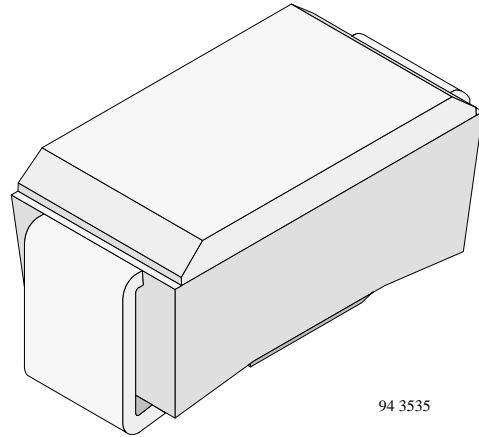# TEMIC

TELEFUNKEN Semiconductors

BZG05C...

Silicon Z–Diodes

Features

- Glass passivated junction
- High reliability
- Voltage range 3.3V to 15V
- Fits onto 5 mm SMD footpads
- Wave and reflow solderable

Applications

Voltage stabilization

94 3535

Absolute Maximum Ratings

$T_j = 25°C$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	R_{thJA}<30K/W, T_{amb}=60˚C		P_V	3	W
	R_{thJA}<100K/W, T_{amb}=25˚C		P_V	1.25	W
Non repetitive peak surge power dissipation	t_p=100µs sq.pulse, T_j=25˚C prior to surge		P_{ZSM}	60	W
Junction temperature			T_j	150	˚C
Storage temperature range			T_{stg}	−65...+150	˚C

Maximum Thermal Resistance

$T_j = 25°C$

Parameter	Test Conditions	Symbol	Value	Unit
Junction lead		R_{thJL}	30	K/W
Junction ambient	mounted on epoxy–glass hard issue, Fig. 1a	R_{thJA}	150	K/W
	mounted on epoxy–glass hard issue, Fig. 1b	R_{thJA}	125	K/W
	mounted on Al–oxid–ceramic (Al_2O_3), Fig. 1b	R_{thJA}	100	K/W

Characteristics

$T_j = 25°C$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=0.2A		V_F			1.2	V

Type BZG05C...	V_z V		r_{zj} Ω	TK_{vz} %/K		at I_z mA	r_{zk} at I_{zk} Ω	mA	I_R at V_R μA	V
	Min.	Max.	Max.	Typ.	Max.		Max.		Max.	
3V3	3.1	3.5	25	–0.08	–0.05	80	500	1	40	1
3V6	3.4	3.8	25	–0.08	–0.05	60	500	1	20	1
3V9	3.7	4.1	20	–0.07	–0.02	60	500	1	10	1
4V3	4.0	4.6	15	–0.07	–0.01	50	500	1	3	1
4V7	4.4	5.0	15	–0.03	0.04	45	500	1	3	1
5V1	4.8	5.4	15	–0.01	0.04	45	500	1	1	1.5
5V6	5.2	6.0	10	0.00	0.05	45	400	1	1	2
6V2	5.8	6.6	5	0.01	0.06	35	300	1	1	3
6V8	6.4	7.2	4	0.02	0.06	35	300	1	1	4
7V5	7.4	7.9	3.5	0.02	0.07	35	200	0.5	1	4.5
8V2	7.7	8.7	6	0.03	0.07	25	200	0.5	1	6.2
9V1	8.5	9.6	6	0.04	0.08	25	200	0.5	1	6.8
10	9.4	10.6	8	0.04	0.08	25	200	0.5	0.5	7.5
11	10.4	11.6	10	0.05	0.08	20	300	0.5	0.5	8.2
12	11.4	12.7	10	0.05	0.09	20	350	0.5	0.5	9.1
13	12.4	14.1	12	0.05	0.09	20	400	0.5	0.5	10
15	13.8	15.6	20	0.06	0.09	15	500	0.5	0.5	11

Typical Characteristics ($T_j = 25°C$ unless otherwise specified)
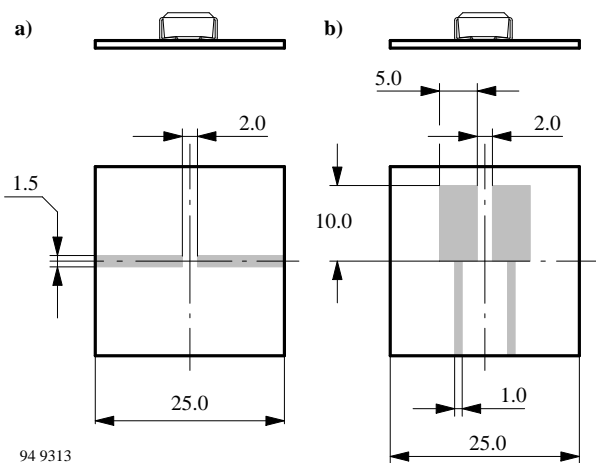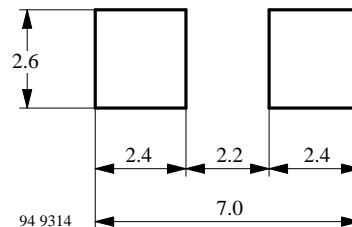
Figure 1 : Boards for R_{thJA} definition (copper overlay 35μ)

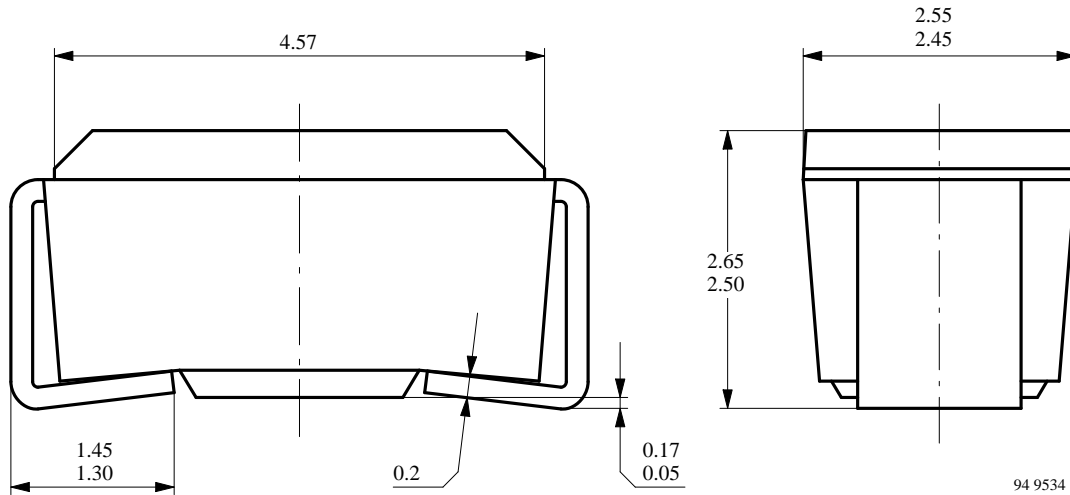**Figure 2 : Recommended foot pads**

TEMIC

TELEFUNKEN Semiconductors

Dimensions in mm

2.2

1.5

2.1

4.75

5.45
5.15

technical drawings
according to DIN
specifications
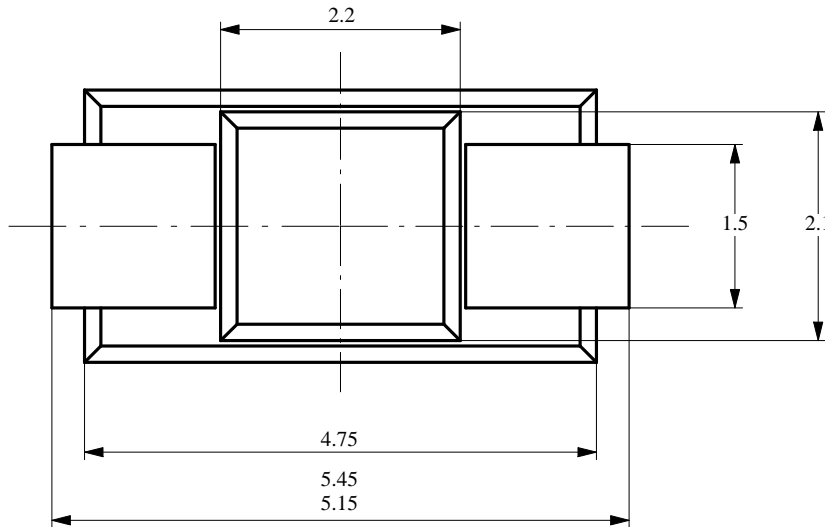
Plastic Case
JEDEC DO 214 AC
SOD 106 A

Cathode indicated by a Band

4.57

2.55
2.45

2.65
2.50

1.45
1.30

0.2

0.17
0.05

94 9534

OZONE DEPLETING SUBSTANCES POLICY STATEMENT

It is the policy of **TEMIC TELEFUNKEN microelectronic GmbH** to

1. Meet all present and future national and international statutory requirements and

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.

Of particular concern is the control or elimination of releases into the atmosphere of those substances which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) will soon 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.

TEMIC TELEFUNKEN microelectronic GmbH semiconductor division has been able to use its policy of continuous improvements to eliminate the use of any 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 and

3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

TEMIC can certify that our semiconductors are not manufactured with and do not contain ozone depleting substances.