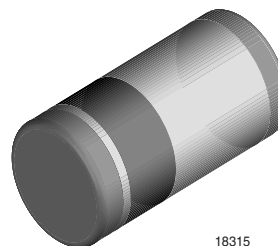


Zener Diodes

Features

- Silicon Planar Power Zener Diodes
- For use in stabilizing and clipping circuits with high power rating
- Standard Zener voltage tolerance is $\pm 5\%$
- These diodes are also available in the DO-41 case with type designation 1N4728 A... 1N4764A
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



18315

Mechanical Data

Case: MELF Glass case

Weight: approx. 135 mg

Packaging Codes/Options:

GS18 / 5 k per 13" reel (8 mm tape), 10 k/box

GS08 / 1.5 k per 7" reel (8 mm tape), 12 k/box

Absolute Maximum Ratings

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

| Parameter | Test condition | Symbol | Value | Unit |
|---|----------------|-----------|-------------------|------|
| Zener current (see Table "Characteristics") | | | | |
| Power dissipation | | P_{tot} | 1.0 ¹⁾ | W |

¹⁾ Valid provided that electrodes 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} | 170 ¹⁾ | K/W |
| Junction temperature | | T_j | 150 | $^{\circ}\text{C}$ |
| Storage temperature | | T_{stg} | - 65 to + 150 | $^{\circ}\text{C}$ |

¹⁾ Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

| Partnumber | Nominal Zener Voltage ³⁾ | Test Current | Maximum Zener Impedance ¹⁾ | | | Maximum Reverse Leakage Current | | Maximum Reverse Leakage Current ²⁾ |
|------------|-------------------------------------|--------------|---------------------------------------|----------------------|----------|---------------------------------|-------|---|
| | V_Z at I_{ZT} | | Z_{ZT} at I_{ZT} | Z_{ZK} at I_{ZK} | I_{ZK} | I_R | V_R | |
| | V | mA | Ω | | mA | μA | V | μA |
| ZM4728A | 3.3 | 76 | 10 | 400 | 1 | 100 | 1 | 276 |
| ZM4729A | 3.6 | 69 | 10 | 400 | 1 | 100 | 1 | 252 |
| ZM4730A | 3.9 | 64 | 9 | 400 | 1 | 50 | 1 | 234 |
| ZM4731A | 4.3 | 58 | 9 | 400 | 1 | 10 | 1 | 217 |
| ZM4732A | 4.7 | 53 | 8 | 500 | 1 | 10 | 1 | 193 |
| ZM4733A | 5.1 | 49 | 7 | 550 | 1 | 10 | 1 | 178 |
| ZM4734A | 5.6 | 45 | 5 | 600 | 1 | 10 | 2 | 162 |
| ZM4735A | 6.2 | 41 | 2 | 700 | 1 | 10 | 3 | 146 |
| ZM4736A | 6.8 | 37 | 3.5 | 700 | 1 | 10 | 4 | 133 |
| ZM4737A | 7.5 | 34 | 4 | 700 | 0.5 | 10 | 5 | 121 |
| ZM4738A | 8.2 | 31 | 4.5 | 700 | 0.5 | 10 | 6 | 110 |
| ZM4739A | 9.1 | 28 | 5 | 700 | 0.5 | 10 | 7 | 100 |
| ZM4740A | 10 | 25 | 7 | 700 | 0.25 | 10 | 7.6 | 91 |
| ZM4741A | 11 | 23 | 8 | 700 | 0.25 | 5 | 8.4 | 83 |
| ZM4742A | 12 | 21 | 9 | 700 | 0.25 | 5 | 9.1 | 76 |
| ZM4743A | 13 | 19 | 10 | 700 | 0.25 | 5 | 9.9 | 69 |
| ZM4744A | 15 | 17 | 14 | 700 | 0.25 | 5 | 11.4 | 61 |
| ZM4745A | 16 | 15.5 | 16 | 700 | 0.25 | 5 | 12.2 | 57 |
| ZM4746A | 18 | 14 | 20 | 750 | 0.25 | 5 | 13.7 | 50 |
| ZM4747A | 20 | 12.5 | 22 | 750 | 0.25 | 5 | 15.2 | 45 |
| ZM4748A | 22 | 11.5 | 23 | 750 | 0.25 | 5 | 16.7 | 41 |
| ZM4749A | 24 | 10.5 | 25 | 750 | 0.25 | 5 | 18.2 | 38 |
| ZM4750A | 27 | 9.5 | 35 | 750 | 0.25 | 5 | 20.6 | 34 |
| ZM4751A | 30 | 8.5 | 40 | 1000 | 0.25 | 5 | 22.8 | 30 |
| ZM4752A | 33 | 7.5 | 45 | 1000 | 0.25 | 5 | 25.1 | 27 |
| ZM4753A | 36 | 7 | 50 | 1000 | 0.25 | 5 | 27.4 | 25 |
| ZM4754A | 39 | 6.5 | 60 | 1000 | 0.25 | 5 | 29.7 | 23 |
| ZM4755A | 43 | 6 | 70 | 1500 | 0.25 | 5 | 32.7 | 22 |
| ZM4756A | 47 | 5.5 | 80 | 1500 | 0.25 | 5 | 35.8 | 19 |
| ZM4757A | 51 | 5 | 95 | 1500 | 0.25 | 5 | 38.8 | 18 |
| ZM4758A | 56 | 4.5 | 110 | 2000 | 0.25 | 5 | 42.6 | 16 |
| ZM4759A | 62 | 4 | 125 | 2000 | 0.25 | 5 | 47.1 | 14 |
| ZM4760A | 68 | 3.7 | 150 | 2000 | 0.25 | 5 | 51.7 | 13 |
| ZM4761A | 75 | 3.3 | 175 | 2000 | 0.25 | 5 | 56 | 12 |
| ZM4762A | 82 | 3 | 200 | 3000 | 0.25 | 5 | 62.2 | 11 |
| ZM4763A | 91 | 2.8 | 250 | 3000 | 0.25 | 5 | 69.2 | 10 |
| ZM4764A | 100 | 2.5 | 350 | 3000 | 0.25 | 5 | 76 | 9 |

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} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} . 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 10 mm from case are kept at ambient temperature

³⁾ Measured under thermal equilibrium and DC test conditions.

Typical Characteristics ($T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified)

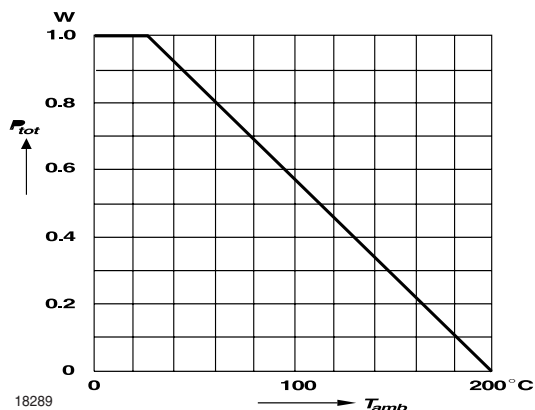
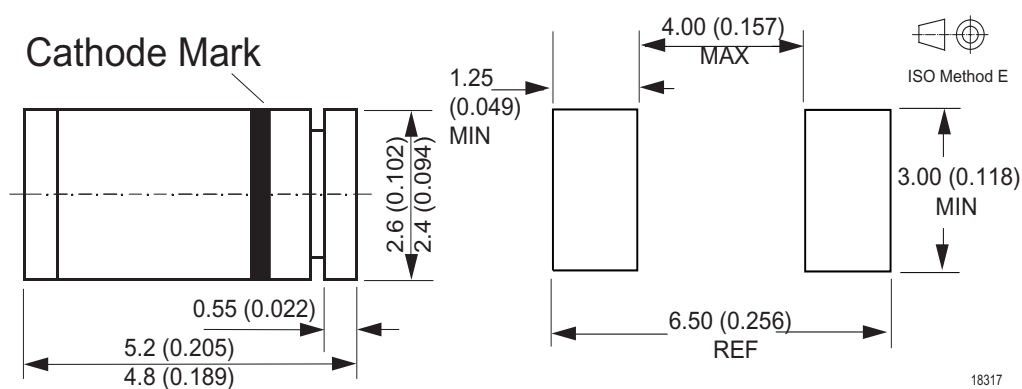


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

Package Dimensions in mm (Inches)



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



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