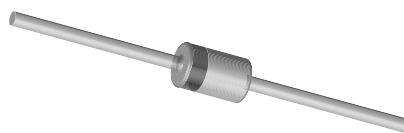


## Zener Diodes

### Features

- Silicon Planar Power Zener Diodes
- For use in stabilizing and clipping circuits with high power rating
- Standard Zener voltage tolerance is  $\pm 5\%$
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



17173

### Applications

- Voltage stabilization

### Mechanical Data

**Case:** DO-41 Glass case

**Weight:** approx. 310 mg

**Packaging Codes/Options:**

TR / 5 k per 13" reel, 25 k/box

TAP / 5 k per Ammo pack (52 mm tape), 25 k/box

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

| Parameter         | Test condition | Symbol    | Value             | Unit |
|-------------------|----------------|-----------|-------------------|------|
| Power dissipation |                | $P_{tot}$ | 1.3 <sup>1)</sup> | W    |
| Z-current         |                | $I_Z$     | $P_V/V_Z$         | mA   |

<sup>1)</sup> Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature.

### Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

| Parameter                                  | Test condition | Symbol     | Value             | Unit               |
|--------------------------------------------|----------------|------------|-------------------|--------------------|
| Thermal resistance junction to ambient air |                | $R_{thJA}$ | 110 <sup>1)</sup> | K/W                |
| Junction temperature                       |                | $T_j$      | 175               | $^{\circ}\text{C}$ |
| Storage temperature range                  |                | $T_{stg}$  | - 65 to + 175     | $^{\circ}\text{C}$ |

<sup>1)</sup> Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature.

### Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

| Parameter       | Test condition        | Symbol | Min | Typ. | Max | Unit |
|-----------------|-----------------------|--------|-----|------|-----|------|
| Forward voltage | $I_F = 200\text{ mA}$ | $V_F$  |     |      | 1.2 | V    |

# 1N4728A to 1N4764A

Vishay Semiconductors



## Electrical Characteristics

1N4728A...1N4764A

| Partnumber | Nominal Zener Voltage <sup>1)</sup> | Test Current | Maximum Dynamic Impedance |                      |          | Maximum Reverse Leakage Current |                    | Surge Current <sup>3)</sup>          | Maximum Regulator Current <sup>2)</sup> |
|------------|-------------------------------------|--------------|---------------------------|----------------------|----------|---------------------------------|--------------------|--------------------------------------|-----------------------------------------|
|            | $V_Z$ at $I_{ZT}$                   | $I_{ZT}$     | $Z_{ZT}$ at $I_{ZT}$      | $Z_{ZK}$ at $I_{ZK}$ | $I_{ZK}$ | $I_R$                           | Test Voltage $V_R$ | at $T_A = 25^\circ\text{C}$<br>$I_R$ | $I_{ZM}$                                |
|            | V                                   | mA           | $\Omega$                  | $\Omega$             | mA       | $\mu\text{A}$                   | V                  | mA                                   | mA                                      |
| 1N4728A    | 3.3                                 | 76           | 10                        | 400                  | 1        | 100                             | 1                  | 1380                                 | 276                                     |
| 1N4729A    | 3.6                                 | 69           | 10                        | 400                  | 1        | 100                             | 1                  | 1260                                 | 252                                     |
| 1N4730A    | 3.9                                 | 64           | 9                         | 400                  | 1        | 50                              | 1                  | 1190                                 | 234                                     |
| 1N4731A    | 4.3                                 | 58           | 9                         | 400                  | 1        | 10                              | 1                  | 1070                                 | 217                                     |
| 1N4732A    | 4.7                                 | 53           | 8                         | 500                  | 1        | 10                              | 1                  | 970                                  | 193                                     |
| 1N4733A    | 5.1                                 | 49           | 7                         | 550                  | 1        | 10                              | 1                  | 890                                  | 178                                     |
| 1N4734A    | 5.6                                 | 45           | 5                         | 600                  | 1        | 10                              | 2                  | 810                                  | 162                                     |
| 1N4735A    | 6.2                                 | 41           | 2                         | 700                  | 1        | 10                              | 3                  | 730                                  | 146                                     |
| 1N4736A    | 6.8                                 | 37           | 3.5                       | 700                  | 1        | 10                              | 4                  | 660                                  | 133                                     |
| 1N4737A    | 7.5                                 | 34           | 4                         | 700                  | 0.5      | 10                              | 5                  | 605                                  | 121                                     |
| 1N4738A    | 8.2                                 | 31           | 4.5                       | 700                  | 0.5      | 10                              | 6                  | 550                                  | 110                                     |
| 1N4739A    | 9.1                                 | 28           | 5                         | 700                  | 0.5      | 10                              | 7                  | 500                                  | 100                                     |
| 1N4740A    | 10                                  | 25           | 7                         | 700                  | 0.25     | 10                              | 7.6                | 454                                  | 91                                      |
| 1N4741A    | 11                                  | 23           | 8                         | 700                  | 0.25     | 5                               | 8.4                | 414                                  | 83                                      |
| 1N4742A    | 12                                  | 21           | 9                         | 700                  | 0.25     | 5                               | 9.1                | 380                                  | 76                                      |
| 1N4743A    | 13                                  | 19           | 10                        | 700                  | 0.25     | 5                               | 9.9                | 344                                  | 69                                      |
| 1N4744A    | 15                                  | 17           | 14                        | 700                  | 0.25     | 5                               | 11.4               | 304                                  | 61                                      |
| 1N4745A    | 16                                  | 15.5         | 16                        | 700                  | 0.25     | 5                               | 12.2               | 285                                  | 57                                      |
| 1N4746A    | 18                                  | 14           | 20                        | 750                  | 0.25     | 5                               | 13.7               | 250                                  | 50                                      |
| 1N4747A    | 20                                  | 12.5         | 22                        | 750                  | 0.25     | 5                               | 15.2               | 225                                  | 45                                      |
| 1N4748A    | 22                                  | 11.5         | 23                        | 750                  | 0.25     | 5                               | 16.7               | 205                                  | 41                                      |
| 1N4749A    | 24                                  | 10.5         | 25                        | 750                  | 0.25     | 5                               | 18.2               | 190                                  | 38                                      |
| 1N4750A    | 27                                  | 9.5          | 35                        | 750                  | 0.25     | 5                               | 20.6               | 170                                  | 34                                      |
| 1N4751A    | 30                                  | 8.5          | 40                        | 1000                 | 0.25     | 5                               | 22.8               | 150                                  | 30                                      |
| 1N4752A    | 33                                  | 7.5          | 45                        | 1000                 | 0.25     | 5                               | 25.1               | 135                                  | 27                                      |
| 1N4753A    | 36                                  | 7            | 50                        | 1000                 | 0.25     | 5                               | 27.4               | 125                                  | 25                                      |
| 1N4754A    | 39                                  | 6.5          | 60                        | 1000                 | 0.25     | 5                               | 29.7               | 115                                  | 23                                      |
| 1N4755A    | 43                                  | 6            | 70                        | 1500                 | 0.25     | 5                               | 32.7               | 110                                  | 22                                      |
| 1N4756A    | 47                                  | 5.5          | 80                        | 1500                 | 0.25     | 5                               | 35.8               | 95                                   | 19                                      |
| 1N4757A    | 51                                  | 5            | 95                        | 1500                 | 0.25     | 5                               | 38.8               | 90                                   | 18                                      |
| 1N4758A    | 56                                  | 4.5          | 110                       | 2000                 | 0.25     | 5                               | 42.6               | 80                                   | 16                                      |
| 1N4759A    | 62                                  | 4            | 125                       | 2000                 | 0.25     | 5                               | 47.1               | 70                                   | 14                                      |
| 1N4760A    | 68                                  | 3.7          | 150                       | 2000                 | 0.25     | 5                               | 51.7               | 65                                   | 13                                      |
| 1N4761A    | 75                                  | 3.3          | 175                       | 2000                 | 0.25     | 5                               | 56                 | 60                                   | 12                                      |
| 1N4762A    | 82                                  | 3.0          | 200                       | 3000                 | 0.25     | 5                               | 62.2               | 55                                   | 11                                      |
| 1N4763A    | 91                                  | 2.8          | 250                       | 3000                 | 0.25     | 5                               | 69.2               | 50                                   | 10                                      |
| 1N4764A    | 100                                 | 2.5          | 350                       | 3000                 | 0.25     | 5                               | 76.0               | 45                                   | 9                                       |

<sup>1)</sup> Based on dc-measurement at thermal equilibrium while maintaining the lead temperature ( $T_L$ ) at  $30^\circ\text{C} + 1^\circ\text{C}$ , 9.5 mm (3/8") from the diode body.

<sup>2)</sup> Valid provided that electrodes at a distance of 4 mm from case are kept at ambient temperature.

<sup>3)</sup>  $T_P = 10$  ms.

## Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

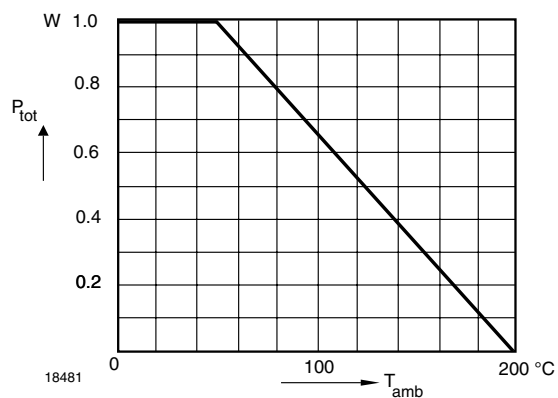


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

## Package Dimensions in mm (Inches)

