

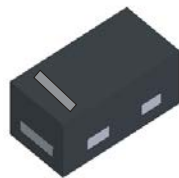
Features

- 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 (Type Number)-7* | Case | Packaging |
|---------------------------------|--------------|--------------------|
| | 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

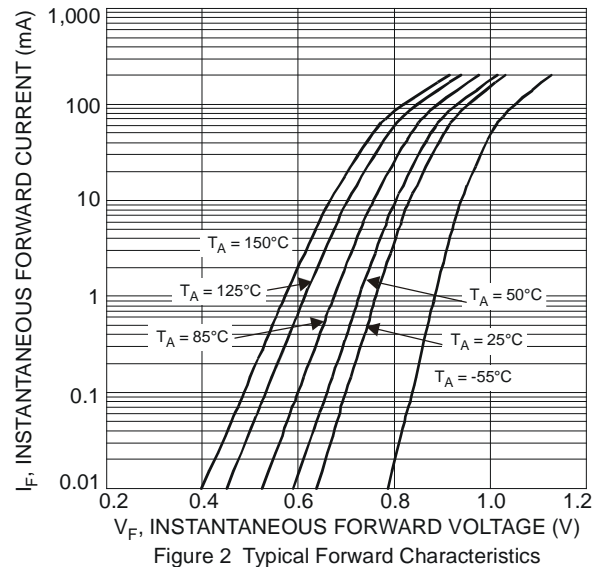
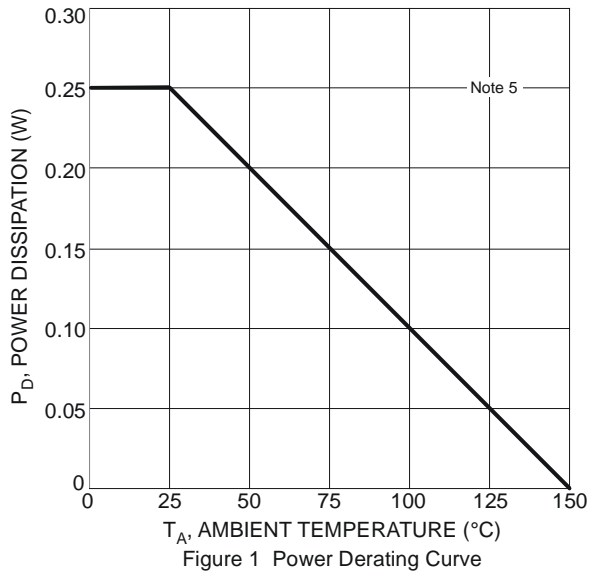
Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|--|-----------------|-------------|--------------------|
| Power Dissipation (Note 5) $T_A = +25^\circ\text{C}$ | P_D | 250 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 5) $T_A = +25^\circ\text{C}$ | $R_{\theta JA}$ | 500 | $^\circ\text{C/W}$ |
| 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) | | | | Maximum Reverse Current (Note 6) | |
|-------------|--------------|------------------------------|---------|---------|----------------|----------------------------------|--------------|
| | | $V_Z @ I_{ZT}$ | | | I_{ZT} mA | I_R μA | @ V_R V |
| | | Nom (V) | Min (V) | Max (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:
- 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>.
 - Short duration pulse test used to minimize self-heating effect.



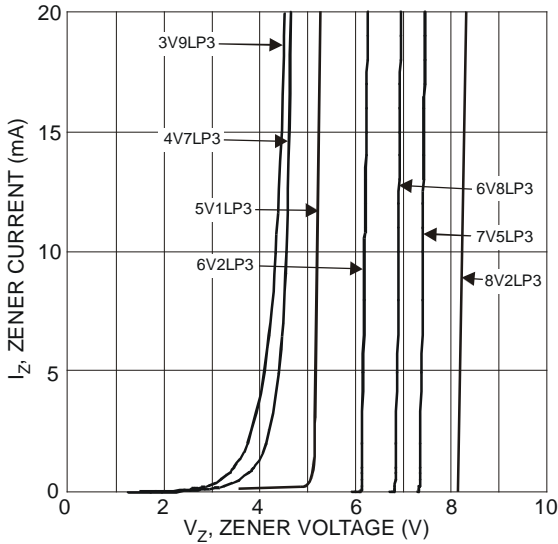


Figure 3 Typical Zener Breakdown Characteristics

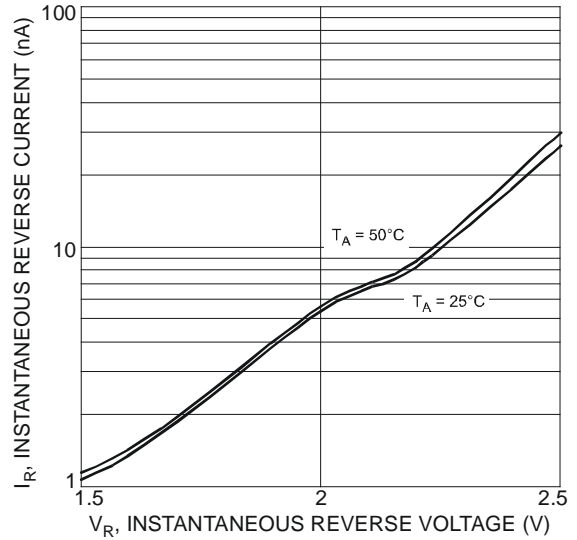


Figure 4 Typical Reverse Characteristics - GDZ5V1LP3

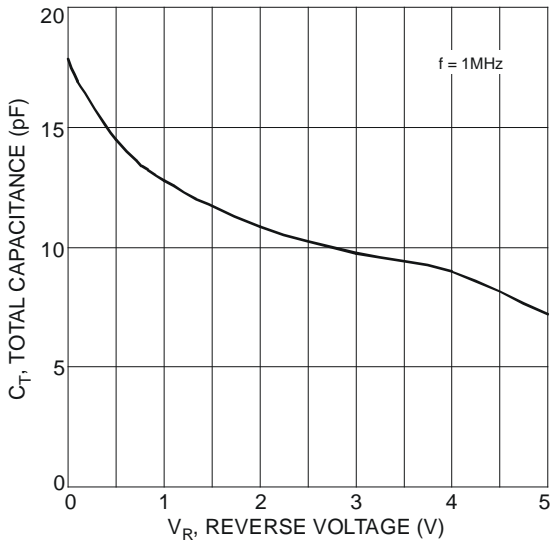
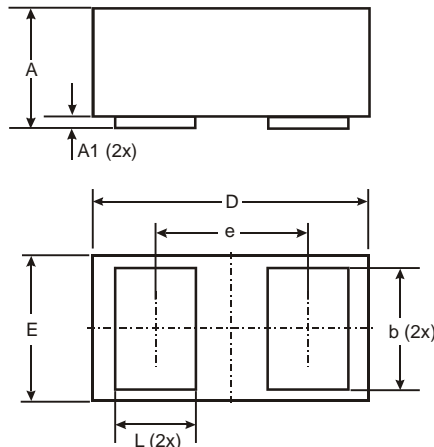


Figure 5 Typical Total Capacitance

Package Outline Dimensions

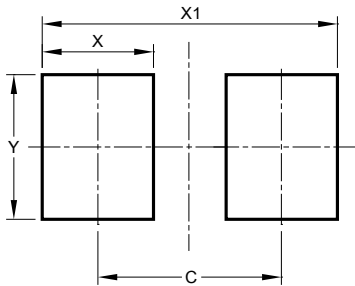
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



| 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 |

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