

Zener Diodes

Features

- Silicon Planar Power Zener Diodes.
- Standard Zener voltage tolerance is $\pm 5\%$ for "A" suffix.



94 9367

Mechanical Data

Case: DO-35 Glass Case

Weight: approx. 130 mg

Packaging codes/options:

TR / 10k per 13 " reel, 30k/box

TAP / 10k per Ammo tape (52 mm tape), 30k/box

Absolute Maximum Ratings

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

| Parameter | Test condition | Symbol | Value | Unit |
|--|--|-----------|-------------------|------|
| Zenner current (see Table "Characteristics") | | | | |
| Power dissipation | $T_{amb} = 75\text{ }^{\circ}\text{C}$ | P_{tot} | 500 ¹⁾ | W |

¹⁾ T_L is measured that leads at a distance of 3/8 " from case are kept at ambient temperature

Maximum Thermal Resistance

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

| Parameter | Test condition | Symbol | Value | Unit |
|--|----------------|-----------------|-------------------|-----------------------------|
| Thermal resistance junction to ambient air | | $R_{\theta JA}$ | 300 ¹⁾ | $^{\circ}\text{C}/\text{W}$ |
| Maximum junction temperature | | T_j | 175 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_S | - 65 to + 175 | $^{\circ}\text{C}$ |

¹⁾ Valid provided that leads at a distance of 3/8 " from case are kept at ambient temperature

1N746A to 1N759A



Vishay Semiconductors

Electrical Characteristics

1N746A to 1N759A

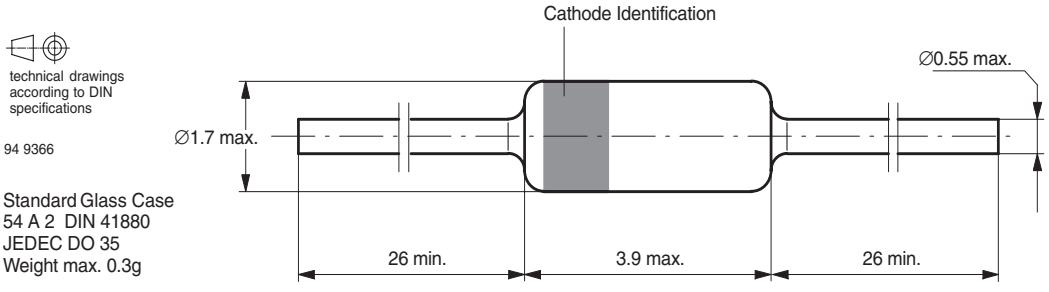
| Partnumber | Nominal Zener Voltage | Test Current | Maximum Dynamic Impedance | Maximum Regulator Current | Maximum Reverse Leakage Current ($I_R @ V_R = 1V$) | |
|------------|-----------------------|--------------|---------------------------|---------------------------|--|---------------------------------------|
| | | | | | $T_{amb} = 25\text{ }^\circ\text{C}$ | $T_{amb} = 150\text{ }^\circ\text{C}$ |
| | $V_Z @ I_{ZT}^{(3)}$ | I_{ZT} | $Z_{ZT} @ I_{ZT}^{(1)}$ | $I_{ZM}^{(2)}$ | μA | μA |
| | V | mA | Ω | mA | μA | μA |
| 1N746A | 3.3 | 20 | 28 | 110 | 10 | 30 |
| 1N747A | 3.6 | 20 | 24 | 100 | 10 | 30 |
| 1N748A | 3.9 | 20 | 23 | 95 | 10 | 30 |
| 1N749A | 4.3 | 20 | 22 | 85 | 2 | 30 |
| 1N750A | 4.7 | 20 | 19 | 75 | 2 | 30 |
| 1N751A | 5.1 | 20 | 17 | 70 | 1 | 20 |
| 1N752A | 5.6 | 20 | 11 | 65 | 1 | 20 |
| 1N753A | 6.2 | 20 | 7 | 60 | 0.1 | 20 |
| 1N754A | 6.8 | 20 | 5 | 55 | 0.1 | 20 |
| 1N755A | 7.5 | 20 | 6 | 50 | 0.1 | 20 |
| 1N756A | 8.2 | 20 | 8 | 45 | 0.1 | 20 |
| 1N757A | 9.1 | 20 | 10 | 40 | 0.1 | 20 |
| 1N758A | 10 | 20 | 17 | 35 | 0.1 | 20 |
| 1N759A | 12 | 20 | 30 | 30 | 0.1 | 20 |

¹⁾The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10 % of the Zener current (I_{ZT}) is superimposed on I_{ZT} . 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 leads at a distance of 3/8 " from case are kept at ambient temperature.

³⁾Measured with device junction in thermal equilibrium.

Package Dimensions in mm





Ozone Depleting Substances Policy Statement

It is the policy of **Vishay Semiconductor GmbH** to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

**We reserve the right to make changes to improve technical design
and may do so without further notice.**

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423