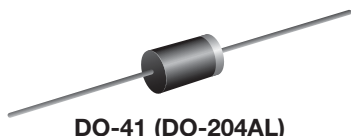




## Glass Passivated Power Voltage-Regulating Diodes



DO-41 (DO-204AL)

## DESIGN SUPPORT TOOLS

click logo to get started



| PRIMARY CHARACTERISTICS  |                  |
|--------------------------|------------------|
| $V_Z$                    | 100 V to 200 V   |
| $P_{tot}$                | 1500 mW          |
| $I_R$ ( $V_Z \geq 12$ V) | 5.0 $\mu$ A      |
| $T_J$ max.               | 150 °C           |
| $V_Z$ specification      | Pulse current    |
| Package                  | DO-41 (DO-204AL) |
| Circuit configuration    | Single           |

## FEATURES

- Plastic MELF package
- Ideal for automated placement
- Glass passivated chip junction
- Low Zener impedance
- Low regulation factor
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

RoHS  
COMPLIANT

## MECHANICAL DATA

Case: DO-41 (DO-204AL)

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

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

## TYPICAL APPLICATIONS

For general purpose regulation and protection applications.

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   |

ELECTRICAL CHARACTERISTICS ( $T_A = 25$  °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 ZENER CURRENT |
|----------------------------|---------------------|------|------|--------------|----------|-------------------------|----------------------|-------------------------|--------|------------------------------------|-----------------------|
|                            | $V_Z$ at $I_{ZT}$   |      |      | $I_{ZT}$     | $I_{ZK}$ | $Z_{ZT}$ at $I_{ZT}$    | $Z_{ZK}$ at $I_{ZK}$ | $I_R$ at $V_R$          |        | $V_{FM}$ at 0.5 A                  | $I_{ZM}$              |
|                            | V                   |      |      | mA           |          | $\Omega$                |                      | $\mu$ A                 |        | V                                  |                       |
|                            | MIN.                | NOM. | MAX. |              |          | MAX.                    | MAX.                 | 25 °C                   | 100 °C | MAX.                               | MAX.                  |
| Z4KE100A                   | 95                  | 100  | 105  | 5.0          | 0.25     | 500                     | 5000                 | 0.5                     | 100    | 76.0                               | 1.0                   |
| Z4KE110A                   | 104                 | 110  | 116  | 5.0          | 0.25     | 600                     | 5000                 | 0.5                     | 100    | 83.2                               | 1.0                   |
| Z4KE120A                   | 114                 | 120  | 126  | 5.0          | 0.25     | 700                     | 5000                 | 0.5                     | 100    | 91.2                               | 1.0                   |
| Z4KE130A                   | 124                 | 130  | 137  | 5.0          | 0.25     | 800                     | 5000                 | 0.5                     | 100    | 99.2                               | 1.0                   |
| Z4KE140A                   | 133                 | 140  | 147  | 5.0          | 0.25     | 900                     | 5500                 | 0.5                     | 100    | 106.4                              | 1.0                   |
| Z4KE150A                   | 142                 | 150  | 158  | 5.0          | 0.25     | 1000                    | 6000                 | 0.5                     | 100    | 113.6                              | 1.0                   |
| Z4KE160A                   | 152                 | 160  | 168  | 5.0          | 0.25     | 1100                    | 6500                 | 0.5                     | 100    | 121.6                              | 1.0                   |
| Z4KE170A                   | 162                 | 170  | 179  | 5.0          | 0.25     | 1200                    | 7000                 | 0.5                     | 100    | 129.6                              | 1.0                   |
| Z4KE180A                   | 171                 | 180  | 189  | 5.0          | 0.25     | 1300                    | 7000                 | 0.5                     | 100    | 136.8                              | 1.0                   |
| Z4KE190A                   | 180                 | 190  | 200  | 5.0          | 0.25     | 1400                    | 7500                 | 0.5                     | 100    | 144.0                              | 1.0                   |
| Z4KE200A                   | 190                 | 200  | 210  | 5.0          | 0.25     | 1500                    | 8000                 | 0.5                     | 100    | 152.0                              | 1.0                   |

## Note

<sup>(1)</sup> Maximum power dissipation is 1500 mW at  $T_L = 75$  °C with lead length 0.375" (9.5 mm)

## ORDERING INFORMATION (Example)

| PREFERRED P/N  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
|----------------|-----------------|------------------------|---------------|------------------------------------|
| Z4KE100A-E3/54 | 0.350           | 54                     | 5500          | 13" diameter plastic tape and reel |



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

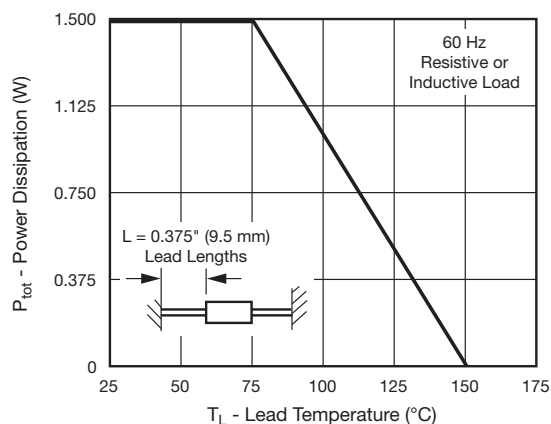


Fig. 1 - Power Derating Curve

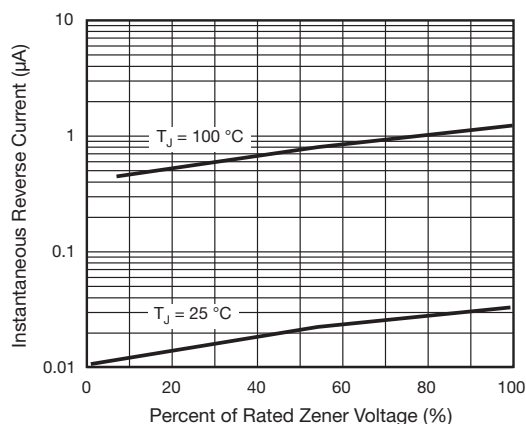


Fig. 4 - Typical Reverse Characteristics

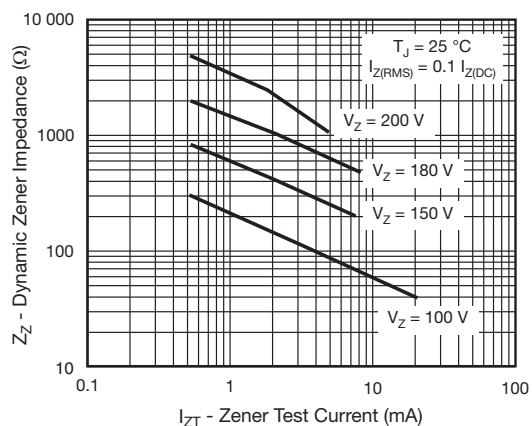


Fig. 2 - Typical Zener Impedance

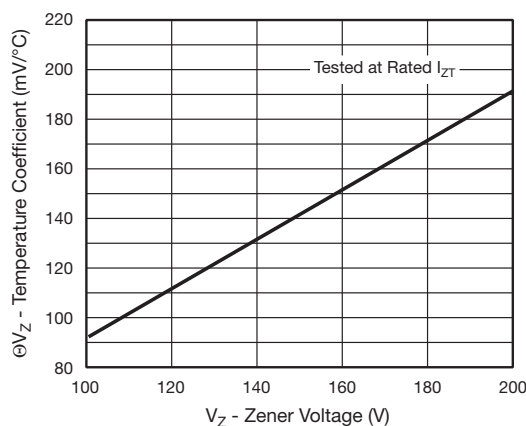


Fig. 5 - Typical Temperature Coefficients

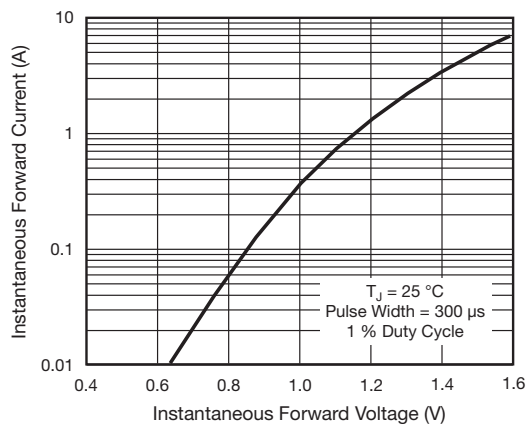


Fig. 3 - Typical Instantaneous Forward Characteristics

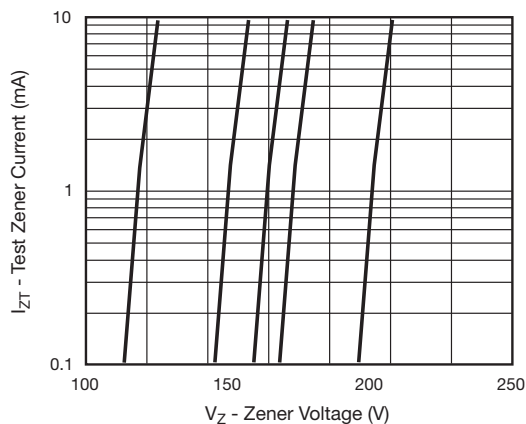
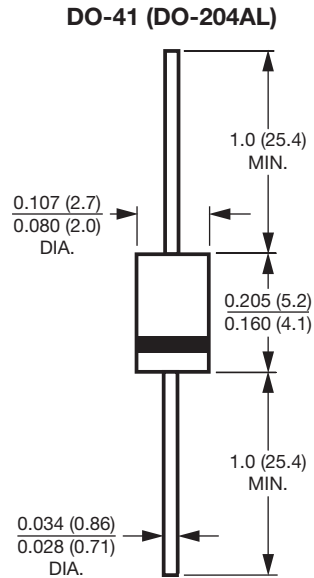


Fig. 6 - Typical Zener Voltage



**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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