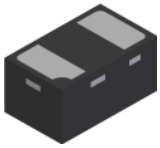
Features

- Fast Switching Speed: 35ns Maximum
- 400V High Reverse Breakdown Voltage Rating
- Low Capacitance: 2.5pF Maximum
- Surface Mount Package Ideally Suited for Automated Insertion
- Ultra-Small Leadless Surface Mount Package (1.0 x 0.6mm)
- Ultra-Low Profile Package (0.5mm)
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

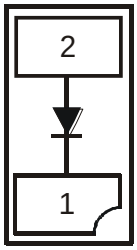
Mechanical Data

- 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
- 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	Compliance	Case	Packaging
BAV5005LP-7B	Standard	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) compliant
2. See http://www.diodes.com/quality/lead_free.html 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

X1-DFN1006-2

LZ = Product Type Marking Code
Bar Denotes Cathode Side

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	400	V
Working Peak Reverse Voltage DC Blocking Voltage	V_{RWM} V_R	350	V
RMS Reverse Voltage	$V_{R(RMS)}$	247	V
Forward Continuous Current (Note 5)	I_{FM}	300	mA
Peak Repetitive Forward Current (Note 5)	I_{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0µs @ t = 1.0ms	I_{FSM}	4.0 2.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5) (See Figure 1)	P_D	350	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	357	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	400	—	—	V	I_R = 150µA
Forward Voltage	V_F	—	— — —	1.08 1.27 1.50	V	I_F = 20mA I_F = 100mA I_F = 200mA
Reverse Current (Note 6)	I_R	—	— —	1 100	µA µA	V_R = 240V V_R = 240V, T_J = +150°C
Total Capacitance	C_T	—	0.9	2.5	pF	V_R = 0V, f = 1.0MHz
Reverse Recovery Time	t_{RR}	—	—	35	ns	I_F = I_R = 30mA, I_{RR} = 3.0mA, R_L = 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.

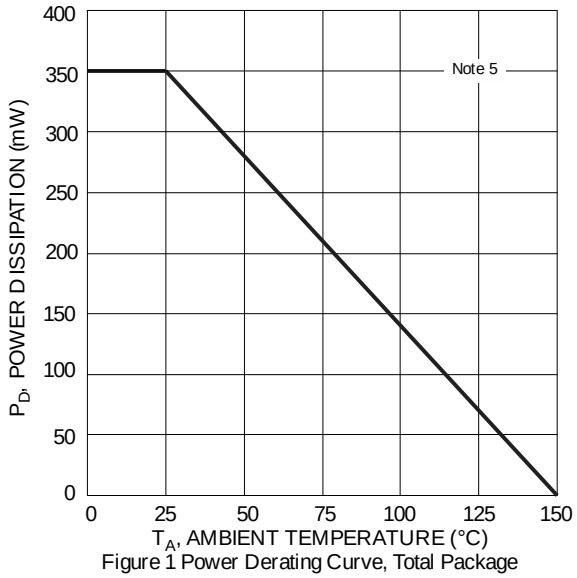


Figure 1 Power Derating Curve, Total Package

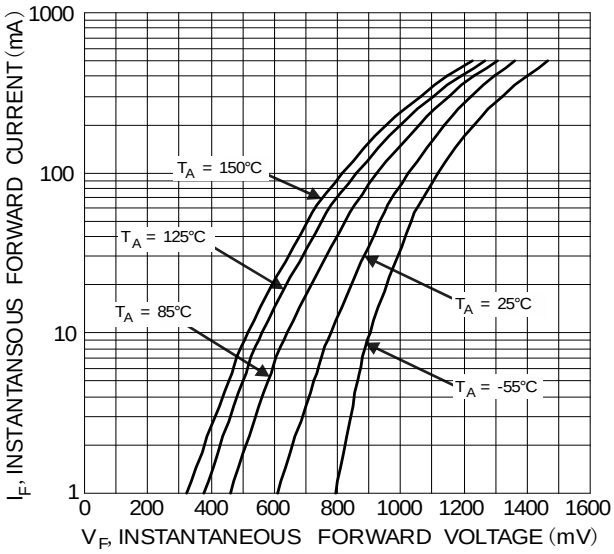


Figure 2 Typical Forward Characteristics

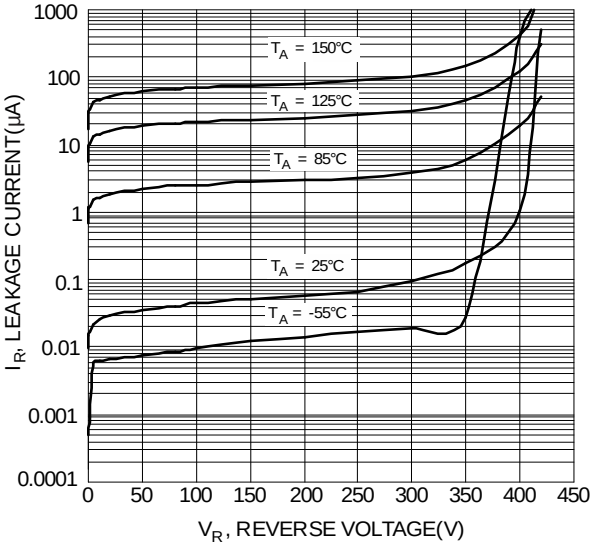


Figure 3 Typical Reverse Characteristics

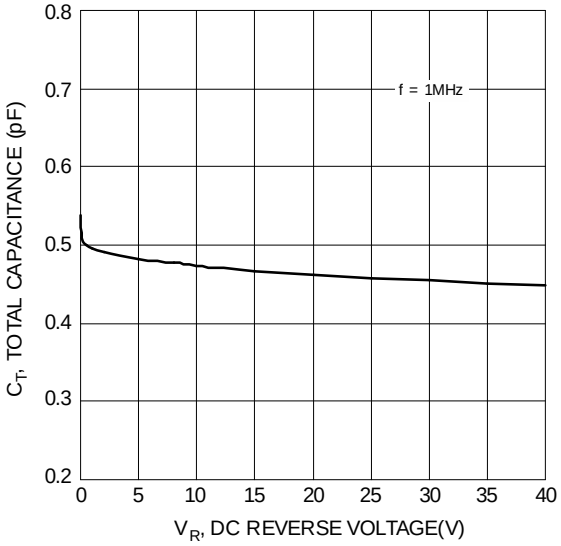
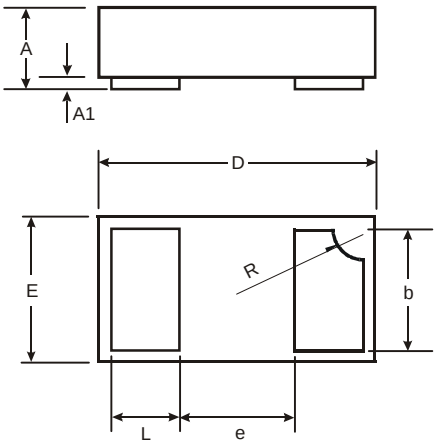


Figure 4 Typical Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

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

X1-DFN1006-2

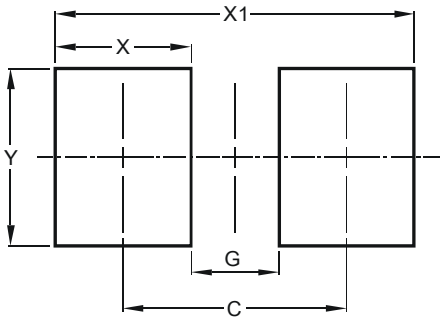


X1-DFN1006-2			
Dim	**Min**	**Max**	**Typ**
A	0.47	0.53	0.50
A1	0	0.05	0.03
b	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	-	-	0.40
L	0.20	0.30	0.25
R	0.05	0.15	0.10
All Dimensions in mm			

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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