

Lead-free Gree

HIGH VOLTAGE SWITCHING DIODE

BAS521LPQ

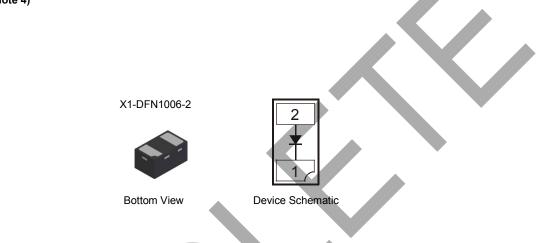
Features

- 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)
- Qualified to AEC-Q101 Standards for High-Reliability
- PPAP Capable (Note 4)

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 Lead-Frame. Solderable per MIL-STD-202, Method 208 @
- Weight: 0.0009 grams (Approximate)

Notes:



Ordering Information (Note 5)

Part Number Qualification Case Packaging				
	Part Number		Case	Packaging
BAS521LPQ-7B Automotive X1-DFN1006-2 10,000/Tape &	BAS521LPQ-7B	Automotive	X1-DFN1006-2	

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. 2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green"

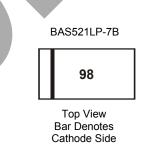
and Lead-free.

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. Automotive products are AEC-Q10x qualified and are PPAP capable. Refer to https://www.diodes.com/quality/.

5. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



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 6)	l _F	400	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0µs	IFSM	8.0	A
Repetitive Peak Forward Current @ t = 8.3ms	I _{FRM}	3.0	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	PD	400	mW
Thermal Resistance Junction to Ambient Air (Note 6)	R ₀ JA	312	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

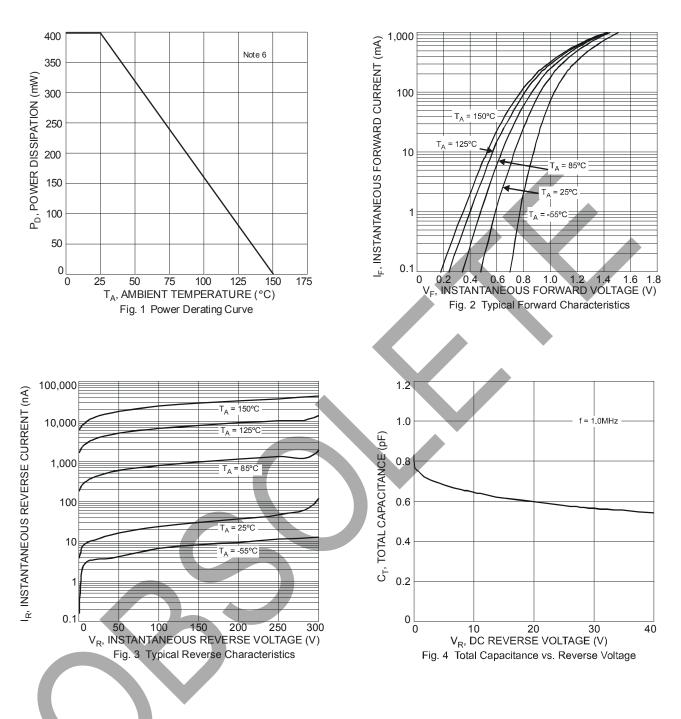
Electrical Characteristics (@ T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	V _{(BR)R}	300		V	I _R = 100μA
Forward Voltage	VF	- /	1.1	V	I _F = 100mA
Reverse Current (Note 7)	I _R		50 150 100	nA nA μA	V _R = 5V V _R = 250V V _R = 250V, T _J = +150°C
Total Capacitance	Ст	_	5	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	_	50	ns	$I_{F} = I_{R} = 30 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_{R}, R_{L} = 100 \Omega$

Notes:

6. Part is mounted on a FR-4 substrate PC board, with 1" x 1" 2oz copper pad.7. Short duration pulse test used to minimize self-heating effect.



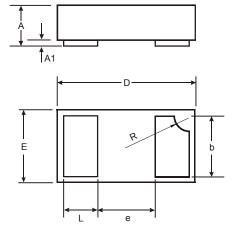


BAS521LPQ Document number: DS40217 Rev. 3 - 4 Downloaded from Arrow.com.



Package Outline Dimensions

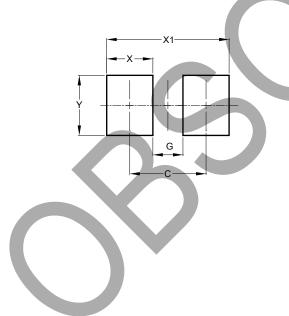
Please see http://www.diodes.com/package-outlines.html for the latest version.



Dim	Min	Max	Тур	
Α	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	
Е	0.55	0.675	0.60	
e	-	-	0.40	
L	0.20	0.30	0.25	
R	0.05	0.15	0.10	
All				

Suggested Pad Layout

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



Dimensions	Value (in mm)
С	0.70
G	0.30
Х	0.40
X1	1.10
Y	0.70



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