

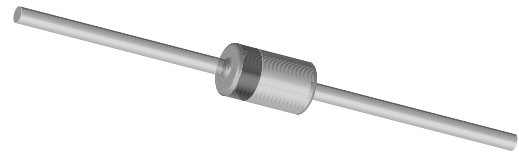
Zener Diodes

Features

- Silicon planar power Zener diodes
- For use in stabilizing and clipping circuits with high power rating
- Standard Zener voltage tolerance is $\pm 5\%$
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE



17173

Applications

- Voltage stabilization

Mechanical Data

Case: DO-41

Weight: approx. 310 mg

Packaging codes/options:

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

TAP/5K per Ammo pack (52 mm tape), 25K/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 ¹⁾ | W |
| Z-current | | I_Z | P_V/V_Z | mA |

¹⁾ 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 ¹⁾ | K/W |
| Junction temperature | | T_j | 175 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | - 65 to + 175 | $^{\circ}\text{C}$ |

¹⁾ 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

| Part number | Nominal Zener voltage ¹⁾ | Test current | Maximum dynamic impedance | | | Maximum reverse leakage current | | Surge current ³⁾ | Maximum regulator current ²⁾ |
|-------------|-------------------------------------|--------------|---------------------------|----------------------|----------|---------------------------------|--------------------|--|---|
| | 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 $T_A = 25\text{ }^\circ\text{C}$ I_R | I_{ZM} |
| | V | mA | Ω | Ω | mA | μA | 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 |

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

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

³⁾ $t_p = 10\text{ ms}$.

Typical Characteristics

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

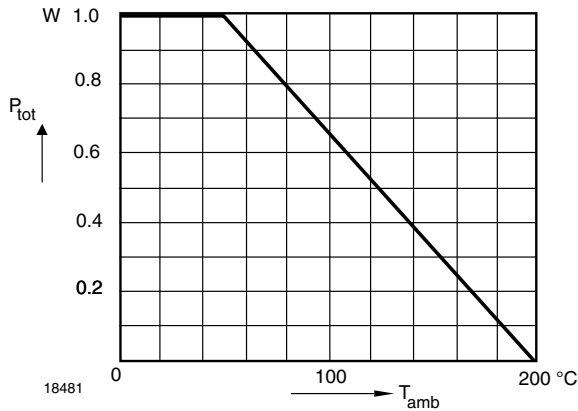
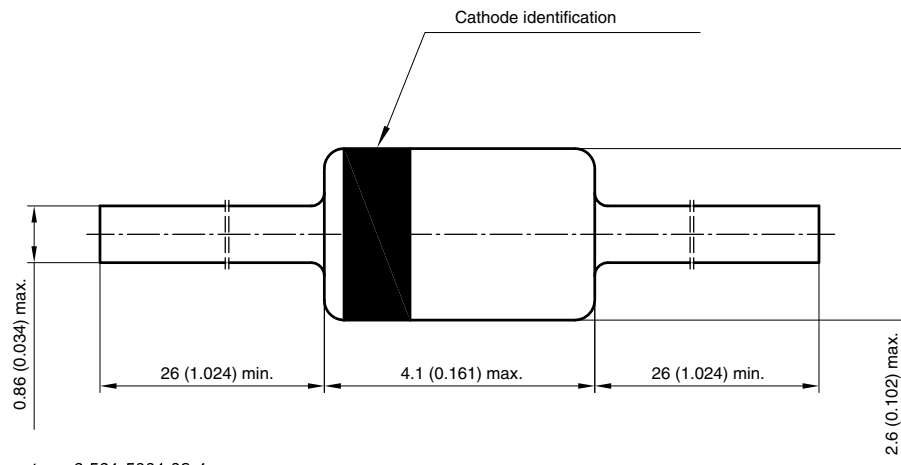


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

Package Dimensions in millimeters (inches): DO-41



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