

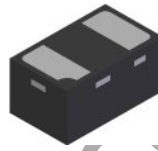
Features

- 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)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](http://www.diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

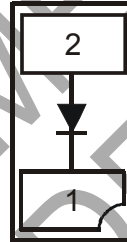
Mechanical Data

- 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

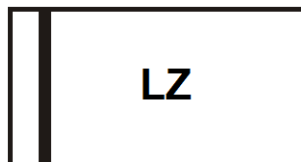
Ordering Information (Note 4)

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
Band 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	V _{RWM}	350	V
DC Blocking Voltage	V _R		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	I _{FSM}	@ t = 1.0µs	4.0
		@ t = 1.0ms	2.0

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 _{θJA}	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	V	I _F = 20mA
		—	—	1.27		I _F = 100mA
		—	—	1.50		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.

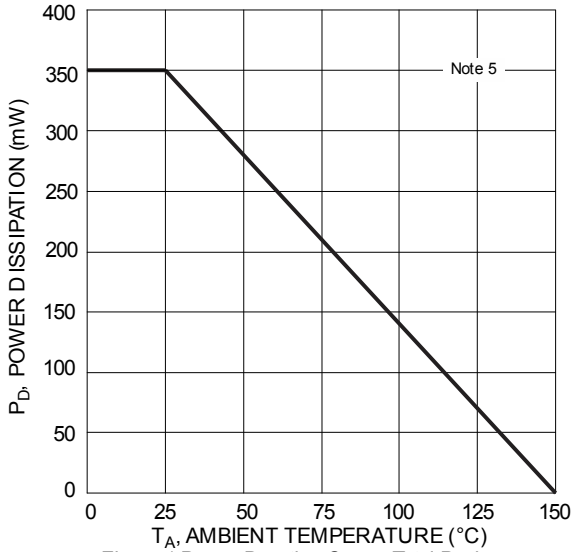


Figure 1 Power Derating Curve, Total Package

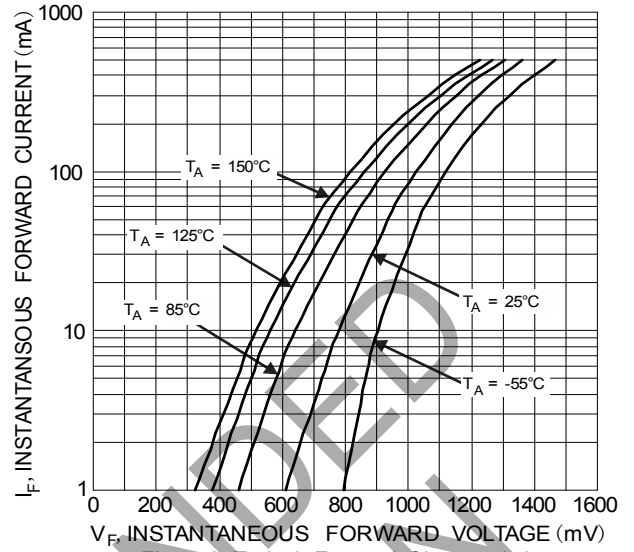


Figure 2 Typical Forward Characteristics

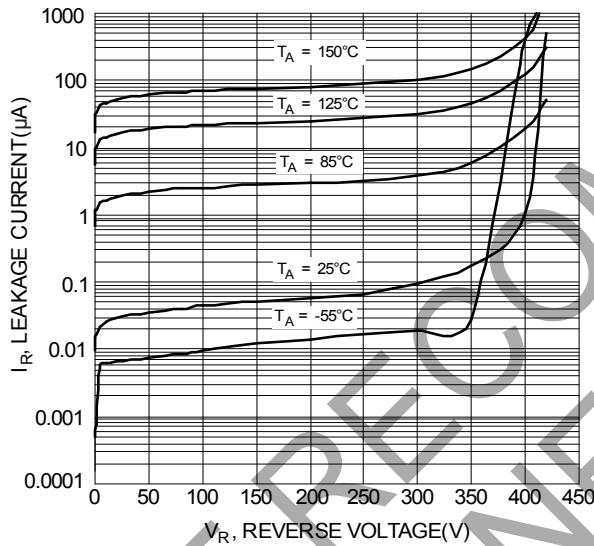


Figure 3 Typical Reverse Characteristics

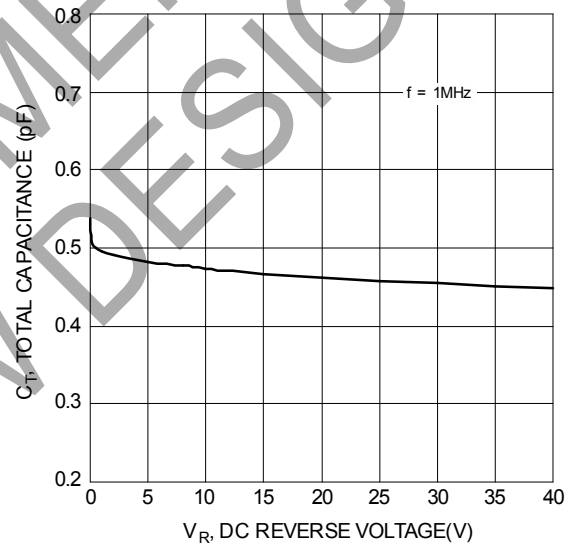
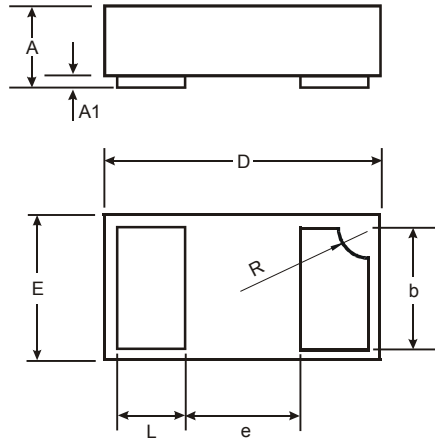


Figure 4 Typical Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

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

X1-DFN1006-2

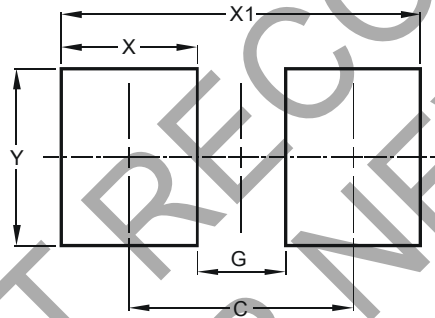


X1-DFN1006-2			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.03
b	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	-	-	0.40
L	0.20	0.30	0.25
R	0.05	0.15	0.10
All Dimensions in mm			

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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