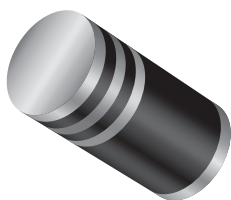


## Surface Mount Glass Passivated Power Voltage-Regulating Diodes



GL41 (DO-213AB)

### DESIGN SUPPORT TOOLS AVAILABLE



3D Models

| PRIMARY CHARACTERISTICS |                |
|-------------------------|----------------|
| $V_Z$                   | 100 V to 200 V |
| $P_{tot}$               | 1000 mW        |
| $I_R$                   | 1.0 $\mu$ A    |
| $T_J$ max.              | 150 °C         |
| $V_Z$ specification     | Pulse current  |
| Circuit configuration   | Single         |

### FEATURES

- Plastic MELF package
- Ideal for automated placement
- Glass passivated chip junction
- Low Zener impedance
- Low regulation factor
- Meets MSL level 1, per J-STD-020C, LF maximum peak of 250 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

For general purpose regulation and protection applications.

### MECHANICAL DATA

**Case:** GL41 (DO-213AB)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 1A whisker test

**Polarity:** red band denotes Zener diode and positive (cathode)

| MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted) |                   |             |      |
|---------------------------------------------------------|-------------------|-------------|------|
| PARAMETER                                               | SYMBOL            | VALUE       | UNIT |
| Operating junction and storage temperature range        | $T_J$ , $T_{STG}$ | -55 to +150 | °C   |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted) |                     |      |      |              |          |                         |                      |                         |       |                                    |                                      |
|--------------------------------------------------------------------------------------|---------------------|------|------|--------------|----------|-------------------------|----------------------|-------------------------|-------|------------------------------------|--------------------------------------|
| PART NUMBER <sup>(1)</sup>                                                           | ZENER VOLTAGE RANGE |      |      | TEST CURRENT |          | MAXIMUM ZENER IMPEDANCE |                      | MAXIMUM REVERSE CURRENT |       | MAXIMUM CONTINUOUS FORWARD VOLTAGE | MAXIMUM SURGE CURRENT <sup>(2)</sup> |
|                                                                                      | $V_Z$ at $I_{ZT}$   |      |      | $I_{ZT}$     | $I_{ZK}$ | $Z_{ZT}$ AT $I_{ZT}$    | $Z_{ZK}$ AT $I_{ZK}$ | $I_R$ at $V_R$          |       | $V_F$ at 0.5 A                     | $I_{RM}$                             |
|                                                                                      | V                   |      |      | mA           |          | $\Omega$                |                      | $\mu\text{A}$           | V     | V                                  | $\text{mA}_{DC}$                     |
|                                                                                      | MIN.                | NOM. | MAX. |              |          | MAX.                    | MAX.                 |                         |       | MAX.                               | MAX.                                 |
| ZGL41-100A                                                                           | 95                  | 100  | 105  | 3.7          | 0.25     | 250                     | 3100                 | 1.0                     | 76.0  | 1.5                                | 10.0                                 |
| ZGL41-110A                                                                           | 104                 | 110  | 116  | 3.4          | 0.25     | 300                     | 4000                 | 1.0                     | 83.6  | 1.5                                | 9.1                                  |
| ZGL41-120A                                                                           | 114                 | 120  | 126  | 3.1          | 0.25     | 380                     | 4500                 | 1.0                     | 91.2  | 1.5                                | 8.3                                  |
| ZGL41-130A                                                                           | 124                 | 130  | 137  | 2.9          | 0.25     | 450                     | 5000                 | 1.0                     | 98.8  | 1.5                                | 7.7                                  |
| ZGL41-140A                                                                           | 133                 | 140  | 147  | 2.7          | 0.25     | 525                     | 5500                 | 1.0                     | 106.4 | 1.5                                | 7.1                                  |
| ZGL41-150A                                                                           | 142                 | 150  | 158  | 2.5          | 0.25     | 600                     | 6000                 | 1.0                     | 114.0 | 1.5                                | 6.7                                  |
| ZGL41-160A                                                                           | 152                 | 160  | 168  | 2.3          | 0.25     | 700                     | 6500                 | 1.0                     | 121.6 | 1.5                                | 6.3                                  |
| ZGL41-170A                                                                           | 162                 | 170  | 179  | 2.2          | 0.25     | 800                     | 6750                 | 1.0                     | 129.2 | 1.5                                | 5.9                                  |
| ZGL41-180A                                                                           | 171                 | 180  | 189  | 2.1          | 0.25     | 900                     | 7000                 | 1.0                     | 136.9 | 1.5                                | 5.6                                  |
| ZGL41-190A                                                                           | 180                 | 190  | 200  | 2.0          | 0.25     | 1050                    | 7500                 | 1.0                     | 144.4 | 1.5                                | 5.3                                  |
| ZGL41-200A                                                                           | 190                 | 200  | 210  | 1.9          | 0.25     | 1200                    | 8000                 | 1.0                     | 152.0 | 1.5                                | 5.0                                  |

**Notes**

<sup>(1)</sup> Surge current is a non-repetitive, 8.3 ms pulse width square wave or equivalent sine-wave superimposed on  $I_{ZT}$  per JEDEC method

<sup>(2)</sup> Maximum steady state power dissipation is 1.0 W at  $T_L = 75^\circ\text{C}$

| <b>ORDERING INFORMATION</b> (Example) |                 |                        |               |                                    |
|---------------------------------------|-----------------|------------------------|---------------|------------------------------------|
| PREFERRED P/N                         | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
| ZGL41-100A-E3/96                      | 0.134           | 96                     | 1500          | 7" diameter plastic tape and reel  |
| ZGL41-100A-E3/97                      | 0.134           | 97                     | 5000          | 13" diameter plastic tape and reel |

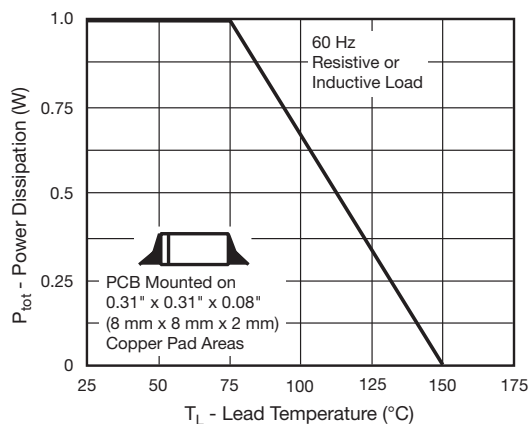
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Maximum Continuous Power Dissipation

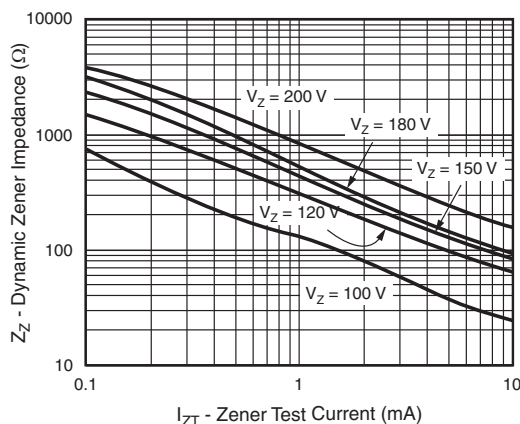


Fig. 2 - Typical Zener Impedance

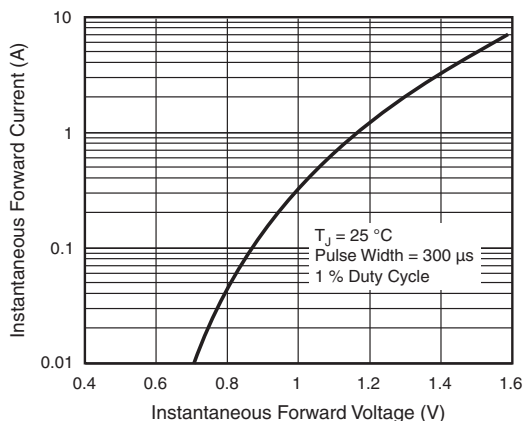


Fig. 3 - Typical Instantaneous Forward Characteristics

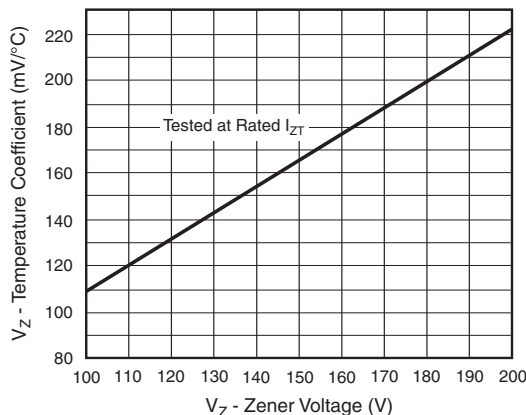


Fig. 5 - Steady State Power Derating Curve

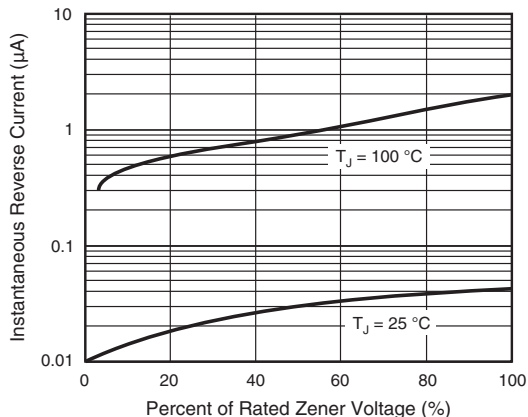


Fig. 4 - Typical Reverse Characteristics

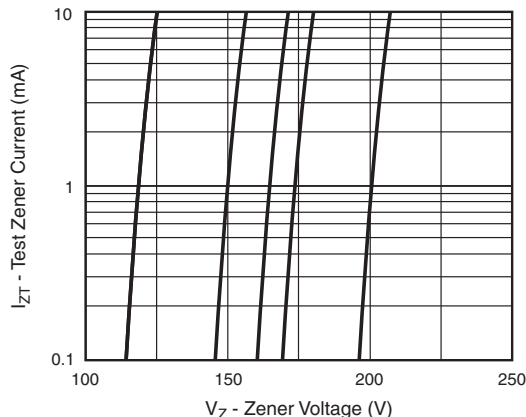
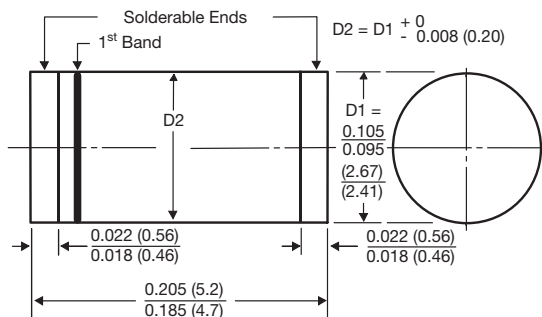


Fig. 6 - Typical Zener Voltage

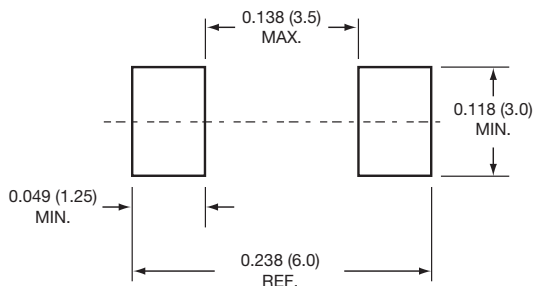
### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

#### GL41 (DO-213AB)



1<sup>st</sup> band denotes type and positive end (cathode)

#### Mounting Pad Layout





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