

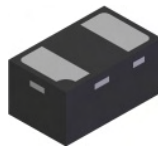
## Features

- Fast Switching Speed: 50ns Maximum
- 400V High Reverse Breakdown Voltage Rating
- Low Capacitance: 2.5pF Maximum
- Surface Mount Package Ideally Suited for Automated Insertion
- **Lead Free by Design/RoHS Compliant (Note 1)**
- **Halogen and Antimony Free "Green" Device (Notes 2 & 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

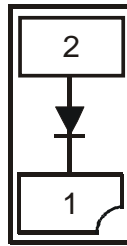
## Mechanical Data

- Case: X1-DFN1006-2
- Case Material: Molded Plastic, "Green" Molding Compound. (Note 2) UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.001 grams (approximate)

X1-DFN1006-2



Bottom View



Device Schematic

## Ordering Information (Note 4)

Part Number	Case	Packaging
BAV5004LP-7B	X1-DFN1006-2	10,000/Tape & Reel

- Notes:
1. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead.
  2. Halogen and Antimony free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  3. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
  4. For packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



LY = Product Type Marking Code  
Line Denotes Cathode Side

**Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	400	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	350	V
DC Blocking Voltage	V <sub>R</sub>	247	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	247	V
Forward Continuous Current (Note 5)	I <sub>FM</sub>	300	mA
Peak Repetitive Forward Current (Note 5)	I <sub>FRM</sub>	625	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	5.0 3.0	A
		@ t = 1.0μs @ t = 1.0ms	

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5) (See figure 1)	P <sub>D</sub>	350	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R <sub>θJA</sub>	357	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V <sub>(BR)R</sub>	400	—	—	V	I <sub>R</sub> = 150μA
Forward Voltage	V <sub>F</sub>	—	—	0.93 1.09 1.29	V	I <sub>F</sub> = 20mA I <sub>F</sub> = 100mA I <sub>F</sub> = 200mA
Reverse Current (Note 6)	I <sub>R</sub>	—	—	1 100	μA	V <sub>R</sub> = 240V V <sub>R</sub> = 240V, T <sub>J</sub> = 150°C
Total Capacitance	C <sub>T</sub>	—	0.9	2.5	pF	V <sub>R</sub> = 0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	50	ns	I <sub>F</sub> = I <sub>R</sub> = 30mA, I <sub>rr</sub> = 3.0mA, R <sub>L</sub> = 100Ω

Notes: 5. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.  
6. Short duration pulse test used to minimize self-heating effect.

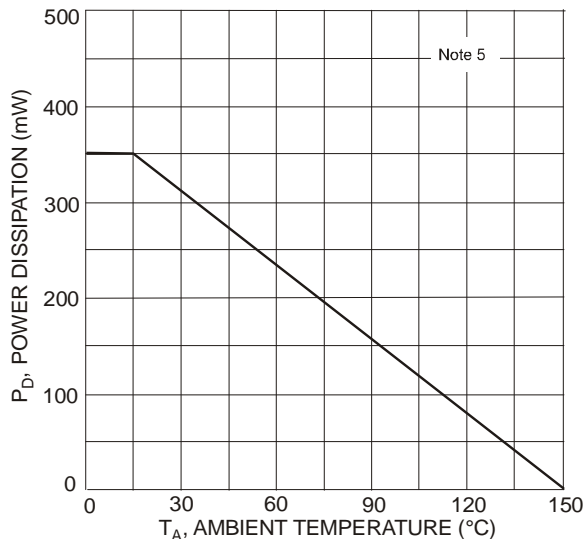


Fig. 1 Power Derating Curve

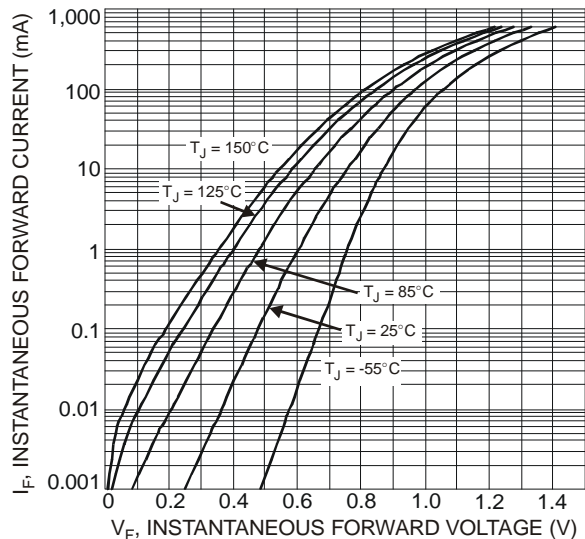
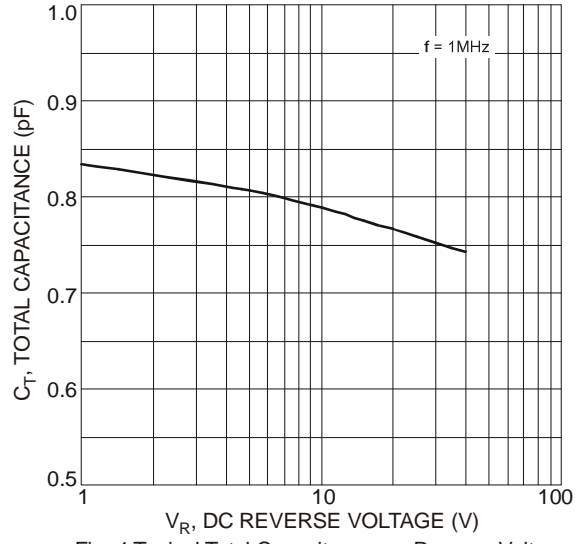
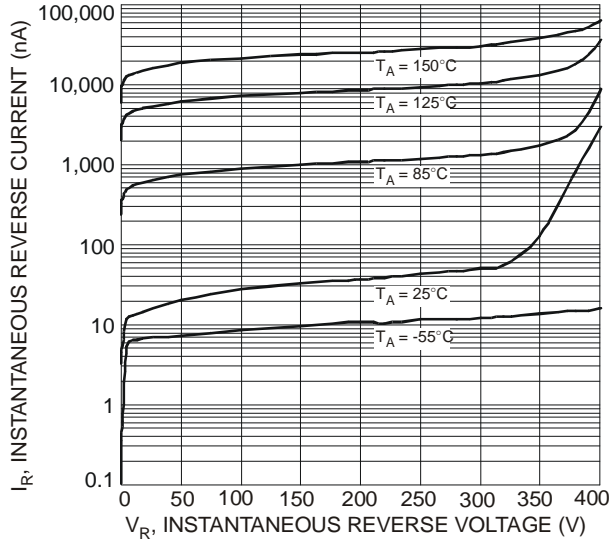
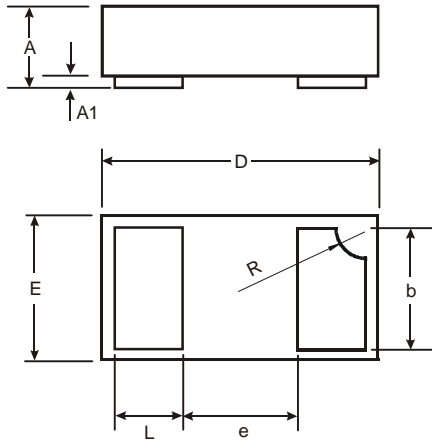


Fig. 2 Typical Forward Characteristics

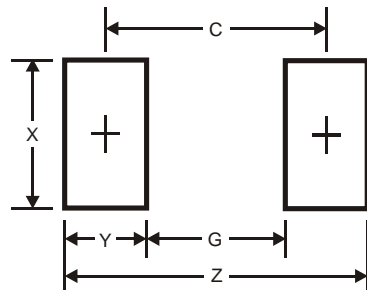


**Package Outline Dimensions**



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**



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

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