

Features

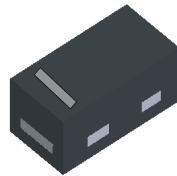
- Ultra-Small Leadless Surface Mount Package (0.6 x 0.3mm)
- Ultra-Low Profile Package (0.3mm)
- Ideally Suited for Automated Assembly Processes
- Low Leakage Current, Suitable for Battery-Powered Applications
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **The GDZ6V2LP3Q - GDZ12LP3Q are suitable for automotive applications requiring specific change control; these parts are AEC-Q101 qualified, PPAP capable, and manufactured in IATF16949 certified facilities.**

<https://www.diodes.com/quality/product-definitions/>

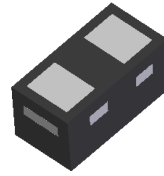
Mechanical Data

- Package: X3-DFN0603-2
- Package 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 Ⓔ③
- Weight: 0.2 mg (Approximate)

X3-DFN0603-2



Top View



Bottom View



Ordering Information (Note 4)

Part Number	Compliance	Package	Packing	
			Qty.	Carrier
(Type Number)-7*	Automotive	X3-DFN0603-2	10,000	Tape & Reel

*Add "-7" to the appropriate type number in the Electrical Characteristics Table. Example: 6.2V Zener = GDZ6V2LP3Q-7.

- 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

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

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Type Number	Marking Code	Zener Voltage Range (Note 6)				Reverse Current (Note 6)	
		$V_Z @ I_{ZT}$			I_{ZT}	I_R	@ V_R
		Nom (V)	Min (V)	Max (V)	mA	Max (μA)	V
GDZ6V2LP3Q	KO	6.2	5.860	6.530	5	1.0	3.0
GDZ6V8LP3Q	KT	6.8	6.470	7.140	5	0.5	3.5
GDZ9V1LP3Q	JE	9.1	8.65	9.56	5	0.5	6.0
GDZ12LP3Q	JH	12	11.40	12.60	5	0.1	8.0

- Notes:
- 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/products/packages.html>.
 - Short duration pulse test used to minimize self-heating effect.

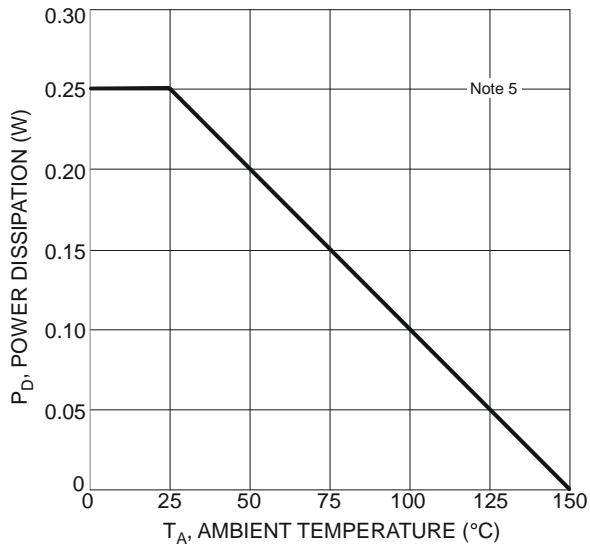


Figure 1 Power Derating Curve

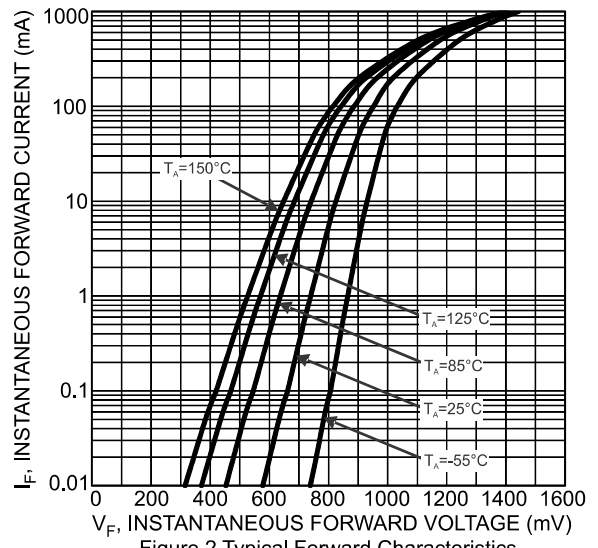


Figure 2 Typical Forward Characteristics

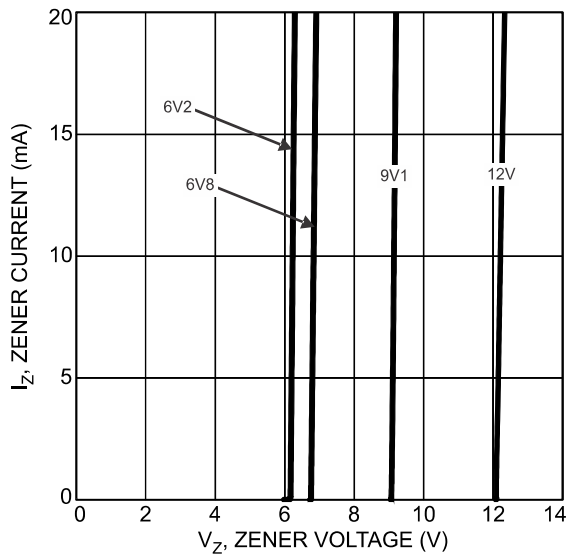
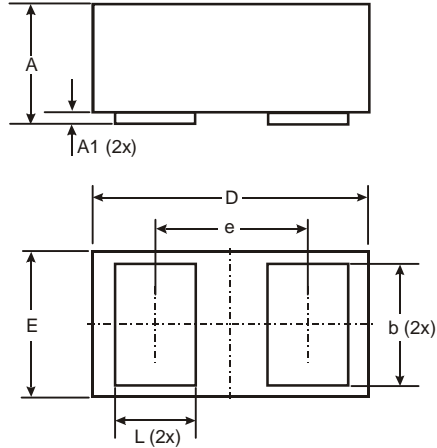


Figure 3 Typical Zener Breakdown Characteristics

Package Outline Dimensions

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

X3-DFN0603-2

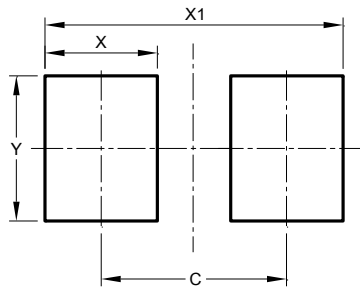


X3-DFN0603-2			
Dim	Min	Max	Typ
A	0.27	0.35	0.30
A1	0.00	0.03	0.02
b	0.19	0.29	0.24
D	0.595	0.645	0.62
E	0.295	0.345	0.32
e	-	-	0.355
L	0.14	0.24	0.19
All Dimensions in mm			

Suggested Pad Layout

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

X3-DFN0603-2



Dimensions	Value (in mm)
C	0.380
X	0.230
X1	0.610
Y	0.300

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