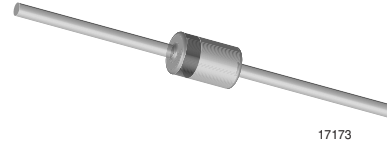


Silicon Power Zener Diodes

Features

- Silicon Planar Power Zener Diodes
- For use in stabilizing and clipping circuits with high power rating.
- Standard Zener voltage tolerance suffix "A" for $\pm 5\%$ tolerance. Other Zener voltages and tolerances are available upon request.



Applications

Voltage stabilization

Mechanical Data

Case: DO-41 Glass Case

Weight: approx. 350 mg

Packaging Codes/Options:

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

TAP / 5k per Ammo mag. (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	$T_{amb} \leq 50\text{ }^{\circ}\text{C}$	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		Surge current	Maximum Regulator Current ²⁾
			$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	I_R	Test Voltage V_R		
	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	100	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 10 mm from case are kept at ambient temperature.

³⁾ Additional measurement of Voltage group 9V1 to 75 at 95 % $V_{zmin} \leq 35\text{ nA}$ at $T_j 25\text{ }^\circ\text{C}$

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

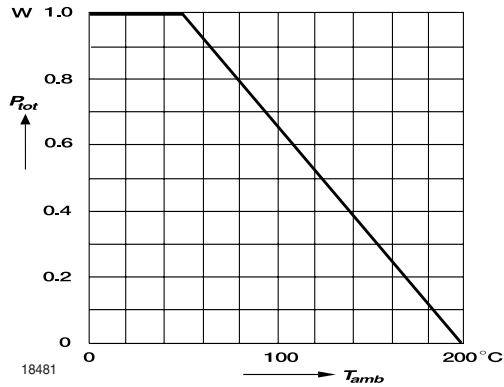
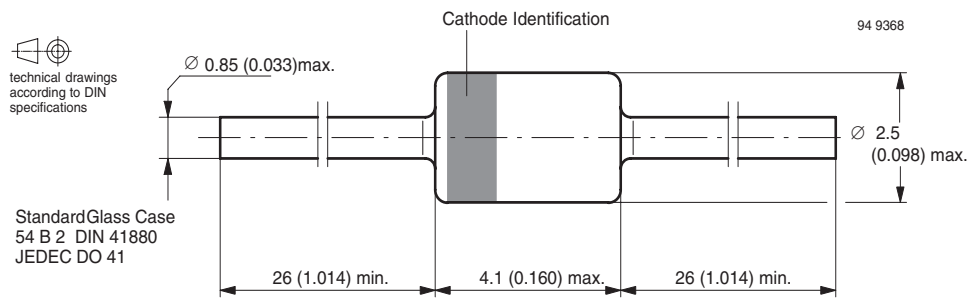


Figure 1. Admissible Power Dissipation vs. Ambient Temperature

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.

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