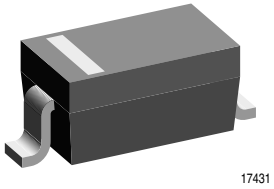
Small Signal Zener Diodes

Features

- Silicon Planar Power Zener Diodes.
- Standard Zener voltage tolerance is ± 5 % with a "B" suffix (e.g.: MMSZ5225B-V), suffix “C” is ± 2 % tolerance
- These diodes are also available in MiniMELF case with the designation TZM5225 ...TZM5267, DO-35 case with type designation 1N5225 ... 1N5267 and SOT23 case with the type designation MMBZ5225-V ... MMBZ5267-V.
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Mechanical Data

Case: SOD123 Plastic case

Weight: approx. 9.3 mg

Packaging codes/options:

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

GS08 / 3 k per 7 " reel (8 mm tape), 15 k/box

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Zener current (see Table "Characteristics")				
Power dissipation	T_L = 75 °C	P_{tot}	500[1)]	mW

1) On FR - 4 or FR - 5 board with minimum recommended solder pad layout.

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	340[1)]	K/W
Maximum junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C

1) On FR - 4 or FR - 5 board with minimum recommended solder pad layout.

Electrical Characteristics

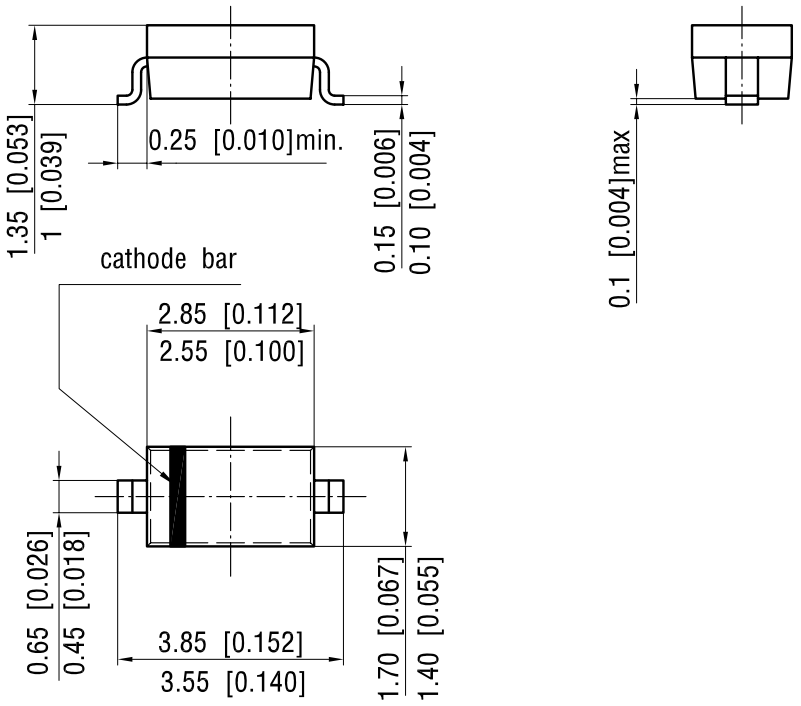
T_{amb} = 25 °C unless otherwise noted
Maximum V_F = 0.9 V at I_F = 10 mA

Partnumber	Marking Code	Nominal Zener Voltage[2]	Test Current	Maximum Dynamic Impedance[1]		Typical Temperature of Coefficient	Maximum Reverse Leakage Current	
		V_Z at I_{ZT}	I_{ZT}	Z_{ZT} at I_{ZT}	Z_{ZK} at I_{ZK} = 0.25 mA	α_{VZ}	I_R	V_R
		V	mA	Ω	Ω	%/°C	µA	V
MMSZ5225	C5	3.0	20	30	1600	- 0.075	50	1.0
MMSZ5226	D1	3.3	20	28	1600	- 0.070	25	1.0
MMSZ5227	D2	3.6	20	24	1700	- 0.065	15	1.0
MMSZ5228	D3	3.9	20	23	1900	- 0.060	10	1.0
MMSZ5229	D4	4.3	20	22	2000	- 0.055	5.0	1.0
MMSZ5230	D5	4.7	20	19	1900	± 0.030	5.0	2.0
MMSZ5231	E1	5.1	20	17	1600	± 0.030	5.0	2.0
MMSZ5232	E2	5.6	20	11	1600	+ 0.038	5.0	3.0
MMSZ5233	E3	6.0	20	7	1600	+ 0.038	5.0	3.5
MMSZ5234	E4	6.2	20	7	1000	+ 0.045	5.0	4.0
MMSZ5235	E5	6.8	20	5	750	+ 0.050	3.0	5.0
MMSZ5236	F1	7.5	20	6	500	+ 0.058	3.0	6.0
MMSZ5237	F2	8.2	20	8	500	+ 0.062	3.0	6.5
MMSZ5238	F3	8.7	20	8	600	+ 0.065	3.0	6.5
MMSZ5239	F4	9.1	20	10	600	+ 0.068	3.0	7.0
MMSZ5240	F5	10	20	17	600	+ 0.075	3.0	8.0
MMSZ5241	H1	11	20	22	600	+ 0.076	2.0	8.4
MMSZ5242	H2	12	20	30	600	+ 0.077	1.0	9.1
MMSZ5243	H3	13	9.5	13	600	+ 0.079	0.5	9.9
MMSZ5244	H4	14	9.0	15	600	+ 0.082	0.1	10
MMSZ5245	H5	15	8.5	16	600	+ 0.082	0.1	11
MMSZ5246	J1	16	7.8	17	600	+ 0.083	0.1	12
MMSZ5247	J2	17	7.4	19	600	+ 0.084	0.1	13
MMSZ5248	J3	18	7.0	21	600	+ 0.085	0.1	14
MMSZ5249	J4	19	6.6	23	600	+ 0.086	0.1	14
MMSZ5250	J5	20	6.2	25	600	+ 0.086	0.1	15
MMSZ5251	K1	22	5.6	29	600	+ 0.087	0.1	17
MMSZ5252	K2	24	5.2	33	600	+ 0.087	0.1	18
MMSZ5253	K3	25	5.0	35	600	+ 0.089	0.1	19
MMSZ5254	K4	27	4.6	41	600	+ 0.090	0.1	21
MMSZ5255	K5	28	4.5	44	600	+ 0.091	0.1	21
MMSZ5256	M1	30	4.2	49	600	+ 0.091	0.1	23
MMSZ5257	M2	33	3.8	58	700	+ 0.092	0.1	25
MMSZ5258	M3	36	3.4	70	700	+ 0.093	0.1	27
MMSZ5259	M4	39	3.2	80	800	+ 0.094	0.1	30
MMSZ5260	M5	43	3.0	93	900	+ 0.095	0.1	33
MMSZ5261	N1	47	2.7	105	1000	+ 0.095	0.1	36
MMSZ5262	N2	51	2.5	125	1100	+ 0.096	0.1	39
MMSZ5263	N3	56	2.2	150	1300	+ 0.096	0.1	43
MMSZ5264	N4	60	2.1	170	1400	+ 0.097	0.1	46
MMSZ5265	N5	62	2.0	185	1400	+ 0.097	0.1	47
MMSZ5266	P1	68	1.8	230	1600	+ 0.097	0.1	52
MMSZ5267	P2	75	1.7	270	1700	+ 0.098	0.1	56

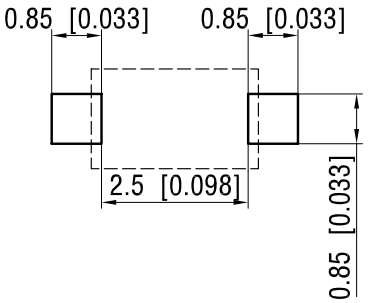
[1] The Zener Impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10 % of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

[2] Measured with device junction in thermal equilibrium.

Package Dimensions in mm (Inches)



foot print recommendation:



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17432

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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