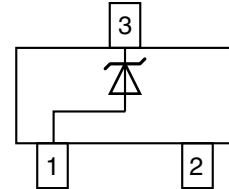
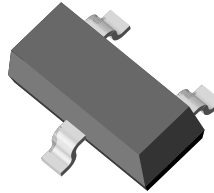


Small Signal Zener Diodes

Features

- Silicon planar power Zener diodes
- Standard Zener voltage tolerance is $\pm 5\%$ with a "B" suffix (e.g.: MMBZ5225B-V-G), suffix "C" is $\pm 2\%$ tolerance
- High temperature soldering guaranteed: 260 °C/4 x 10 s at terminals
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



18078

Mechanical Data

Case: SOT-23

Weight: approx. 8.1 mg

Packaging codes/options:

-18/10 k per 13" reel (8 mm tape), 10 k/box

-08/3 k per 7" reel (8 mm tape), 15 k/box

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Zener current (see table "Characteristics")				
Power dissipation		P_{tot}	225 ¹⁾	mW
		P_{tot}	300 ²⁾	mW

Notes

¹⁾ On FR - 5 board using recommended solder pad layout

²⁾ On alumina substrate

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	556 ¹⁾	°C/W
Maximum junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C

Note

¹⁾ On FR - 5 board using recommended solder pad layout

** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902

MMBZ5225-V-G to MMBZ5267-V-G



Vishay Semiconductors

Electrical Characteristics

$T_{amb} = 25^\circ$ unless otherwise noted; Maximum $V_F = 0.9$ V at $I_F = 10$ mA

Part number	Marking code	Nominal Zener voltage ²⁾	Test current	Maximum dynamic impedance ¹⁾		Typical temp. of coefficient	Maximum reverse leakage current	
		V_Z at I_{ZT1}	I_{ZT1}	Z_{ZT} at I_{ZT}	Z_{ZK} at $I_{ZK} = 0.25$ mA	α_{VZ}	I_R	V_R
		V	mA	Ω	Ω	%/ $^\circ$ C	μ A	V
MMBZ5225-V-G	725	3	20	30	1600	- 0.075	50	1
MMBZ5226-V-G	726	3.3	20	28	1600	- 0.07	25	1
MMBZ5227-V-G	727	3.6	20	24	1700	- 0.065	15	1
MMBZ5228-V-G	728	3.9	20	23	1900	- 0.06	10	1
MMBZ5229-V-G	729	4.3	20	22	2000	- 0.055	5	1
MMBZ5230-V-G	730	4.7	20	19	1900	± 0.030	5	2
MMBZ5231-V-G	731	5.1	20	17	1600	± 0.030	5	2
MMBZ5232-V-G	732	5.6	20	11	1600	0.038	5	3
MMBZ5233-V-G	733	6	20	7	1600	0.038	5	3.5
MMBZ5234-V-G	734	6.2	20	7	1000	0.045	5	4
MMBZ5235-V-G	735	6.8	20	5	750	0.05	3	5
MMBZ5236-V-G	736	7.5	20	6	500	0.058	3	6
MMBZ5237-V-G	737	8.2	20	8	500	0.062	3	6.5
MMBZ5238-V-G	738	8.7	20	8	600	0.065	3	6.5
MMBZ5239-V-G	739	9.1	20	10	600	0.068	3	7
MMBZ5240-V-G	740	10	20	17	600	0.075	3	8
MMBZ5241-V-G	741	11	20	22	600	0.076	2	8.4
MMBZ5242-V-G	742	12	20	30	600	0.077	1	9.1
MMBZ5243-V-G	743	13	9.5	13	600	0.079	0.5	9.9
MMBZ5244-V-G	744	14	9	15	600	0.082	0.1	10
MMBZ5245-V-G	745	15	8.5	16	600	0.082	0.1	11
MMBZ5246-V-G	746	16	7.8	17	600	0.083	0.1	12
MMBZ5247-V-G	747	17	7.4	19	600	0.084	0.1	13
MMBZ5248-V-G	748	18	7	21	600	0.085	0.1	14
MMBZ5249-V-G	749	19	6.6	23	600	0.086	0.1	14
MMBZ5250-V-G	750	20	6.2	25	600	0.086	0.1	15
MMBZ5251-V-G	751	22	5.6	29	600	0.087	0.1	17
MMBZ5252-V-G	752	24	5.2	33	600	0.087	0.1	18
MMBZ5253-V-G	753	25	5	35	600	0.089	0.1	19
MMBZ5254-V-G	754	27	4.6	41	600	0.090	0.1	21
MMBZ5255-V-G	755	28	4.5	44	600	0.091	0.1	21
MMBZ5256-V-G	756	30	4.2	49	600	0.091	0.1	23
MMBZ5257-V-G	757	33	3.8	58	700	0.092	0.1	25
MMBZ5258-V-G	758	36	3.4	70	700	0.093	0.1	27
MMBZ5259-V-G	759	39	3.2	80	800	0.094	0.1	30
MMBZ5260-V-G	760	43	3	93	900	0.095	0.1	33
MMBZ5261-V-G	761	47	2.7	105	1000	0.095	0.1	36
MMBZ5262-V-G	762	51	2.5	125	1100	0.096	0.1	39
MMBZ5263-V-G	763	56	2.2	150	1300	0.096	0.1	43
MMBZ5264-V-G	764	60	2.1	170	1400	0.097	0.1	46
MMBZ5265-V-G	765	62	2	185	1400	0.097	0.1	47
MMBZ5266-V-G	766	68	1.8	230	1600	0.097	0.1	52
MMBZ5267-V-G	767	75	1.7	270	1700	0.098	0.1	56

Notes

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 at thermal equilibrium.

Typical Characteristics

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

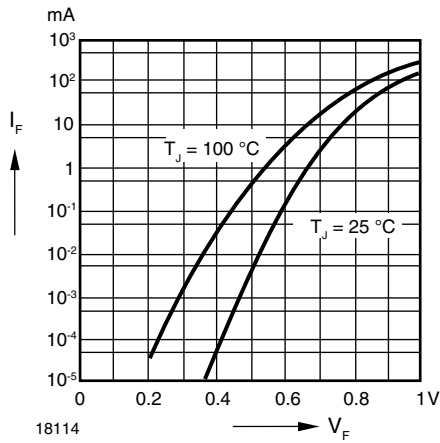


Figure 1. Forward Characteristics

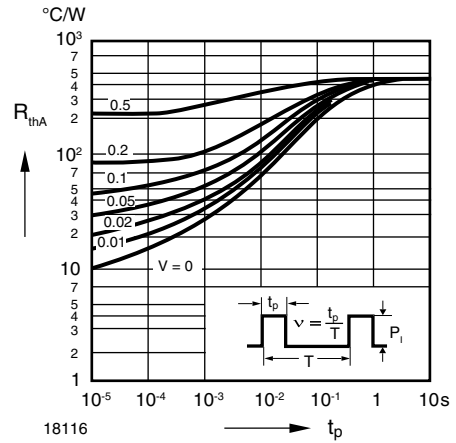


Figure 4. Pulse Thermal Resistance vs. Pulse Duration

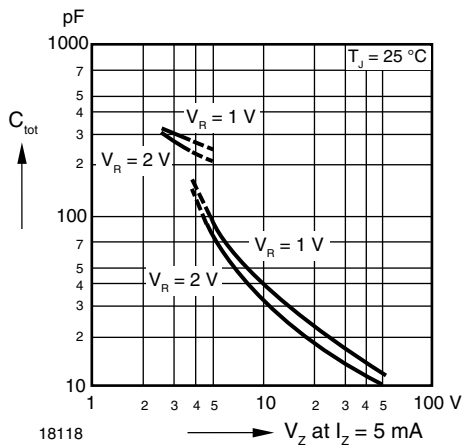


Figure 2. Capacitance vs. Zener Voltage

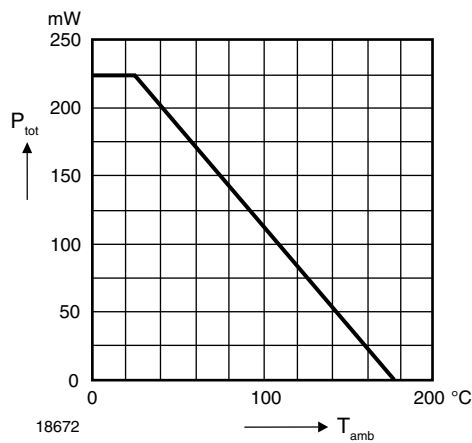


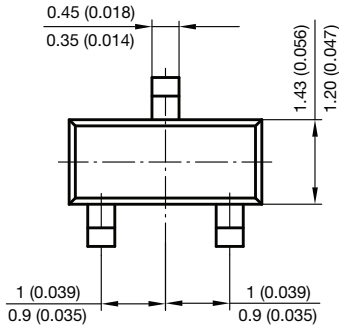
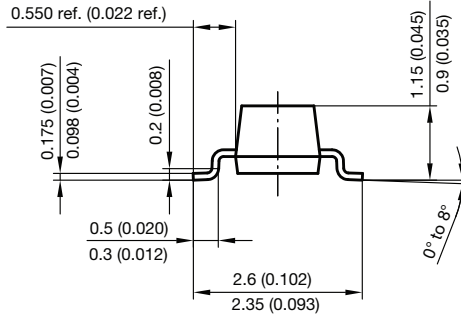
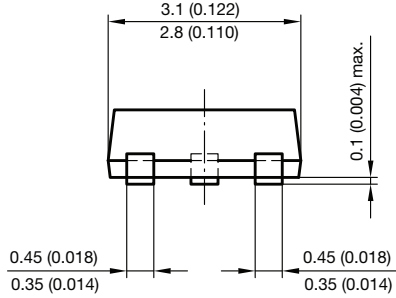
Figure 3. Admissible Power Dissipation vs. Ambient Temperature

MMBZ5225-V-G to MMBZ5267-V-G

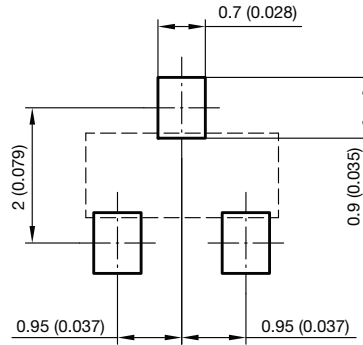


Vishay Semiconductors

Package Dimensions in millimeters (inches): **SOT-23**



Foot print recommendation:



Document no.: 6.541-5014.01-4

Rev. 8 - Date: 23.Sept.2009

17418



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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.