

ULTRA LOW LEAKAGE SURFACE MOUNT FAST SWITCHING DIODE

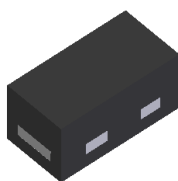
Features

- Ultra-Small Leadless Surface Mount Package (0.6 x 0.3mm)
- Ultra-Low Profile Package (0.3mm)
- Fast Switching Speed, Fast Reverse Recovery Time
- Ultra-Low Reverse Leakage Current (~ 5nA @ $V_R = 5V$)
- Very Low Capacitance (<1pF @ $V_R = 0V$)
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

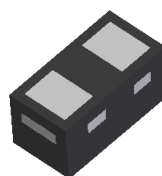
Mechanical Data

- Case: X3-DFN0603-2
- Case Material: Molded Plastic, "Green" Molding Compound.
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Bar
- Terminals: Finish — Matte Tin Finish over Copper Leadframe
(Lead-Free Plating). Solderable per MIL-STD-202, Method 208e3
- Weight: 0.0002 grams (Approximate)

X3-DFN0603-2



Top View



Bottom View

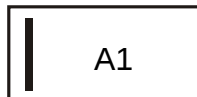
Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
DLLFSD01LP3-7	Standard	X3-DFN0603-2	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

X3-DFN0603-2



A1 = Product Type Marking Code
Bar Denotes Cathode Side

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

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V _{RM}	85	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	80	V
RMS Reverse Voltage	V _{R(RMS)}	57	V
Forward Continuous Current	I _{FM}	300	mA
Average Rectified Output Current	I _O	100	mA
Non-Repetitive Peak Forward Surge Current @t = 1.0μs	I _{FSM}	2.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R _{θJA}	500	°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	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	80	—	—	V	I _R = 100μA
Forward Voltage	V _F	—	0.62 0.74 0.94	0.7 0.82 1.20	V	I _F = 1.0mA I _F = 10mA I _F = 100mA
Leakage Current (Note 6)	I _R	—	5 — —	10.0 0.1 0.2	nA μA μA	V _R = 5V V _R = 30V V _R = 80V
Total Capacitance	C _T	—	0.5	2.5	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	—	4.0 4.0	ns ns	I _F = 10mA, V _R = 6V I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω

Notes: 5. Part mounted on FR-4 PC 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.

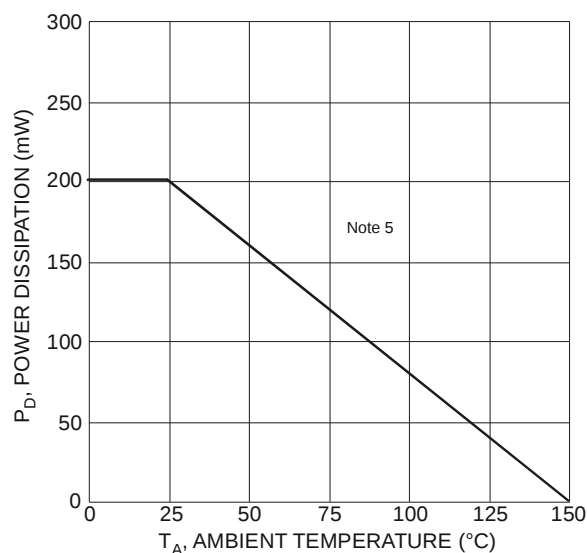


Figure 1 Power Derating Curve, Total Package

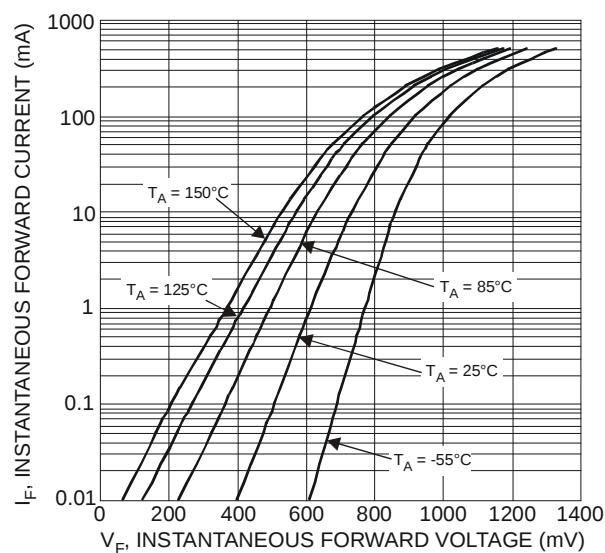


Figure 2 Typical Forward Characteristics

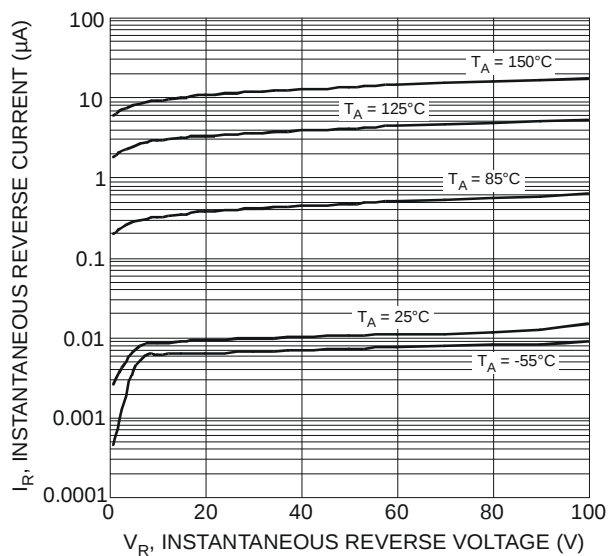


Figure 3 Typical Reverse Characteristics

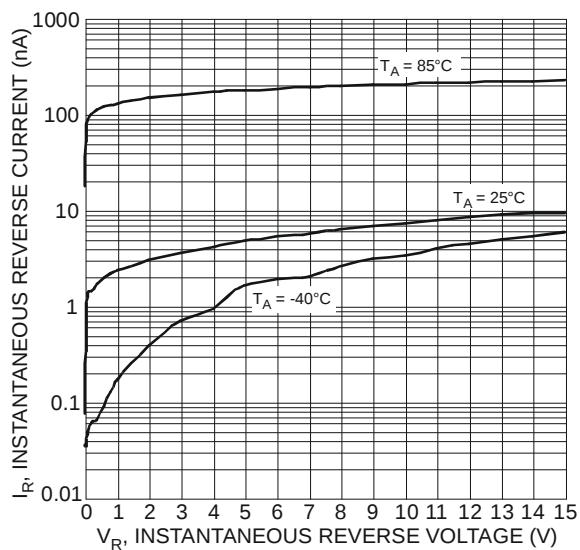


Figure 4 Typical Reverse Characteristics

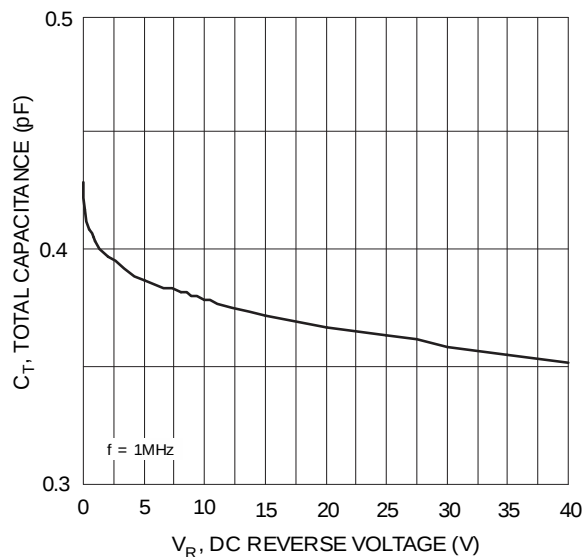
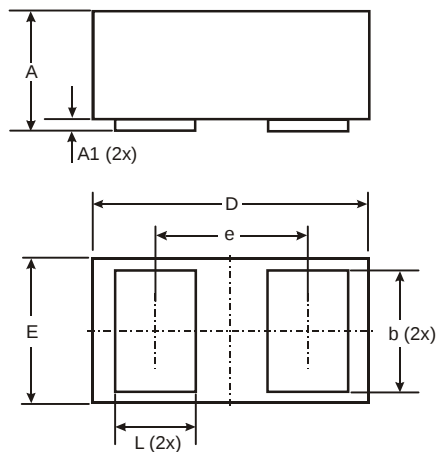


Figure 5 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

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

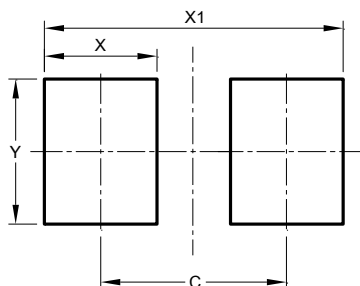


Bottom View

X3-DFN0603-2			
Dim	Min	Max	Typ
A	0.27	0.35	0.30
A1	0.00	0.03	0.02
b	0.19	0.29	0.24
D	0.595	0.645	0.62
E	0.295	0.345	0.32
e	-	-	0.355
L	0.14	0.24	0.19
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	0.380
X	0.230
X1	0.610
Y	0.300

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