Features

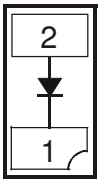
- Fast Switching Speed: Maximum of 50ns
- High Reverse Breakdown Voltage: 325V
- Low Leakage Current: Maximum of 50nA when V_R = 5V or Maximum of 150nA when V_R = 250V at Room Temperature
- Ultra Small Plastic SMD Package: 1.0mm x 0.6mm x 0.5mm
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 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: 0.0009 grams (Approximate)

X1-DFN1006-2

Bottom View



Device Schematic

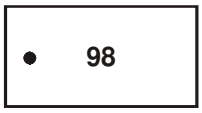
Ordering Information (Note 4)

Part Number	Case	Packaging
BAS521LP-7	X1-DFN1006-2	3,000/Tape & Reel
BAS521LP-7B	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.

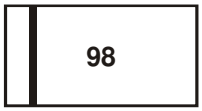
Marking Information

BAS521LP-7



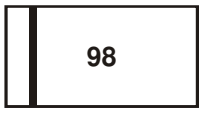
Top View
Dot Denotes
Cathode Side

OR



Top View
Bar Denotes
Cathode Side

BAS521LP-7B



Top View
Bar Denotes
Cathode Side

98 = Product Type Marking Code

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

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	325	V
Working Peak Reverse Voltage DC Blocking Voltage	V_{RWM} V_R	325	V
Forward Current (Note 5)	I_F	400	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs	I_{FSM}	8.0	A
Repetitive Peak Forward Current @ t=8.3ms (Note 5)	I_{FRM}	3.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	400	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	312	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

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

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	300	—	V	I_R = 100μA
Forward Voltage	V_F	—	1.1	V	I_F = 100mA
Reverse Current (Note 6)	I_R	— — —	50 150 100	nA nA μA	V_R = 5V V_R = 250V V_R = 250V, T_J = +150°C
Total Capacitance	C_T	—	5	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	50	ns	I_F = I_R = 30mA, I_{rr} = 0.1 x I_R, 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.

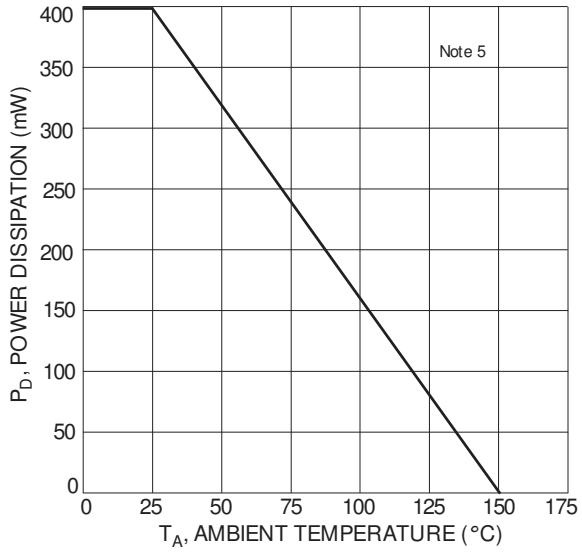


Fig. 1 Power Derating Curve

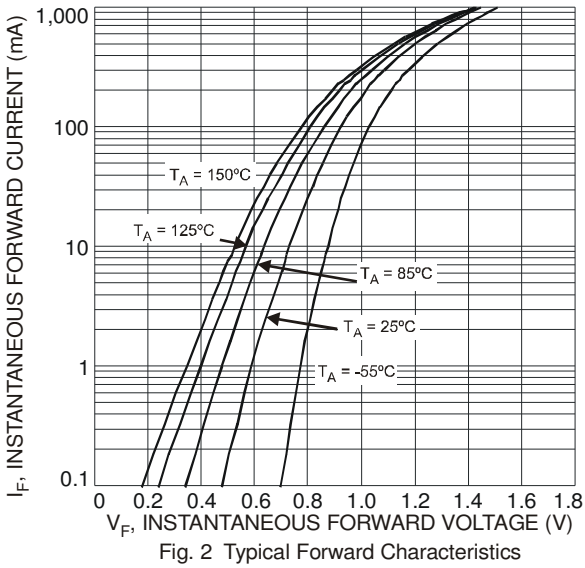


Fig. 2 Typical Forward Characteristics

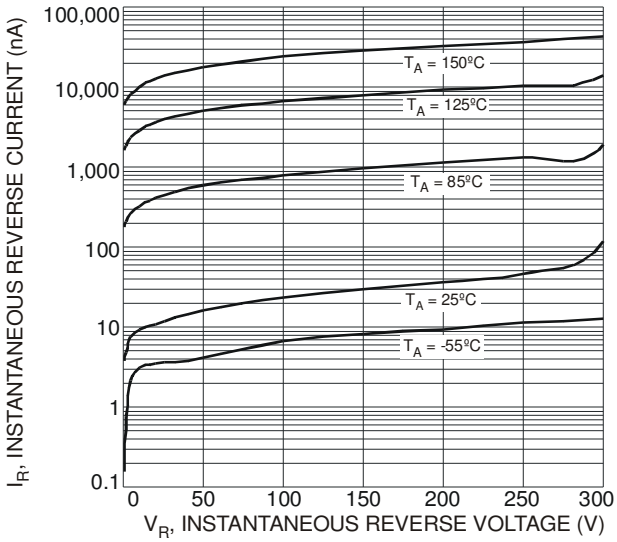


Fig. 3 Typical Reverse Characteristics

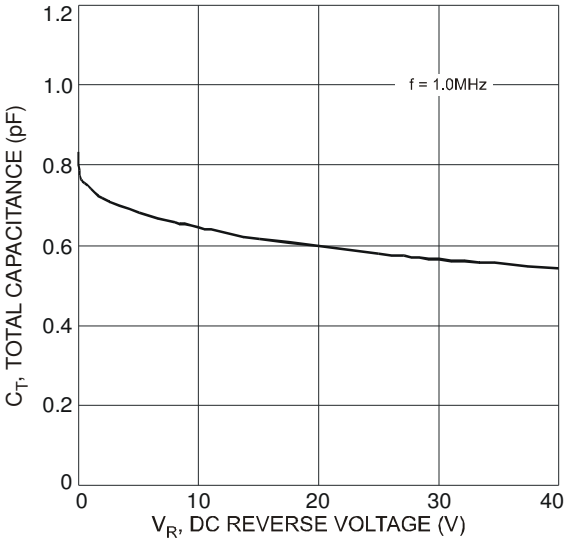
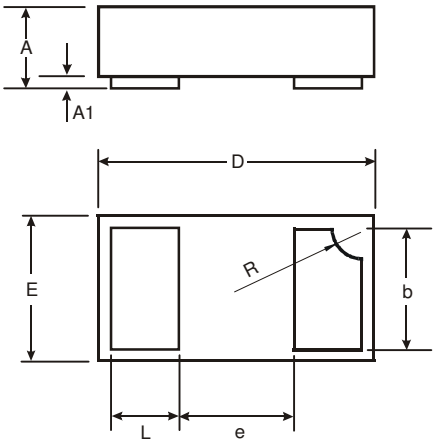


Fig. 4 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

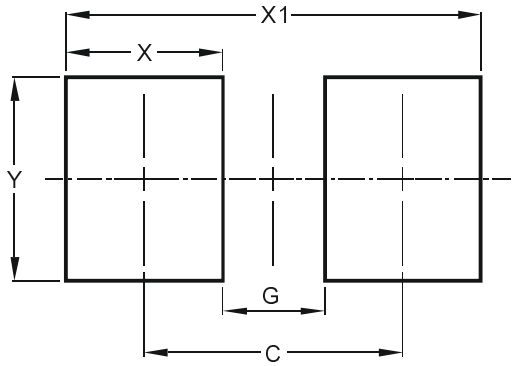
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



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 AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
C	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70

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