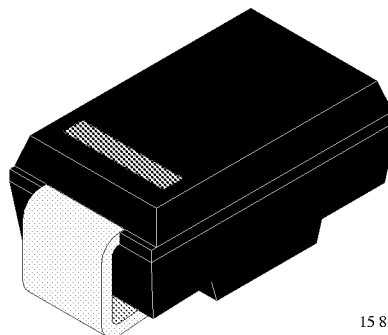


Silicon Z-Diodes

Features

- Glass passivated junction
- High reliability
- Voltage range 3.3V to 100V
- Fits onto 5 mm SMD footpads
- Wave and reflow solderable



15 811

Applications

Voltage stabilization

Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$R_{thJA} < 30\text{K/W}$, $T_{amb} = 60^\circ\text{C}$		P_V	3	W
	$R_{thJA} < 100\text{K/W}$, $T_{amb} = 25^\circ\text{C}$		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}	60	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}	30	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

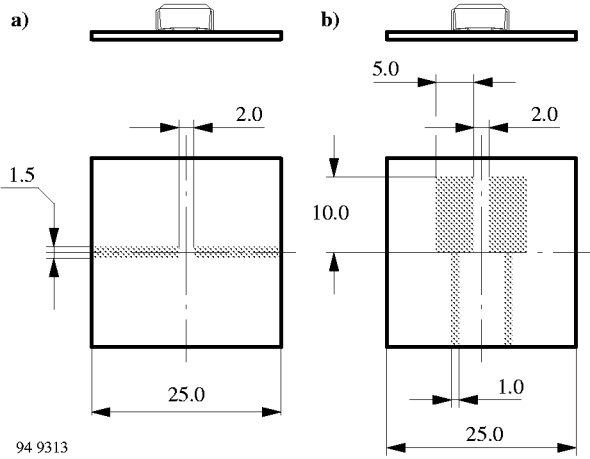
BZG05C...

Vishay Telefunken



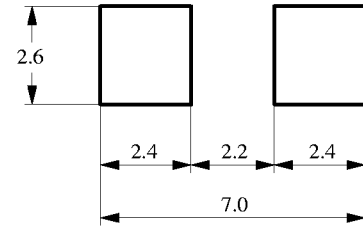
Type	V _{Znom}	I _{ZT}	for V _{ZT} and	r _{zjT}	r _{zjk} at	I _{ZK}	I _R at	V _R	TK _{VZ}
BZG05C...	V	mA	V	Ω	Ω	mA	μA	V	%/K
3V3	3.3	80	3.1 to 3.5	< 20	< 400	1	< 40	1	-0.08 to -0.05
3V6	3.6	60	3.4 to 3.8	< 20	< 500	1	< 20	1	-0.08 to -0.05
3V9	3.9	60	3.7 to 4.1	< 15	< 500	1	< 10	1	-0.07 to -0.02
4V3	4.3	50	4.0 to 4.6	< 13	< 500	1	< 3	1	-0.07 to -0.01
4V7	4.7	45	4.4 to 5.0	< 13	< 600	1	< 3	1	-0.03 to +0.04
5V1	5.1	45	4.8 to 5.4	< 10	< 500	1	< 1	1.5	-0.01 to +0.04
5V6	5.6	45	5.2 to 6.0	< 7	< 400	1	< 1	2	0 to +0.045
6V2	6.2	35	5.8 to 6.6	< 4	< 300	1	< 1	3	+0.01 to +0.055
6V8	6.8	35	6.4 to 7.2	< 3.5	< 300	1	< 1	4	+0.015 to +0.06
7V5	7.5	35	7.0 to 7.9	< 3	< 200	0.5	< 1	4.5	+0.02 to +0.065
8V2	8.2	25	7.7 to 8.7	< 5	< 200	0.5	< 1	6.2	0.03 to 0.07
9V1	9.1	25	8.5 to 9.6	< 5	< 200	0.5	< 1	6.8	0.035 to 0.075
10	10	25	9.4 to 10.6	< 7	< 200	0.5	< 0.5	7	0.04 to 0.08
11	11	20	10.4 to 11.6	< 8	< 300	0.5	< 0.5	8.2	0.045 to 0.08
12	12	20	11.4 to 12.7	< 9	< 350	0.5	< 0.5	9.1	0.045 to 0.085
13	13	20	12.4 to 14.1	< 10	< 400	0.5	< 0.5	10	0.05 to 0.085
15	15	15	13.8 to 15.6	< 15	< 500	0.5	< 0.5	11	0.055 to 0.09
16	16	15	15.3 to 17.1	< 15	< 500	0.5	< 0.5	12	0.055 to 0.09
18	18	15	16.8 to 19.1	< 20	< 500	0.5	< 0.5	13	0.06 to 0.09
20	20	10	18.8 to 21.2	< 24	< 600	0.5	< 0.5	15	0.06 to 0.09
22	22	10	20.8 to 23.3	< 25	< 600	0.5	< 0.5	16	0.06 to 0.095
24	24	10	22.8 to 25.6	< 25	< 600	0.5	< 0.5	18	0.06 to 0.095
27	27	8	25.1 to 28.9	< 30	< 750	0.25	< 0.5	20	0.06 to 0.095
30	30	8	28 to 32	< 30	< 1000	0.25	< 0.5	22	0.06 to 0.095
33	33	8	31 to 35	< 35	< 1000	0.25	< 0.5	24	0.06 to 0.095
36	36	8	34 to 38	< 40	< 1000	0.25	< 0.5	27	0.06 to 0.095
39	39	6	37 to 41	< 50	< 1000	0.25	< 0.5	30	0.06 to 0.095
43	43	6	40 to 46	< 50	< 1000	0.25	< 0.5	33	0.06 to 0.095
47	47	4	44 to 50	< 90	< 1500	0.25	< 0.5	36	0.06 to 0.095
51	51	4	48 to 54	< 115	< 1500	0.25	< 0.5	39	0.06 to 0.095
56	56	4	52 to 60	< 120	< 2000	0.25	< 0.5	43	0.06 to 0.095
62	62	4	58 to 66	< 125	< 2000	0.25	< 0.5	47	0.06 to 0.095
68	68	4	64 to 72	< 130	< 2000	0.25	< 0.5	51	0.06 to 0.095
75	75	4	70 to 79	< 135	< 2000	0.25	< 0.5	56	0.06 to 0.095
82	82	2.7	77 to 87	< 200	< 3000	0.25	0.5	62	0.06 to 0.095
91	91	2.7	85 to 96	< 250	< 3000	0.25	0.5	68	0.06 to 0.095
100	100	2.7	95 to 105	< 350	< 3000	0.25	0.5	75	0.06 to 0.095

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



94 9313

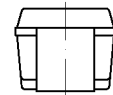
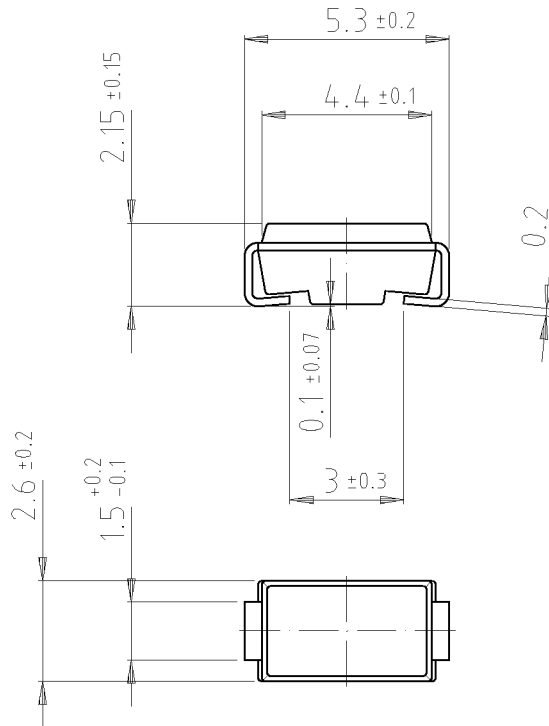
Figure 1. Boards for R_{thJA} definition
(copper overlay 35μ)



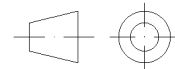
94 9314

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