

Zener Diodes

Features

- Silicon Planar Power Zener Diodes
- For use in stabilizing and clipping circuits with high power rating.
- Standard Zener voltage tolerance is $\pm 5\%$.



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	$T_{amb} \leq 50\text{ }^{\circ}\text{C}$	P_{tot}	1	W
Z-current		I_z	P_V/V_Z	mA

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Junction temperature		T_j	200	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 200	$^{\circ}\text{C}$
Junction ambient	$l = 9.5\text{ mm (3/8 ")}$, $T_L = \text{constant}$	R_{thJA}	100	K/W

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 ¹⁾	Test Current	Maximum Dynamic Impedance			Maximum Reverse Leakage Current		Maximum Regulator Current ²⁾
	$V_Z @ I_{ZT}$		I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	I_R	
	V	mA	Ω	Ω	mA	μA	V	mA
1N4728A	3.3	76	10	400	1	100	1	276
1N4729A	3.6	69	10	400	1	100	1	252
1N4730A	3.9	64	9	400	1	50	1	234
1N4731A	4.3	58	9	400	1	10	1	217
1N4732A	4.7	53	8	500	1	10	1	193
1N4733A	5.1	49	7	550	1	10	1	178
1N4734A	5.6	45	5	600	1	10	2	162
1N4735A	6.2	41	2	700	1	10	3	146
1N4736A	6.8	37	3.5	700	1	10	4	133
1N4737A	7.5	34	4	700	0.5	10	5	121
1N4738A	8.2	31	4.5	700	0.5	10	6	110
1N4739A	9.1	28	5	700	0.5	10	7	100
1N4740A	10	25	7	700	0.25	10	7.6	91
1N4741A	11	23	8	700	0.25	5	8.4	83
1N4742A	12	21	9	700	0.25	5	9.1	76
1N4743A	13	19	10	700	0.25	5	9.9	69
1N4744A	15	17	14	700	0.25	5	11.4	61
1N4745A	16	15.5	16	700	0.25	5	12.2	57
1N4746A	18	14	20	750	0.25	5	13.7	50
1N4747A	20	12.5	22	750	0.25	5	15.2	45
1N4748A	22	11.5	23	750	0.25	5	16.7	41
1N4749A	24	10.5	25	750	0.25	5	18.2	38
1N4750A	27	9.5	35	750	0.25	5	20.6	34
1N4751A	30	8.5	40	1000	0.25	5	22.8	30
1N4752A	33	7.5	45	1000	0.25	5	25.1	27
1N4753A	36	7	50	1000	0.25	5	27.4	25
1N4754A	39	6.5	60	1000	0.25	5	29.7	23
1N4755A	43	6	70	1500	0.25	5	32.7	22
1N4756A	47	5.5	80	1500	0.25	5	35.8	19
1N4757A	51	5	95	1500	0.25	5	38.8	18
1N4758A	56	4.5	110	2000	0.25	5	42.6	16
1N4759A	62	4	125	2000	0.25	5	47.1	14
1N4760A	68	3.7	150	2000	0.25	5	51.7	13
1N4761A	75	3.3	175	2000	0.25	5	56	12
1N4762A	82	3.0	200	3000	0.25	5	62.2	11
1N4763A	91	2.8	250	3000	0.25	5	69.2	10
1N4764A	100	2.5	350	3000	0.25	5	76.0	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 10 mm from case are kept at ambient temperature.

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

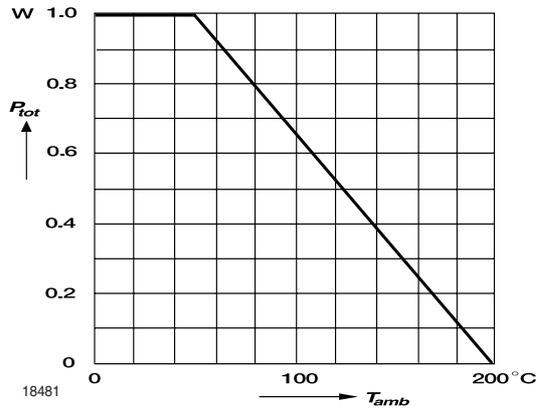
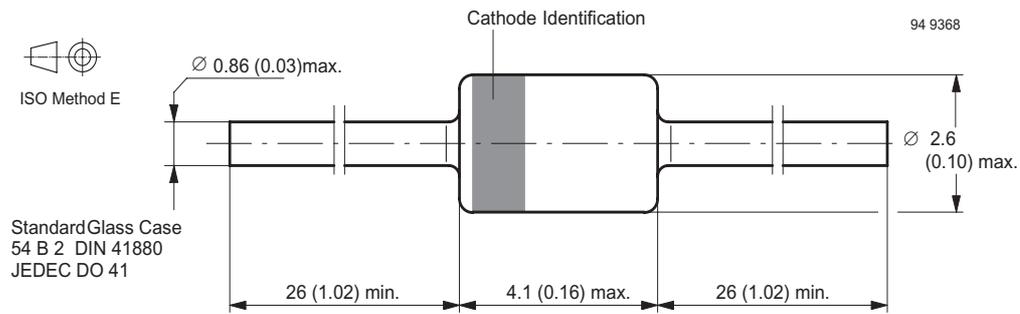


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

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.

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



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