

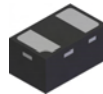
## Features

- 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 @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	125	V
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	71	V
Forward Continuous Current	I <sub>FM</sub>	215	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	@ t = 1.0μs	4
		@ t = 1.0ms	1
		@ t = 1.0s	0.5

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	P <sub>D</sub>	250	mW
Thermal Resistance Junction to Ambient (Note 3)	R <sub>θJA</sub>	500	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 4)	V <sub>(BR)R</sub>	100	—	V	I <sub>R</sub> = 100μA
Forward Voltage	V <sub>F</sub>	—	0.715 0.855 1.0 1.25	V	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 150mA
Peak Reverse Current (Note 4)	I <sub>R</sub>	—	50 30 30	nA μA nA	V <sub>R</sub> = 80V V <sub>R</sub> = 80V, T <sub>J</sub> = 150°C V <sub>R</sub> = 25V, T <sub>J</sub> = 150°C V <sub>R</sub> = 25V
Total Capacitance	C <sub>T</sub>	—	1.5	pF	V <sub>R</sub> = 0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	4.0	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω

- 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.

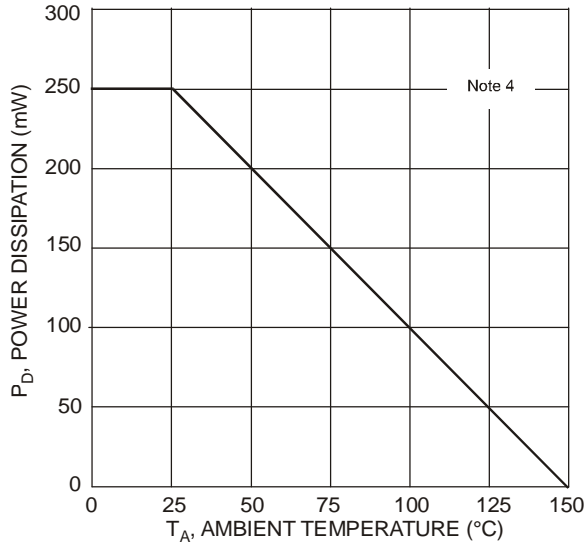


Fig. 1 Power Derating Curve

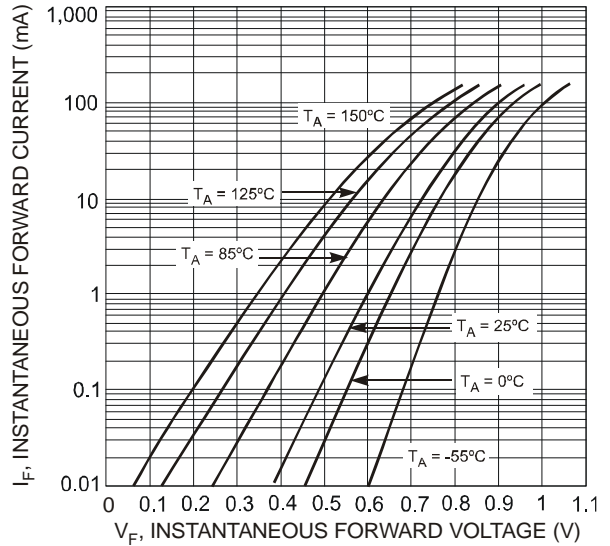


Fig. 2 Typical Forward Characteristics

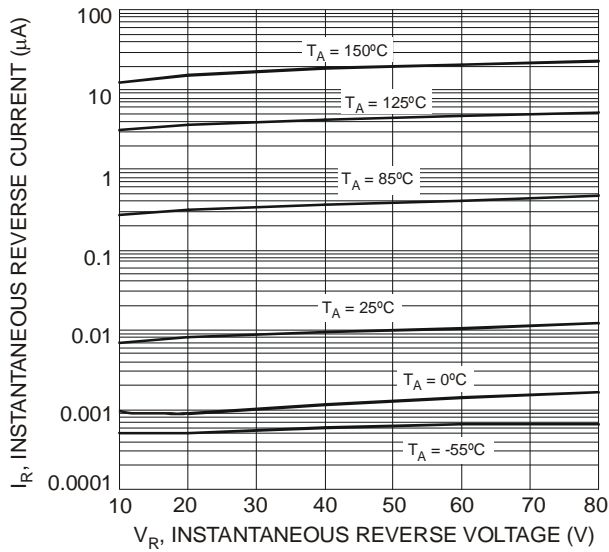


Fig. 3 Typical Reverse Characteristics

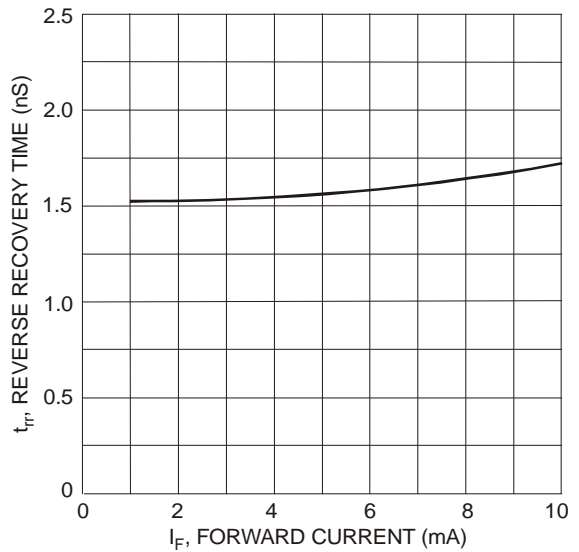


Fig. 4 Reverse Recovery Time vs. Forward Current

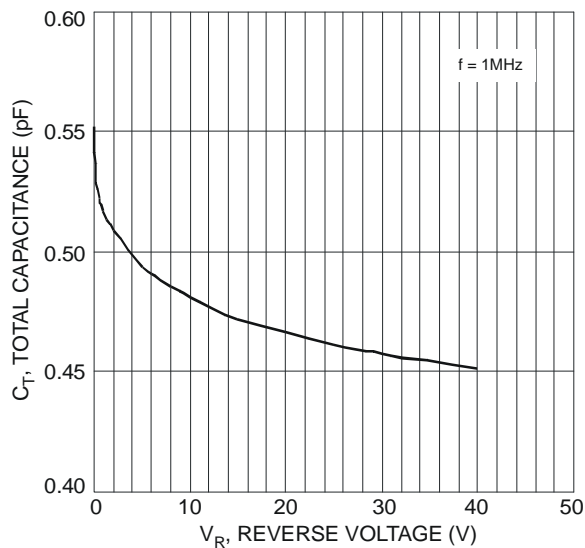


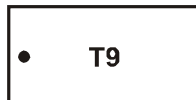
Fig. 5 Typical Total Capacitance

**Ordering Information** (Note 5)

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

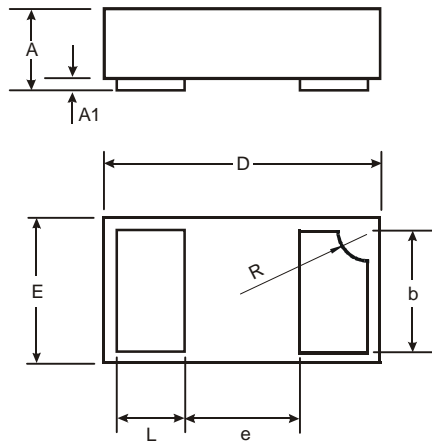
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



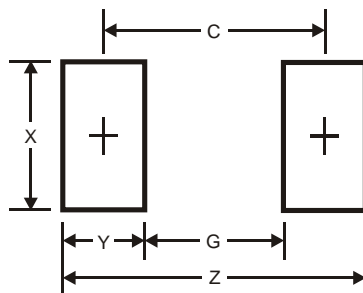
T9 = Product Type Marking Code  
Dot Denotes Cathode Side

**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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