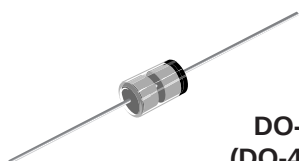
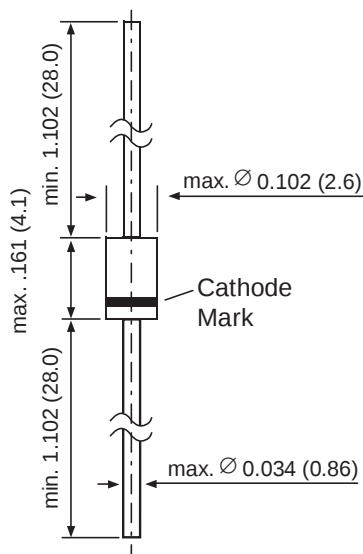




## Zener Diodes

**V<sub>Z</sub> Range** 3.3 to 100V  
**Power Dissipation** 1.0W**DO-204AL**  
**(DO-41 Glass)***Dimensions in inches  
and (millimeters)*

### Features

- Silicon Planar Power Zener Diodes
- For use in stabilizing and clipping circuits with high power rating.
- Standard Zener voltage tolerance is  $\pm 10\%$ . Add suffix "A" for  $\pm 5\%$  tolerance. Other Zener voltages and tolerances are available upon request.
- These diodes are also available in the MELF case with type designation ZM4728 thru ZM4764
- For bidirectional product, contact local Technical Sales office.

### Mechanical Data

**Case:** DO-41 Glass Case**Weight:** approx. 0.35g**Packaging Codes/Options:**

D9/5K per 13" reel (52mm tape), 10K/box

E1/5K per Ammo mag. (52mm tape), 10K/box

### Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                    | Symbol           | Value              | Unit |
|----------------------------------------------|------------------|--------------------|------|
| Zener Current                                |                  | See Next Page      |      |
| Power Dissipation at T <sub>amb</sub> = 50°C | P <sub>tot</sub> | 1.0 <sup>(1)</sup> | W    |
| Thermal Resistance Junction to Ambient Air   | R <sub>θJA</sub> | 170 <sup>(1)</sup> | °C/W |
| Junction Temperature                         | T <sub>j</sub>   | 200                | °C   |
| Storage Temperature Range                    | T <sub>s</sub>   | -65 to +200        | °C   |

**Note:** (1) Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature.

# 1N4728 thru 1N4764

Vishay Semiconductors  
formerly General Semiconductor



## Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted). Maximum V<sub>F</sub> = 1.2V at I<sub>F</sub> = 200mA

| Type   | Nominal Zener voltage <sup>(3)</sup> at I <sub>ZT</sub> V <sub>Z</sub> (V) | Test current I <sub>ZT</sub> (mA) | Maximum Zener impedance <sup>(1)</sup> |                     |                         | Maximum reverse leakage current |                       | Surge current at T <sub>A</sub> = 25°C I <sub>R</sub> (mA) | Maximum regulator current <sup>(2)</sup> at T <sub>A</sub> = 50°C I <sub>ZM</sub> (mA) |
|--------|----------------------------------------------------------------------------|-----------------------------------|----------------------------------------|---------------------|-------------------------|---------------------------------|-----------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------|
|        |                                                                            |                                   | Z <sub>ZT</sub> at I <sub>ZT</sub> (Ω) | Z <sub>ZK</sub> (Ω) | at I <sub>ZK</sub> (mA) | I <sub>R</sub> (μA)             | at V <sub>R</sub> (V) |                                                            |                                                                                        |
| 1N4728 | 3.3                                                                        | 76                                | 10                                     | 400                 | 1.0                     | 100                             | 1                     | 1380                                                       | 276                                                                                    |
| 1N4729 | 3.6                                                                        | 69                                | 10                                     | 400                 | 1.0                     | 100                             | 1                     | 1260                                                       | 252                                                                                    |
| 1N4730 | 3.9                                                                        | 64                                | 9                                      | 400                 | 1.0                     | 50                              | 1                     | 1190                                                       | 234                                                                                    |
| 1N4731 | 4.3                                                                        | 58                                | 9                                      | 400                 | 1.0                     | 10                              | 1                     | 1070                                                       | 217                                                                                    |
| 1N4732 | 4.7                                                                        | 53                                | 8                                      | 500                 | 1.0                     | 10                              | 1                     | 970                                                        | 193                                                                                    |
| 1N4733 | 5.1                                                                        | 49                                | 7                                      | 550                 | 1.0                     | 10                              | 1                     | 890                                                        | 178                                                                                    |
| 1N4734 | 5.6                                                                        | 45                                | 5                                      | 600                 | 1.0                     | 10                              | 2                     | 810                                                        | 162                                                                                    |
| 1N4735 | 6.2                                                                        | 41                                | 2                                      | 700                 | 1.0                     | 10                              | 3                     | 730                                                        | 146                                                                                    |
| 1N4736 | 6.8                                                                        | 37                                | 3.5                                    | 700                 | 1.0                     | 10                              | 4                     | 660                                                        | 133                                                                                    |
| 1N4737 | 7.5                                                                        | 34                                | 4.0                                    | 700                 | 0.5                     | 10                              | 5                     | 605                                                        | 121                                                                                    |
| 1N4738 | 8.2                                                                        | 31                                | 4.5                                    | 700                 | 0.5                     | 10                              | 6                     | 550                                                        | 110                                                                                    |
| 1N4739 | 9.1                                                                        | 28                                | 5.0                                    | 700                 | 0.5                     | 10                              | 7                     | 500                                                        | 100                                                                                    |
| 1N4740 | 10                                                                         | 25                                | 7                                      | 700                 | 0.25                    | 10                              | 7.6                   | 454                                                        | 91                                                                                     |
| 1N4741 | 11                                                                         | 23                                | 8                                      | 700                 | 0.25                    | 5                               | 8.4                   | 414                                                        | 83                                                                                     |
| 1N4742 | 12                                                                         | 21                                | 9                                      | 700                 | 0.25                    | 5                               | 9.1                   | 380                                                        | 76                                                                                     |
| 1N4743 | 13                                                                         | 19                                | 10                                     | 700                 | 0.25                    | 5                               | 9.9                   | 344                                                        | 69                                                                                     |
| 1N4744 | 15                                                                         | 17                                | 14                                     | 700                 | 0.25                    | 5                               | 11.4                  | 304                                                        | 61                                                                                     |
| 1N4745 | 16                                                                         | 15.5                              | 16                                     | 700                 | 0.25                    | 5                               | 12.2                  | 285                                                        | 57                                                                                     |
| 1N4746 | 18                                                                         | 14                                | 20                                     | 750                 | 0.25                    | 5                               | 13.7                  | 250                                                        | 50                                                                                     |
| 1N4747 | 20                                                                         | 12.5                              | 22                                     | 750                 | 0.25                    | 5                               | 15.2                  | 225                                                        | 45                                                                                     |
| 1N4748 | 22                                                                         | 11.5                              | 23                                     | 750                 | 0.25                    | 5                               | 16.7                  | 205                                                        | 41                                                                                     |
| 1N4749 | 24                                                                         | 10.5                              | 25                                     | 750                 | 0.25                    | 5                               | 18.2                  | 190                                                        | 38                                                                                     |
| 1N4750 | 27                                                                         | 9.5                               | 35                                     | 750                 | 0.25                    | 5                               | 20.6                  | 170                                                        | 34                                                                                     |
| 1N4751 | 30                                                                         | 8.5                               | 40                                     | 1000                | 0.25                    | 5                               | 22.8                  | 150                                                        | 30                                                                                     |
| 1N4752 | 33                                                                         | 7.5                               | 45                                     | 1000                | 0.25                    | 5                               | 25.1                  | 135                                                        | 27                                                                                     |
| 1N4753 | 36                                                                         | 7.0                               | 50                                     | 1000                | 0.25                    | 5                               | 27.4                  | 125                                                        | 25                                                                                     |
| 1N4754 | 39                                                                         | 6.5                               | 60                                     | 1000                | 0.25                    | 5                               | 29.7                  | 115                                                        | 23                                                                                     |
| 1N4755 | 43                                                                         | 6.0                               | 70                                     | 1500                | 0.25                    | 5                               | 32.7                  | 110                                                        | 22                                                                                     |
| 1N4756 | 47                                                                         | 5.5                               | 80                                     | 1500                | 0.25                    | 5                               | 35.8                  | 95                                                         | 19                                                                                     |
| 1N4757 | 51                                                                         | 5.0                               | 95                                     | 1500                | 0.25                    | 5                               | 38.8                  | 90                                                         | 18                                                                                     |
| 1N4758 | 56                                                                         | 4.5                               | 110                                    | 2000                | 0.25                    | 5                               | 42.6                  | 80                                                         | 16                                                                                     |
| 1N4759 | 62                                                                         | 4.0                               | 125                                    | 2000                | 0.25                    | 5                               | 47.1                  | 70                                                         | 14                                                                                     |
| 1N4760 | 68                                                                         | 3.7                               | 150                                    | 2000                | 0.25                    | 5                               | 51.7                  | 65                                                         | 13                                                                                     |
| 1N4761 | 75                                                                         | 3.3                               | 175                                    | 2000                | 0.25                    | 5                               | 56.0                  | 60                                                         | 12                                                                                     |
| 1N4762 | 82                                                                         | 3.0                               | 200                                    | 3000                | 0.25                    | 5                               | 62.2                  | 55                                                         | 11                                                                                     |
| 1N4763 | 91                                                                         | 2.8                               | 250                                    | 3000                | 0.25                    | 5                               | 69.2                  | 50                                                         | 10                                                                                     |
| 1N4764 | 100                                                                        | 2.5                               | 350                                    | 3000                | 0.25                    | 5                               | 76.0                  | 45                                                         | 9                                                                                      |

### Notes:

- (1) The Zener impedance is derived from the 1KHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions



## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

### Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient  
temperature at a distance of 10 mm from case

