GDZ3V9LP3 - GDZ8V2LP3

ULTRA-SMALL LEADLESS SURFACE MOUNT ZENER DIODE

Features

- Ultra-Small Leadless Surface Mount Package (0.6 x 0.3mm)
- Ultra-Low Profile Package (0.3mm)
- Ideally Suited for Automated Assembly Processes
- Low Leakage Current, Suitable for Battery-Powered Applications
- **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**

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 over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.2 mg (Approximate)

X3-DFN0603-2

Top View

Bottom View

Ordering Information (Note 4)

Part Number	Case	Packaging
(Type Number)-7*	X3-DFN0603-2	10,000/Tape & Reel

*Add "-7" to the appropriate type number in Electrical Characteristics Table. Example: 6.2V Zener = GDZ6V2LP3-7.

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

Pin 1

xx = Product Type Marking Code
(See Electrical Characteristics Table)
Line Denotes Cathode Side

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5) T_A = +25°C	P_D	250	mW
Thermal Resistance, Junction to Ambient Air (Note 5) T_A = +25°C	$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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

Type Number	Marking Code	Zener Voltage Range (Note 6)				Maximum Reverse Current (Note 6)	
		V_Z @ I_{ZT}			I_{ZT}	I_R	@ V_R
		Nom (V)	Min (V)	Max (V)	mA	µA	V
GDZ3V9LP3	KJ	3.9	3.740	4.160	5	5	1.0
GDZ4V7LP3	KL	4.7	4.420	4.900	5	2.0	1.0
GDZ5V1LP3	KM	5.1	4.840	5.370	5	0.2	2.0
GDZ5V6LP3	KN	5.6	5.310	5.920	5	1.0	2.5
GDZ6V0LP3	KW	6.0	5.676	6.324	5	1.0	2.8
GDZ6V2LP3	KO	6.2	5.860	6.530	5	1.0	3.0
GDZ6V8LP3	KT	6.8	6.470	7.140	5	0.5	3.5
GDZ7V5LP3	KQ	7.5	7.060	7.840	5	0.5	4.0
GDZ8V2LP3	KX	8.2	7.760	8.640	5	0.5	5.0

Notes: 5. Device mounted on FR-4 PCB with minimum recommended pad layout, as shown in Diodes Incorporated's Suggested Pad Layout document, which can be found on our website at http://www.diodes.com.
6. Short duration pulse test used to minimize self-heating effect.

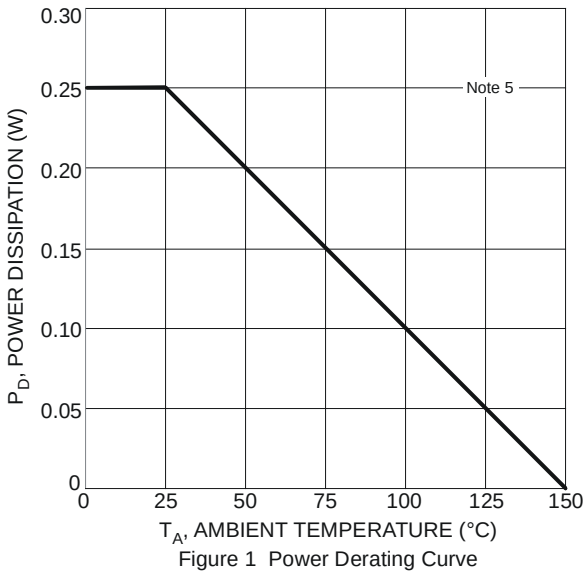


Figure 1 Power Derating Curve

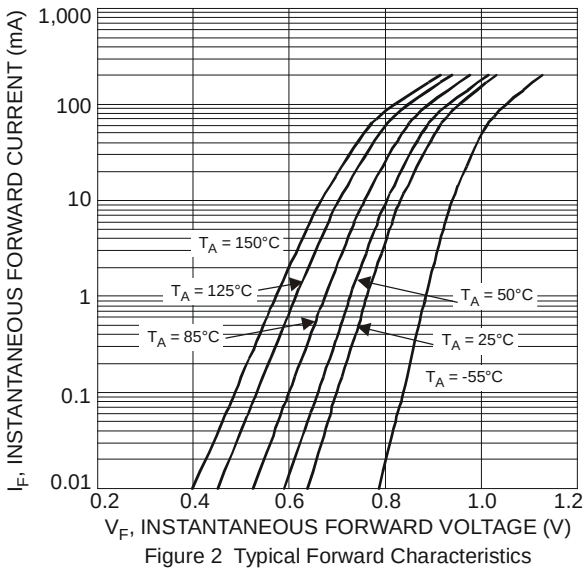


Figure 2 Typical Forward Characteristics

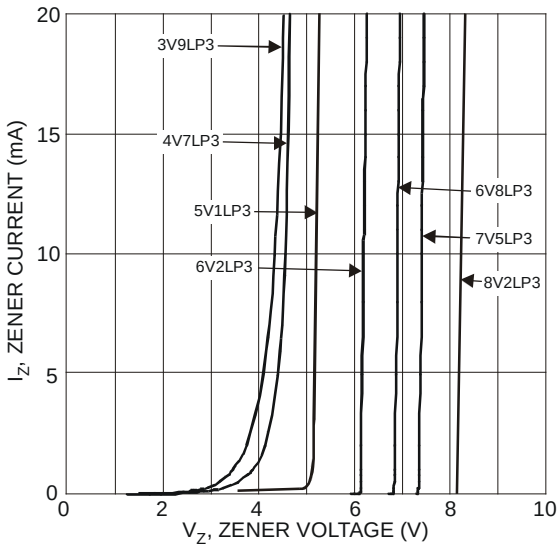


Figure 3 Typical Zener Breakdown Characteristics

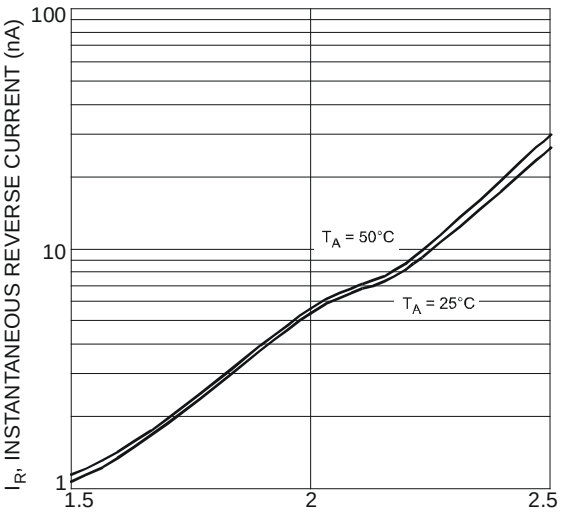


Figure 4 Typical Reverse Characteristics - GDZ5V1LP3

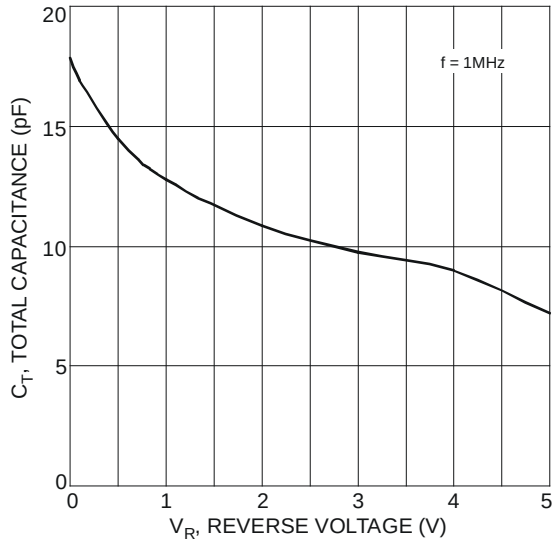
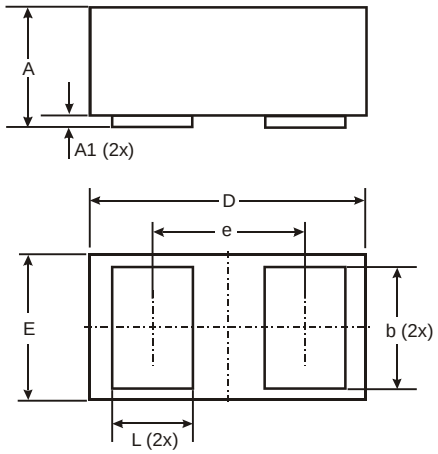


Figure 5 Typical Total Capacitance

Package Outline Dimensions

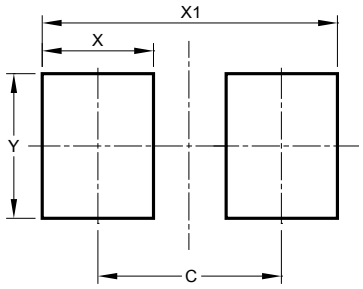
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



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