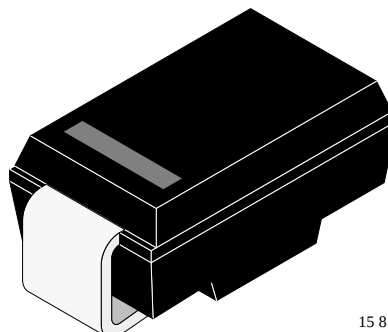


Silicon Z-Diodes

Features

- Glass passivated junction
- High reliability
- Voltage range 3.3 V to 100 V
- Fits onto 5 mm SMD footpads
- Wave and reflow solderable
- $V_{Znom} \pm 5\%$ tolerance



15 811

Applications

Voltage stabilization

Absolute Maximum Ratings

 $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$R_{thJA} < 100\text{K/W}$, $T_{amb} = 25^\circ\text{C}$		P_V	1.25	W
Non repetitive peak surge power dissipation	$t_p = 100\mu\text{s}$ sq.pulse, $T_j = 25^\circ\text{C}$ prior to surge		P_{ZSM}	50	W
Junction temperature			T_j	150	$^\circ\text{C}$
Storage temperature range			T_{stg}	$-65...+150$	$^\circ\text{C}$

Maximum Thermal Resistance

 $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction lead		R_{thJL}	35	K/W
Junction ambient	mounted on epoxy–glass hard tissue, Fig. 1a	R_{thJA}	150	K/W
	mounted on epoxy–glass hard tissue, Fig. 1b	R_{thJA}	125	K/W
	mounted on Al–oxid–ceramic (Al_2O_3), Fig. 1b	R_{thJA}	100	K/W

Electrical Characteristics

 $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 0.2\text{A}$		V_F			1.2	V

BZG85C2V7–BZG85C100



Vishay Telefunken

Type	Nominal Zener Voltage		Zener Voltage Range	Zener Impedance			Leakage Current @ V _R		Temperature Coefficient
	V _Z @ I _{ZT}			Z _{ZT} @ I _{ZT}	Z _{ZT} @ I _{ZK}		I _R @ V _R		
	V	mA	V		Ω	Ω	mA	μA	V
BZG85C3V3	3.3	80	3.1 to 3.5	< 20	< 400	1	< 40	1	−0.1 to −0.05
BZG85C3V6	3.6	60	3.4 to 3.8	< 20	< 500	1	< 20	1	−0.1 to −0.05
BZG85C3V9	3.9	60	3.7 to 4.1	< 15	< 500	1	< 10	1	−0.08 to −0.03
BZG85C4V3	4.3	50	4.0 to 4.6	< 13	< 500	1	< 3	1	−0.08 to −0.01
BZG85C4V7	4.7	45	4.4 to 5.0	< 13	< 500	1	< 3	1	−0.04 to +0.04
BZG85C5V1	5.1	45	4.8 to 5.4	< 10	< 500	1	< 1	1.5	−0.01 to +0.04
BZG85C5V6	5.6	45	5.2 to 6.0	< 7	< 400	1	< 1	2	0 to +0.04
BZG85C6V2	6.2	35	5.8 to 6.6	< 4	< 300	1	< 1	3	0.01 to 0.055
BZG85C6V8	6.8	35	6.4 to 7.2	< 3.5	< 300	1	< 1	4	0.02 to 0.06
BZG85C7V5	7.5	35	7.0 to 7.9	< 3	< 200	0.5	< 1	4.5	0.03 to 0.065
BZG85C8V2	8.2	25	7.7 to 8.7	< 5	< 200	0.5	< 1	6.2	0.03 to 0.075
BZG85C9V1	9.1	25	8.5 to 9.6	< 5	< 200	0.5	< 1	6.8	0.05 to 0.085
BZG85C10	10	25	9.4 to 10.6	< 7	< 200	0.5	< 0.5	7.5	0.06 to 0.095
BZG85C11	11	20	10.4 to 11.6	< 8	< 300	0.5	< 0.5	8.2	0.06 to 0.1
BZG85C12	12	20	11.4 to 12.7	< 9	< 350	0.5	< 0.5	9.1	0.07 to 0.105
BZG85C13	13	20	12.4 to 14.1	< 10	< 400	0.5	< 0.5	10	0.07 to 0.11
BZG85C15	15	15	13.8 to 15.6	< 15	< 500	0.5	< 0.5	11	0.075 to 0.11
BZG85C16	16	15	15.3 to 17.1	< 15	< 500	0.5	< 0.5	12	0.075 to 0.11
BZG85C18	18	15	16.8 to 19.1	< 20	< 500	0.5	< 0.5	13	0.08 to 0.115
BZG85C20	20	10	18.8 to 21.2	< 24	< 600	0.5	< 0.5	15	0.08 to 0.12
BZG85C22	22	10	20.8 to 23.3	< 25	< 600	0.5	< 0.5	16	0.085 to 0.125
BZG85C24	24	10	22.8 to 25.6	< 25	< 600	0.5	< 0.5	18	0.085 to 0.13
BZG85C27	27	8	25.1 to 28.9	< 30	< 750	0.25	< 0.5	20	0.085 to 0.13
BZG85C30	30	8	28 to 32	< 30	< 1000	0.25	< 0.5	22	0.09 to 0.135
BZG85C33	33	8	31 to 35	< 35	< 1000	0.25	< 0.5	24	0.095 to 0.14
BZG85C36	36	8	34 to 38	< 40	< 1000	0.25	< 0.5	27	0.095 to 0.14
BZG85C39	39	6	37 to 41	< 50	< 1000	0.25	< 0.5	30	0.095 to 0.14
BZG85C43	43	6	40 to 46	< 50	< 1000	0.25	< 0.5	33	0.095 to 0.14
BZG85C47	47	4	44 to 50	< 90	< 1500	0.25	< 0.5	36	0.1 to 0.145
BZG85C51	51	4	48 to 54	< 115	< 1500	0.25	< 0.5	39	0.1 to 0.145
BZG85C56	56	4	52 to 60	< 120	< 2000	0.25	< 0.5	43	0.1 to 0.15
BZG85C62	62	4	58 to 66	< 125	< 2000	0.25	< 0.5	47	0.105 to 0.15
BZG85C68	68	4	64 to 72	< 130	< 2000	0.25	< 0.5	51	0.105 to 0.155
BZG85C75	75	4	70 to 79	< 135	< 2000	0.25	< 0.5	56	0.11 to 0.16
BZG85C82	82	2.7	77 to 87	< 200	< 3000	0.25	< 0.5	62	0.11 to 0.16
BZG85C91	91	2.7	85 to 96	< 250	< 3000	0.25	< 0.5	68	0.11 to 0.165
BZG85C100	100	2.7	94 to 106	< 350	< 3000	0.25	< 0.5	75	0.11 to 0.165

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

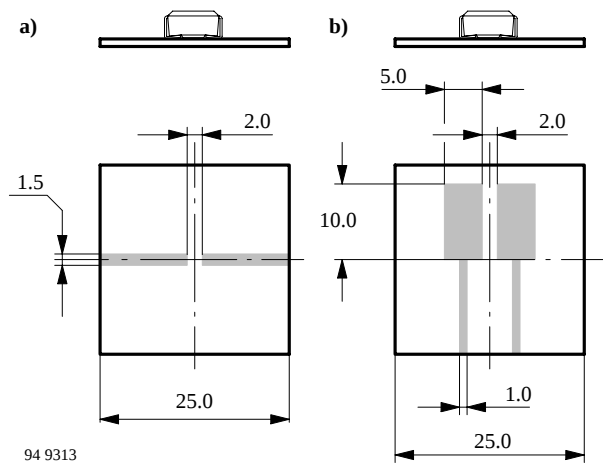


Figure 1. Boards for R_{thJA} definition (copper overlay 35μ)

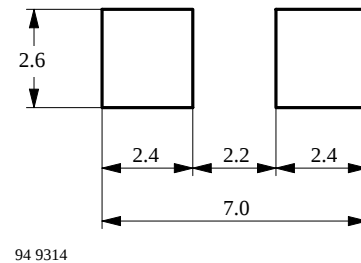
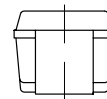
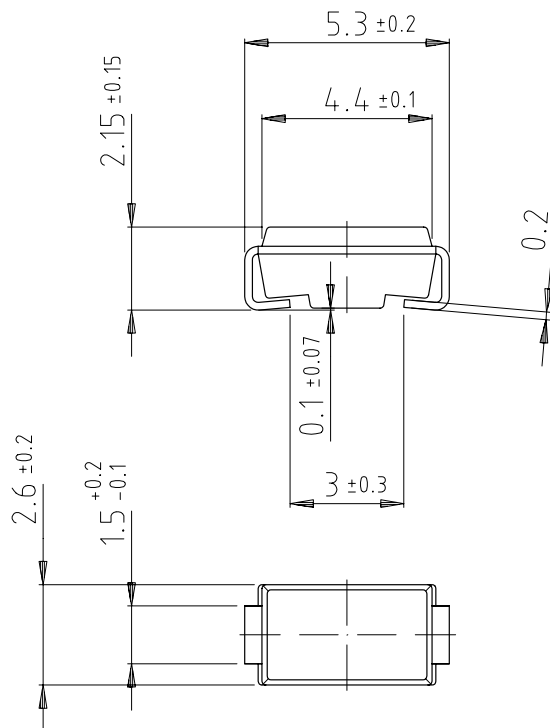
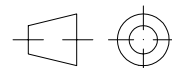


Figure 2. Recommended foot pads (in mm)

Dimensions in mm



Plastic case JEDEC DO 214
similar to SMA
Cathode indicated by a band



technical drawings
according to DIN
specifications

14275

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-Telefunken products for any unintended or unauthorized application, the buyer shall indemnify Vishay-Telefunken 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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