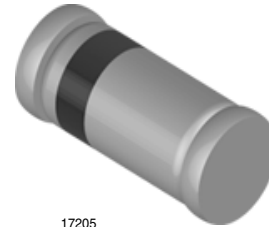


## Small Signal Zener Diodes

### Features

- Very sharp reverse characteristic
- Very high stability
- Electrical data identical with the devices 1N5221B...1N5267B
- Low reverse current level
- $V_Z$  - tolerance  $\pm 5\%$
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



17205

### Applications

- Voltage stabilization

### Mechanical Data

**Case:** MiniMELF Glass case SOD80

**Weight:** approx. 31 mg

#### Packaging codes/ options:

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS08 / 2.5 k per 7" reel (8 mm tape), 12.5 k/box

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Power dissipation	$R_{thJA} < 300\text{ K/W}$	$P_{tot}$	500	mW
Z-current		$I_Z$	$P_{tot}/V_Z$	mA
Junction temperature		$T_j$	175	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 175	$^\circ\text{C}$

### Thermal Characteristics

$T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction to ambient air	on PC board 50 mm x 50 mm x 1.6 mm	$R_{thJA}$	500	K/W

### Electrical Characteristics

$T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

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

# TZM5221B to TZM5267B



Vishay Semiconductors

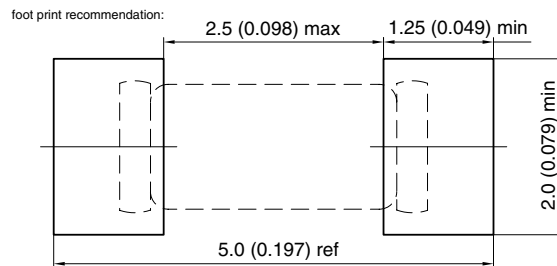
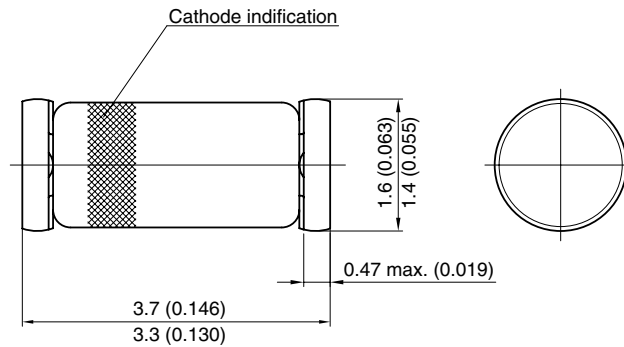
## Electrical Characteristics

Partnumber	Zener Voltage Range <sup>1)</sup>	Dynamic Resistance		Test Current		Reverse Leakage Current		Temperature Coefficient	
		$r_{zjT}$ at $I_{ZT}$	$r_{zjK}$ at $I_{ZK}$	$I_{ZT}$	$I_{ZK}$	$I_R$ at $V_R$			$TK_{VZ}$
		$\Omega$	$\Omega$	mA	mA	$\mu A$	V		%/K
	typ	typ	typ						
TZM5221B	2.4	< 30	< 1200	20	0.25	< 100	1	< - 0.085	
TZM5222B	2.5	< 30	< 1250	20	0.25	< 100	1	< - 0.085	
TZM5223B	2.7	< 30	< 1300	20	0.25	< 75	1	< - 0.080	
TZM5224B	2.8	< 30	< 1400	20	0.25	< 75	1	< - 0.080	
TZM5225B	3	< 29	< 1600	20	0.25	< 50	1	< - 0.075	
TZM5226B	3.3	< 28	< 1600	20	0.25	< 25	1	< - 0.070	
TZM5227B	3.6	< 24	< 1700	20	0.25	< 15	1	< - 0.065	
TZM5228B	3.9	< 23	< 1900	20	0.25	< 10	1	< - 0.060	
TZM5229B	4.3	< 22	< 2000	20	0.25	< 5	1	< $\pm$ 0.055	
TZM5230B	4.7	< 19	< 1900	20	0.25	< 5	2	< $\pm$ 0.030	
TZM5231B	5.1	< 17	< 1600	20	0.25	< 5	2	< $\pm$ 0.030	
TZM5232B	5.6	< 11	< 1600	20	0.25	< 5	3	< + 0.038	
TZM5233B	6	< 7	< 1600	20	0.25	< 5	3.5	< + 0.038	
TZM5234B	6.2	< 7	< 1000	20	0.25	< 5	4	< + 0.045	
TZM5235B	6.8	< 5	< 750	20	0.25	< 3	5	< + 0.050	
TZM5236B	7.5	< 6	< 500	20	0.25	< 3	6	< + 0.058	
TZM5237B	8.2	< 8	< 500	20	0.25	< 3	6.5	< + 0.062	
TZM5238B	8.7	< 8	< 600	20	0.25	< 3	6.5	< + 0.065	
TZM5239B	9.1	< 10	< 600	20	0.25	< 3	7	< + 0.068	
TZM5240B	10	< 17	< 600	20	0.25	< 3	8	< + 0.075	
TZM5241B	11	< 22	< 600	20	0.25	< 2	8.4	< + 0.076	
TZM5242B	12	< 30	< 600	20	0.25	< 1	9.1	< + 0.077	
TZM5243B	13	< 13	< 600	9.5	0.25	< 0.5	9.9	< + 0.079	
TZM5244B	14	< 15	< 600	9	0.25	< 0.1	10	< + 0.082	
TZM5245B	15	< 16	< 600	8.5	0.25	< 0.1	11	< + 0.082	
TZM5246B	16	< 17	< 600	7.8	0.25	< 0.1	12	< + 0.083	
TZM5247B	17	< 19	< 600	7.4	0.25	< 0.1	13	< + 0.084	
TZM5248B	18	< 21	< 600	7	0.25	< 0.1	14	< + 0.085	
TZM5249B	19	< 23	< 600	6.6	0.25	< 0.1	14	< + 0.086	
TZM5250B	20	< 25	< 600	6.2	0.25	< 0.1	15	< + 0.086	
TZM5251B	22	< 29	< 600	5.6	0.25	< 0.1	17	< + 0.087	
TZM5252B	24	< 33	< 600	5.2	0.25	< 0.1	18	< + 0.088	
TZM5253B	25	< 35	< 600	5	0.25	< 0.1	19	< + 0.089	
TZM5254B	27	< 41	< 600	4.6	0.25	< 0.1	21	< + 0.090	
TZM5255B	28	< 44	< 600	4.5	0.25	< 0.1	21	< + 0.091	
TZM5256B	30	< 49	< 600	4.2	0.25	< 0.1	23	< + 0.091	
TZM5257B	33	< 58	< 700	3.8	0.25	< 0.1	25	< + 0.092	
TZM5258B	36	< 70	< 700	3.4	0.25	< 0.1	27	< + 0.093	
TZM5259B	39	< 80	< 800	3.2	0.25	< 0.1	30	< + 0.094	
TZM5260B	43	< 93	< 900	3	0.25	< 0.1	33	< + 0.095	
TZM5261B	47	105	< 1000	2.7	0.25	< 0.1	36	< + 0.095	
TZM5262B	51	125	< 1100	2.5	0.25	< 0.1	39	< + 0.096	
TZM5263B	56	150	< 1300	2.2	0.25	< 0.1	43	< + 0.096	
TZM5264B	60	170	< 1400	2.1	0.25	< 0.1	46	< + 0.097	

Partnumber	Zener Voltage Range <sup>1)</sup>	Dynamic Resistance		Test Current		Reverse Leakage Current		Temperature Coefficient
	$V_Z$	$r_{zjT}$ at $I_{ZT}$	$r_{zjK}$ at $I_{ZK}$	$I_{ZT}$	$I_{ZK}$	$I_R$ at $V_R$		$TK_{VZ}$
	V	$\Omega$	$\Omega$	mA	mA	$\mu A$	V	%/K
	typ	typ	typ					
TZM5265B	62	185	< 1400	2	0.25	< 0.1	47	< + 0.097
TZM5266B	68	230	< 1600	1.8	0.25	< 0.1	52	< + 0.097
TZM5267B	75	270	< 1700	1.7	0.25	< 0.1	56	< + 0.098

<sup>1)</sup> Based on dc-measurement at thermal equilibrium; case temperature maintained at 30 °C ± 2 °C.

## Package Dimensions in mm (Inches)



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 Rev. 7 - Date: 07.February.2005  
 96 12070

### 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.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany



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