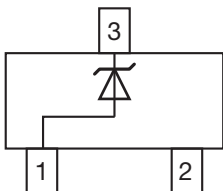


Small Signal Zener Diodes



FEATURES

- Silicon planar power Zener diodes.
- Standard Zener voltage tolerance is $\pm 5\%$ with a "B" suffix (e.g.: MMBZ5225B-G), suffix "C" is $\pm 2\%$ tolerance
- High temperature soldering guaranteed: 260 °C/4 x 10 s at terminals
- AEC-Q101 qualified
- ESD capability according to AEC-Q101: Human body model > 8 kV Machine model > 800 V
- Base P/N-G3 - green, commercial grade
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



PRIMARY CHARACTERISTICS

PARAMETER	VALUE	UNIT
V_Z range nom.	3 to 75	V
Test current I_{ZT}	1.7 to 20	mA
V_Z specification	Thermal equilibrium	
Int. construction	Single	

ORDERING INFORMATION

DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
MMBZ5225-G to MMBZ5267-G	MMBZ5225B-G3-08 to MMBZ5267B-G3-08	3000 (8 mm tape on 7" reel)	15 000/box
	MMBZ5225C-G3-08 to MMBZ5267C-G3-08		
	MMBZ5225B-G3-18 to MMBZ5267B-G3-18	10 000 (8 mm tape on 13" reel)	10 000/box
	MMBZ5225C-G3-18 to MMBZ5267C-G3-18		

PACKAGE

PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOT-23	8.1 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ °C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	On FR - 5 board using recommended solder pad layout	P_{tot}	225	mW
	On alumina substrate	P_{tot}	300	mW
Zener current	See table "Electrical Characteristics"			
Thermal resistance, junction to ambient air	On FR - 5 board using recommended solder pad layout	R_{thJA}	556	K/W
Junction temperature, maximum		T_j	150	°C
Storage temperature range		T_{stg}	- 65 to + 150	°C
Operating temperature range		T_{op}	- 55 to + 150	°C

**ELECTRICAL CHARACTERISTICS** ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE ⁽¹⁾	TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE ⁽²⁾		TEMPERATURE COEFFICIENT
		V_Z at I_{ZT1}	I_{ZT1}	I_{ZT2}	I_R at V_R		Z_Z at I_{ZT1}	Z_{ZK} at I_{ZT2}	α_{VZ}
		V	mA		μA	V	Ω		%/ $^{\circ}\text{C}$
		NOM.			MAX.		MAX.	MAX.	TYP.
MMBZ5225-G	725	3	20	0.25	50	1	30	1600	- 0.075
MMBZ5226-G	726	3.3	20	0.25	25	1	28	1600	- 0.07
MMBZ5227-G	727	3.6	20	0.25	15	1	24	1700	- 0.065
MMBZ5228-G	728	3.9	20	0.25	10	1	23	1900	- 0.06
MMBZ5229-G	729	4.3	20	0.25	5	1	22	2000	- 0.055
MMBZ5230-G	730	4.7	20	0.25	5	2	19	1900	$\pm$ 0.030
MMBZ5231-G	731	5.1	20	0.25	5	2	17	1600	$\pm$ 0.030
MMBZ5232-G	732	5.6	20	0.25	5	3	11	1600	0.038
MMBZ5233-G	733	6	20	0.25	5	3.5	7	1600	0.038
MMBZ5234-G	734	6.2	20	0.25	5	4	7	1000	0.045
MMBZ5235-G	735	6.8	20	0.25	3	5	5	750	0.05
MMBZ5236-G	736	7.5	20	0.25	3	6	6	500	0.058
MMBZ5237-G	737	8.2	20	0.25	3	6.5	8	500	0.062
MMBZ5238-G	738	8.7	20	0.25	3	6.5	8	600	0.065
MMBZ5239-G	739	9.1	20	0.25	3	7	10	600	0.068
MMBZ5240-G	740	10	20	0.25	3	8	17	600	0.075
MMBZ5241-G	741	11	20	0.25	2	8.4	22	600	0.076
MMBZ5242-G	742	12	20	0.25	1	9.1	30	600	0.077
MMBZ5243-G	743	13	9.5	0.25	0.5	9.9	13	600	0.079
MMBZ5244-G	744	14	9	0.25	0.1	10	15	600	0.082
MMBZ5245-G	745	15	8.5	0.25	0.1	11	16	600	0.082
MMBZ5246-G	746	16	7.8	0.25	0.1	12	17	600	0.083
MMBZ5247-G	747	17	7.4	0.25	0.1	13	19	600	0.084
MMBZ5248-G	748	18	7	0.25	0.1	14	21	600	0.085
MMBZ5249-G	749	19	6.6	0.25	0.1	14	23	600	0.086
MMBZ5250-G	750	20	6.2	0.25	0.1	15	25	600	0.086
MMBZ5251-G	751	22	5.6	0.25	0.1	17	29	600	0.087
MMBZ5252-G	752	24	5.2	0.25	0.1	18	33	600	0.087
MMBZ5253-G	753	25	5	0.25	0.1	19	35	600	0.089
MMBZ5254-G	754	27	4.6	0.25	0.1	21	41	600	0.09
MMBZ5255-G	755	28	4.5	0.25	0.1	21	44	600	0.091
MMBZ5256-G	756	30	4.2	0.25	0.1	23	49	600	0.091
MMBZ5257-G	757	33	3.8	0.25	0.1	25	58	700	0.092
MMBZ5258-G	758	36	3.4	0.25	0.1	27	70	700	0.093
MMBZ5259-G	759	39	3.2	0.25	0.1	30	80	800	0.094
MMBZ5260-G	760	43	3	0.25	0.1	33	93	900	0.095
MMBZ5261-G	761	47	2.7	0.25	0.1	36	105	1000	0.095
MMBZ5262-G	762	51	2.5	0.25	0.1	39	125	1100	0.096
MMBZ5263-G	763	56	2.2	0.25	0.1	43	150	1300	0.096
MMBZ5264-G	764	60	2.1	0.25	0.1	46	170	1400	0.097
MMBZ5265-G	765	62	2	0.25	0.1	47	185	1400	0.097
MMBZ5266-G	766	68	1.8	0.25	0.1	52	230	1600	0.097
MMBZ5267-G	767	75	1.7	0.25	0.1	56	270	1700	0.098

Notes

- Maximum $V_F = 0.9\text{ V}$, at $I_F = 10\text{ mA}$

(1) Measured at thermal equilibrium

(2) 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_{ZT1} or I_{ZT2}) is superimposed on I_{ZT1} or I_{ZT2} . Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units

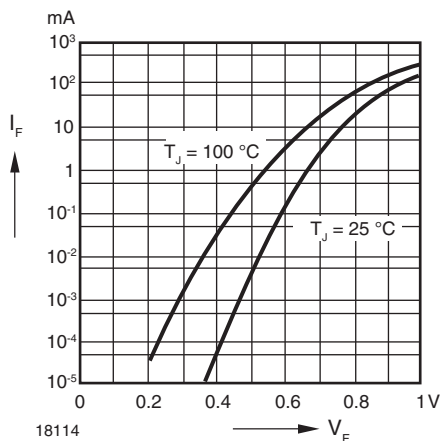
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Forward Characteristics

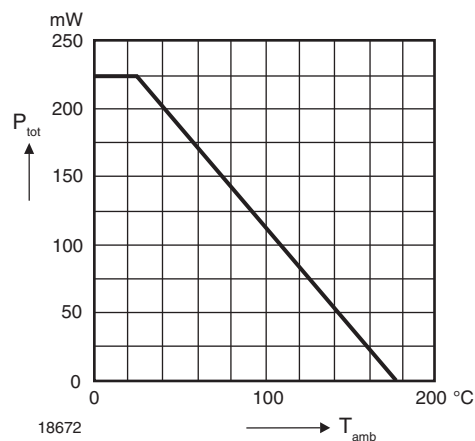
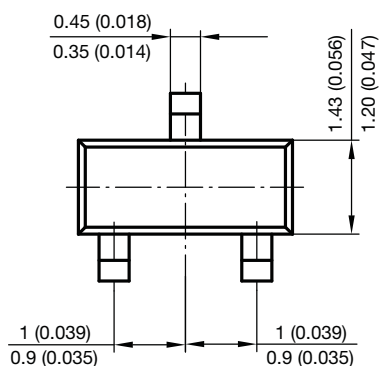
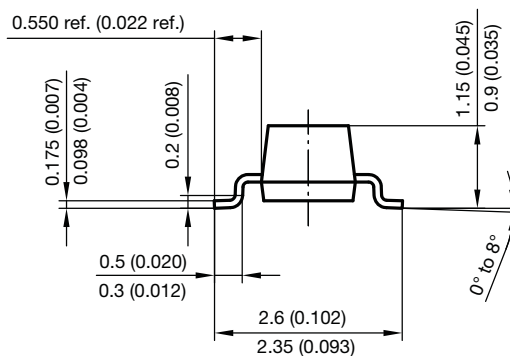
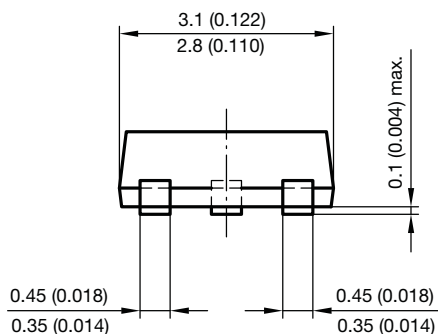
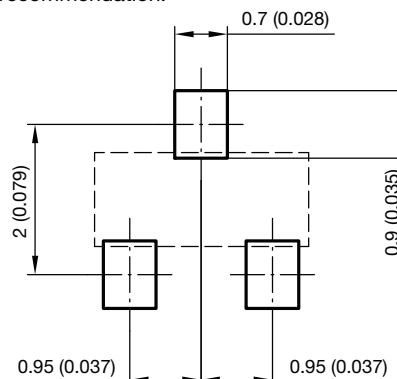


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

PACKAGE DIMENSIONS in millimeters (inches): **SOT-23**


Foot print recommendation:





Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.