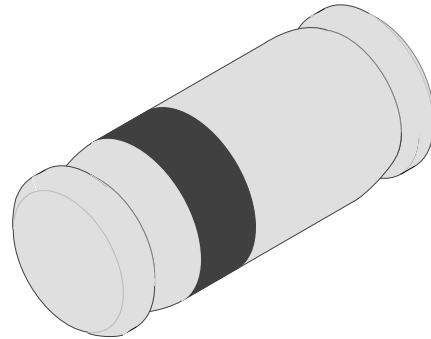


### Silicon Z-Diodes

#### Features

- Very sharp reverse characteristic
- Very high stability
- Electrical data identical with the devices 1N5221B...1N5267B
- Low reverse current level
- $V_Z$ -tolerance  $\pm 5\%$



94 9371

#### Applications

Voltage stabilization

#### Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$R_{thJA} < 300\text{K/W}$ , $T_{amb} = 25^\circ\text{C}$		$P_V$	500	mW
Z-current			$I_Z$	$P_V/V_Z$	mA
Junction temperature			$T_j$	175	$^\circ\text{C}$
Storage temperature range			$T_{stg}$	-65...+175	$^\circ\text{C}$

#### Maximum Thermal Resistance

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

Parameter	Test Conditions	Symbol	Value	Unit
Junction lead	Junction to tie-point (electrodes)	$R_{thJL}$	300	K/W
Junction ambient	on PC board 50mmx50mmx1.6mm	$R_{thJA}$	500	K/W

#### Characteristics

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

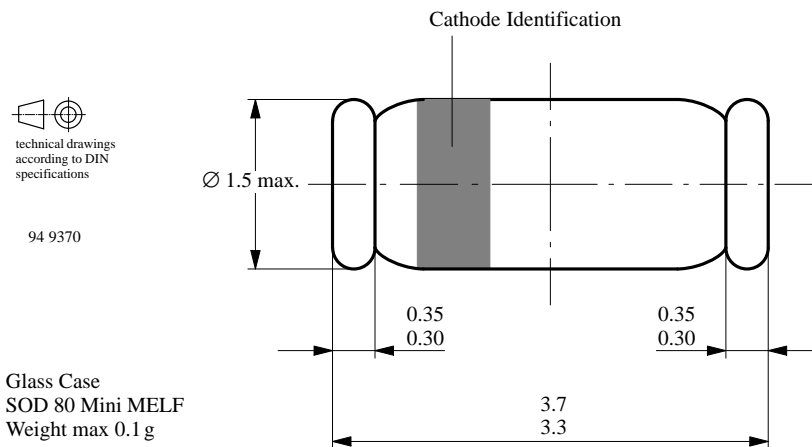
Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 200\text{mA}$		$V_F$			1.1	V

Type	V <sub>Znorm</sub> <sup>1)</sup> V	I <sub>ZT</sub> for r <sub>zjT</sub>		r <sub>zjk</sub> at I <sub>ZK</sub>		I <sub>R</sub> at V <sub>R</sub>		TK <sub>VZ</sub> %/K
		mA	Ω	Ω	mA	μA	V	
TZM5221B	2.4	20	< 30	< 1200	0.25	< 100	1.0	< -0.085
TZM5222B	2.5	20	< 30	< 1250	0.25	< 100	1.0	< -0.085
TZM5223B	2.7	20	< 30	< 1300	0.25	< 75	1.0	< -0.080
TZM5224B	2.8	20	< 30	< 1400	0.25	< 75	1.0	< -0.080
TZM5225B	3.0	20	< 29	< 1600	0.25	< 50	1.0	< -0.075
TZM5226B	3.3	20	< 28	< 1600	0.25	< 25	1.0	< -0.070
TZM5227B	3.6	20	< 24	< 1700	0.25	< 15	1.0	< -0.065
TZM5228B	3.9	20	< 23	< 1900	0.25	< 10	1.0	< -0.060
TZM5229B	4.3	20	< 22	< 2000	0.25	< 5	1.0	< ±0.055
TZM5230B	4.7	20	< 19	< 1900	0.25	< 5	2.0	< ±0.030
TZM5231B	5.1	20	< 17	< 1600	0.25	< 5	2.0	< ±0.030
TZM5232B	5.6	20	< 11	< 1600	0.25	< 5	3.0	< +0.038
TZM5233B	6.0	20	< 7	< 1600	0.25	< 5	3.5	< +0.038
TZM5234B	6.2	20	< 7	< 1000	0.25	< 5	4.0	< +0.045
TZM5235B	6.8	20	< 5	< 750	0.25	< 3	5.0	< +0.050
TZM5236B	7.5	20	< 6	< 500	0.25	< 3	6.0	< +0.058
TZM5237B	8.2	20	< 8	< 500	0.25	< 3	6.5	< +0.062
TZM5238B	8.7	20	< 8	< 600	0.25	< 3	6.5	< +0.065
TZM5239B	9.1	20	< 10	< 600	0.25	< 3	7.0	< +0.068
TZM5240B	10	20	< 17	< 600	0.25	< 3	8.0	< +0.075
TZM5241B	11	20	< 22	< 600	0.25	< 2	8.4	< +0.076
TZM5242B	12	20	< 30	< 600	0.25	< 1	9.1	< +0.077
TZM5243B	13	9.5	< 13	< 600	0.25	< 0.5	9.9	< +0.079
TZM5244B	14	9.0	< 15	< 600	0.25	< 0.1	10	< +0.082
TZM5245B	15	8.5	< 16	< 600	0.25	< 0.1	11	< +0.082
TZM5246B	16	7.8	< 17	< 600	0.25	< 0.1	12	< +0.083
TZM5247B	17	7.4	< 19	< 600	0.25	< 0.1	13	< +0.084
TZM5248B	18	7.0	< 21	< 600	0.25	< 0.1	14	< +0.085
TZM5249B	19	6.6	< 23	< 600	0.25	< 0.1	14	< +0.086
TZM5250B	20	6.2	< 25	< 600	0.25	< 0.1	15	< +0.086
TZM5251B	22	5.6	< 29	< 600	0.25	< 0.1	17	< +0.087
TZM5252B	24	5.2	< 33	< 600	0.25	< 0.1	18	< +0.088
TZM5253B	25	5.0	< 35	< 600	0.25	< 0.1	19	< +0.089
TZM5254B	27	4.6	< 41	< 600	0.25	< 0.1	21	< +0.090
TZM5255B	28	4.5	< 44	< 600	0.25	< 0.1	21	< +0.091

Type	$V_{Znorm}^{1)}$ V	$I_{ZT}$ for $r_{zjT}$		$r_{zjk}$ at $I_{ZK}$		$I_R$ at $V_R$		$TK_{VZ}$ %/K
		mA	$\Omega$	$\Omega$	mA	$\mu A$	V	
TZM5256B	30	4.2	< 49	< 600	0.25	< 0.1	23	< +0.091
TZM5257B	33	3.8	< 58	< 700	0.25	< 0.1	25	< +0.092
TZM5258B	36	3.4	< 70	< 700	0.25	< 0.1	27	< +0.093
TZM5259B	39	3.2	< 80	< 800	0.25	< 0.1	30	< +0.094
TZM5260B	43	3.0	< 93	< 900	0.25	< 0.1	33	< +0.095
TZM5261B	47	2.7	< 105	< 1000	0.25	< 0.1	36	< +0.095
TZM5262B	51	2.5	< 125	< 1100	0.25	< 0.1	39	< +0.096
TZM5263B	56	2.2	< 150	< 1300	0.25	< 0.1	43	< +0.096
TZM5264B	60	2.1	< 170	< 1400	0.25	< 0.1	46	< +0.097
TZM5265B	62	2.0	< 185	< 1400	0.25	< 0.1	47	< +0.097
TZM5266B	68	1.8	< 230	< 1600	0.25	< 0.1	52	< +0.097
TZM5267B	75	1.7	< 270	< 1700	0.25	< 0.1	56	< +0.098

1) Based on dc measurement at thermal equilibrium;  
case temperature maintained at  $30^{\circ}C \pm 2^{\circ}C$ .

## Dimensions in mm



**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.

**We reserve the right to make changes to improve technical design 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 TEMIC products for any unintended or unauthorized application, the buyer shall indemnify TEMIC 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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