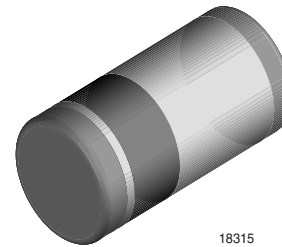


## Zener Diodes

### 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 <sup>1)</sup>	W

<sup>1)</sup> 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 <sup>1)</sup>	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature.

### Electrical Characteristics

Partnumber	Nominal Zener Voltage <sup>3)</sup>	Test Current	Maximum Zener Impedance <sup>1)</sup>			Maximum Reverse Leakage Current		Maximum Reverse Leakage Current <sup>2)</sup>
			$Z_{ZT}$ at $I_{ZT}$	$Z_{ZK}$ at $I_{ZK}$	$I_{ZK}$	$I_R$	$V_R$	
	$V_Z$ at $I_{ZT}$	$I_{ZT}$	$Z_{ZT}$ at $I_{ZT}$	$Z_{ZK}$ at $I_{ZK}$	$I_{ZK}$	$I_R$	$V_R$	$I_{ZM}$
	V	mA	$\Omega$	$\Omega$	mA	$\mu A$	V	$\mu A$
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

<sup>1)</sup> 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

<sup>2)</sup> Valid provided that electrodes at a distance of 10 mm from case are kept at ambient temperature

<sup>3)</sup> Measured under thermal equilibrium and DC test conditions.

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

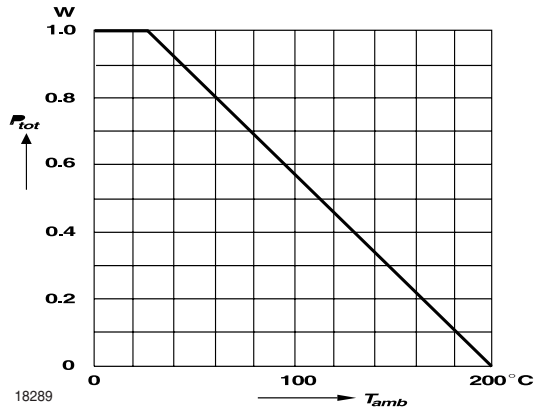
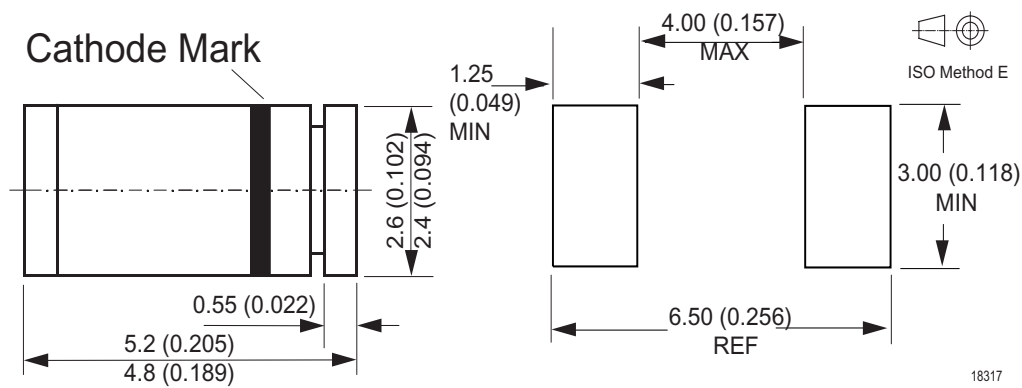


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

## Package Dimensions in mm (Inches)



### 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.

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