

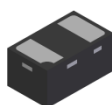
Features

- Fast Switching Speed: Maximum of 50ns
- High Reverse Breakdown Voltage: 325V
- Ultra-Small Plastic SMD Package: 1.0mm x 0.6mm x 0.5mm
- Extremely Low Reverse Leakage Current at High Temperature
- **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-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

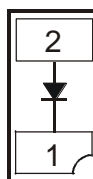
Mechanical Data

- Package: X1-DFN1006-2
- Package 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 ④
- Weight: 0.0009 grams (Approximate)

X1-DFN1006-2



Bottom View



Device Schematic

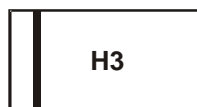
Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Quantity	Carrier
DHVSD521LP-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) & 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. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information

DHVSD521LP-7B



Top View

H3 = Product Type Marking Code
 Bar on top of the Letter 'H' Denotes CAT site
 Band Denotes Cathode Side

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, Duty Cycle <1% (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 _{θJA}	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 6)	V _{(BR)R}	325	—	V	I _R = 100μA
Forward Voltage	V _F	—	1.1	V	I _F = 100mA
Reverse Current (Note 6)	I _R	—	50	nA	V _R = 5V
		—	150	nA	V _R = 250V
		—	35	μA	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 = 10mA, 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/products/packages.html>.
6. Short duration pulse test used to minimize self-heating effect.

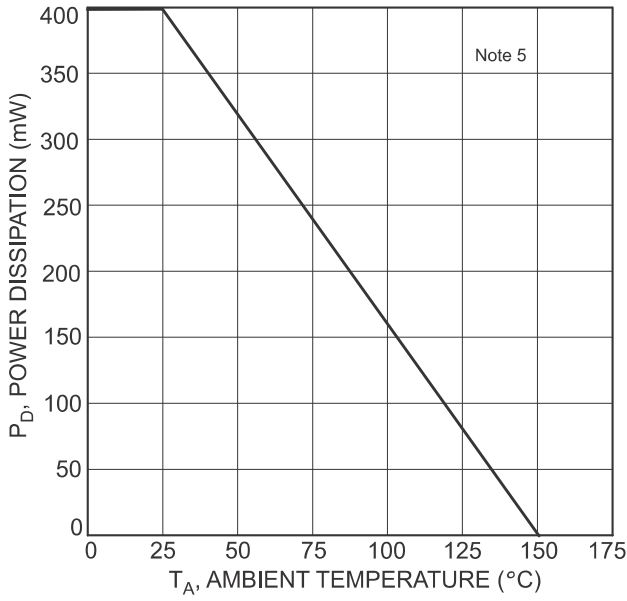


Fig. 1 Power Derating Curve

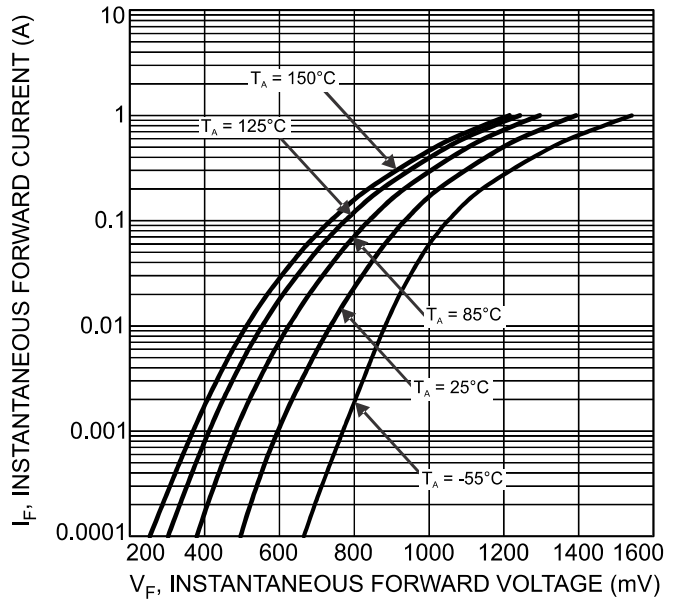


Fig. 2 Typical Forward Characteristics

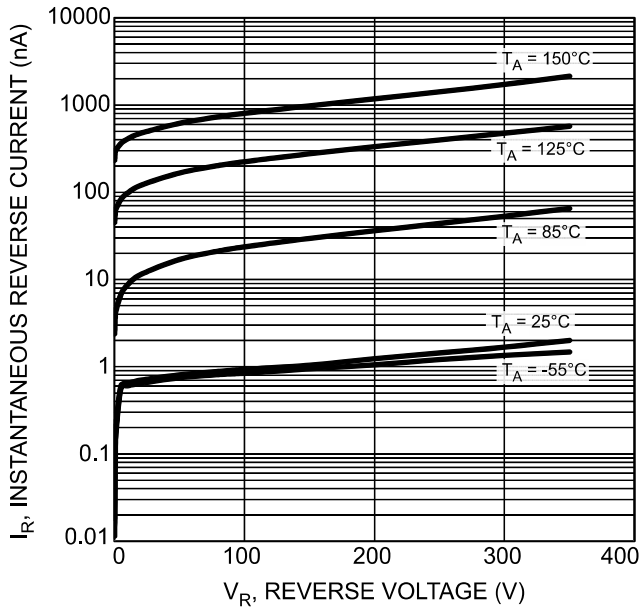


Fig. 3 Typical Reverse Characteristics

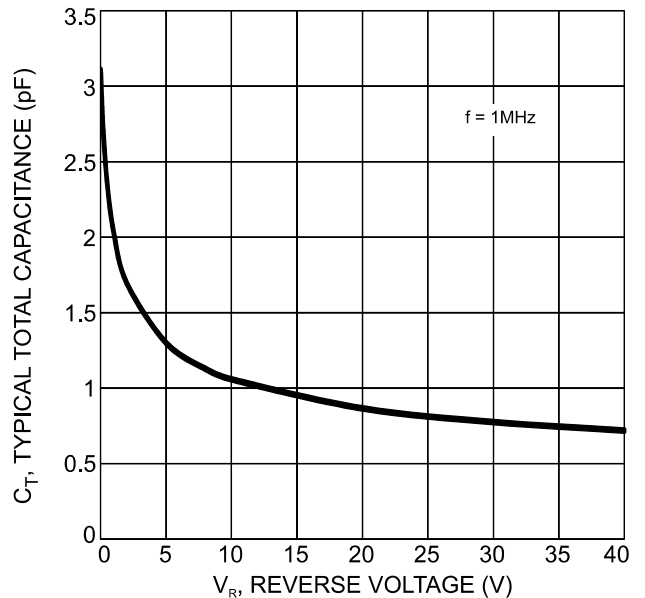
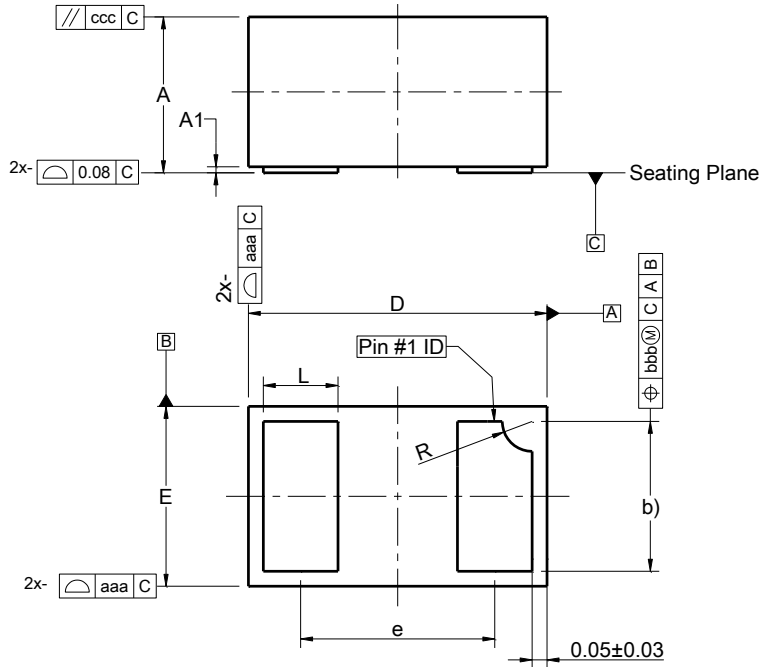


Fig. 4 Typical Capacitance

Package Outline Dimensions

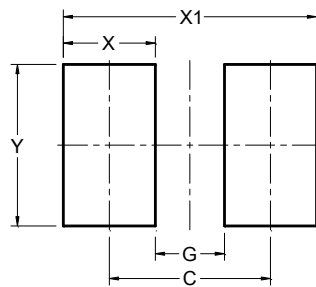
Please see <https://www.diodes.com/design/support/packaging/> for the latest version.



X1-DFN1006-2			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0.00	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	--	--	0.65
L	0.20	0.30	0.25
R	0.05	0.15	0.10
aaa	0.15		
bbb	0.05		
ccc	0.05		
All Dimensions in mm			

Suggested Pad Layout

Please see <https://www.diodes.com/design/support/packaging/> 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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