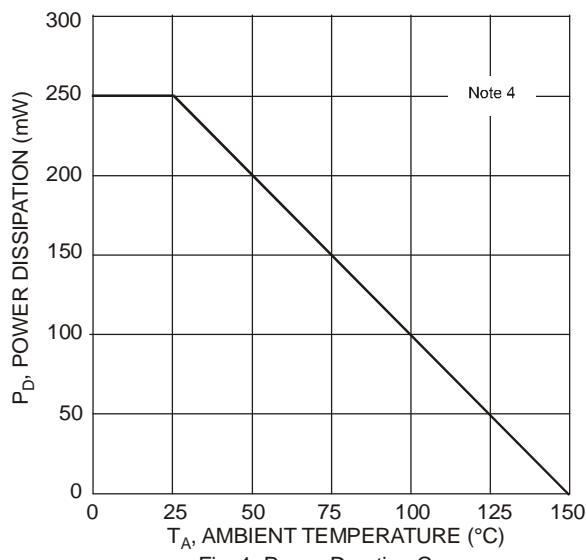


Fig. 1 Power Derating Curve

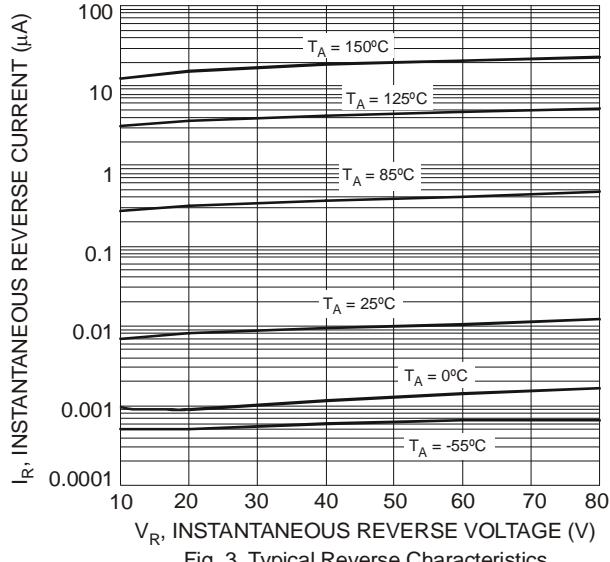


Fig. 3 Typical Reverse Characteristics

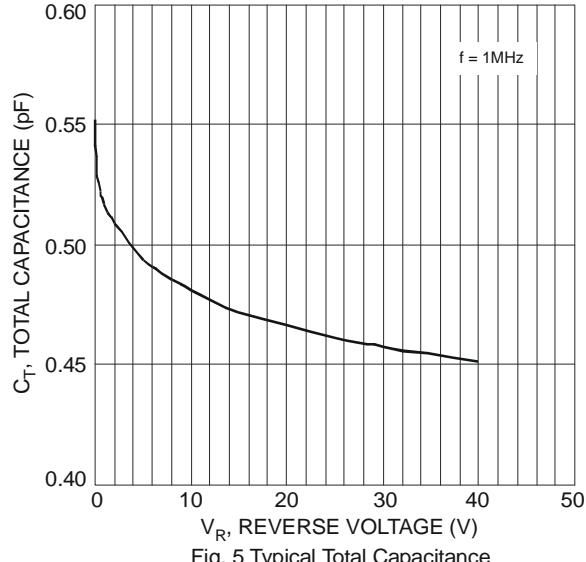


Fig. 5 Typical Total Capacitance

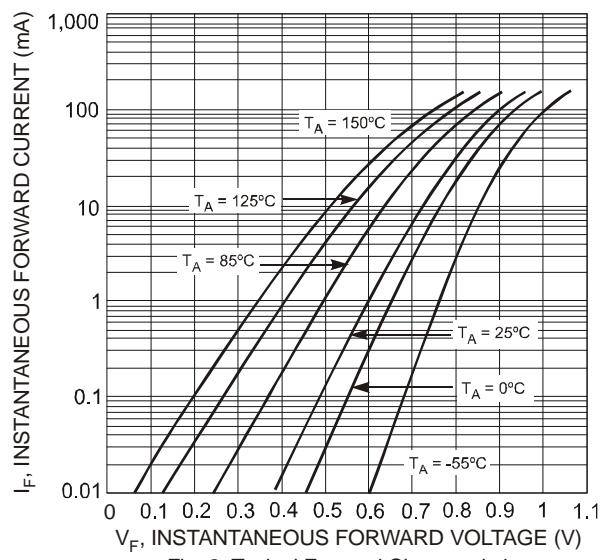


Fig. 2 Typical Forward Characteristics

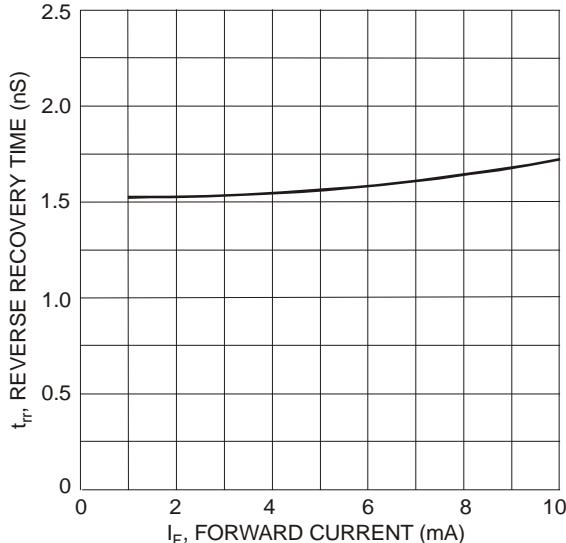
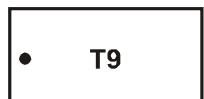


Fig. 4 Reverse Recovery Time vs. Forward Current

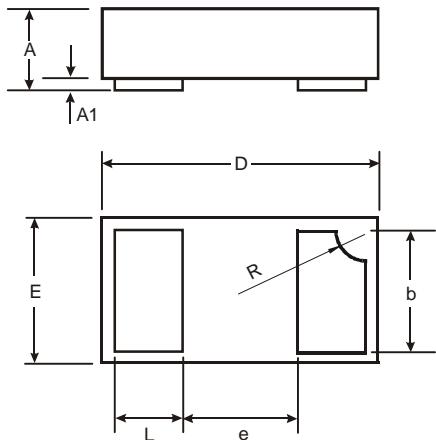
**Ordering Information** (Note 5)

Part Number	Case	Packaging
BAS16HLP-7	DFN1006-2	3000/Tape & Reel

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

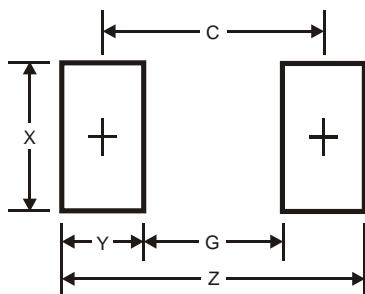
**Marking Information**


T9 = Product Type Marking Code  
 Dot Denotes Cathode Side

**Package Outline Dimensions**


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**


Dimensions	Value (in mm)
Z	1.1
G	0.3
X	0.7
Y	0.4
C	0.7

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