Small Signal Zener Diodes

FEATURES

- Silicon planar Zener diodes
- Standard Zener voltage tolerance is ± 5 %
- High temperature soldering guaranteed: 260 °C/4 x 10 s set terminals
- AEC-Q101 qualified available
- ESD capability according to AEC-Q101: Human body model > 8 kV Machine model > 800 V
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
V_Z range nom.	2.4 to 43	V
Test current I_{ZT}	0.05	mA
V_Z specification	Thermal equilibrium	
Circuit configuration	Single	

ORDERING INFORMATION			
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
MMSZ4681 to MMSZ4717	MMSZ4681-E3-08 to MMSZ4717-E3-08	3000 (8 mm tape on 7" reel)	15 000/box
	MMSZ4681-HE3-08 to MMSZ4717-HE3-08		
	MMSZ4681-E3-18 to MMSZ4717-E3-18	10 000 (8 mm tape on 13" reel)	10 000/box
	MMSZ4681-HE3-18 to MMSZ4717-HE3-18		

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD-123	10.3 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	T_L = 75 °C, on FR - 4 or FR - 5 board with minimum recommended solder pad layout	P_{tot}	500	mW
Zener current	See table “Electrical Characteristics”			
Thermal resistance junction to ambient air	On FR - 4 or FR - 5 board with minimum recommended solder pad layout	R_{thJA}	340	K/W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-55 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Downloaded from Arrow.com.

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE (1)			TEST CURRENT	REVERSE CURRENT	
		V_Z at I_{ZT1}			I_{ZT1}	I_R at V_R	
		V			mA	µA	V
		MIN.	NOM.	MAX.		MAX.	
MMSZ4681	CF	2.28	2.4	2.52	0.05	2	1
MMSZ4682	CH	2.57	2.7	2.84	0.05	1	1
MMSZ4683	CJ	2.85	3	3.15	0.05	0.8	1
MMSZ4684	CK	3.14	3.3	3.47	0.05	7.5	1.5
MMSZ4685	CM	3.42	3.6	3.78	0.05	7.5	2
MMSZ4686	CN	3.71	3.9	4.1	0.05	5	2
MMSZ4687	CP	4.09	4.3	4.52	0.05	4	2
MMSZ4688	CT	4.47	4.7	4.94	0.05	10	3
MMSZ4689	CU	4.85	5.1	5.36	0.05	10	3
MMSZ4690	CV	5.32	5.6	5.88	0.05	10	4
MMSZ4691	CA	5.89	6.2	6.51	0.05	10	5
MMSZ4692	CX	6.46	6.8	7.14	0.05	10	5.1
MMSZ4693	CY	7.13	7.5	7.88	0.05	10	5.7
MMSZ4694	CZ	7.79	8.2	8.61	0.05	1	6.2
MMSZ4695	DC	8.27	8.7	9.14	0.05	1	6.6
MMSZ4696	DD	8.65	9.1	9.56	0.05	1	6.9
MMSZ4697	DE	9.5	10	10.5	0.05	1	7.6
MMSZ4698	DF	10.5	11	11.6	0.05	0.05	8.4
MMSZ4699	DH	11.4	12	12.6	0.05	0.05	9.1
MMSZ4700	DJ	12.4	13	13.7	0.05	0.05	9.8
MMSZ4701	DK	13.3	14	14.7	0.05	0.05	10.6
MMSZ4702	DM	14.3	15	15.8	0.05	0.05	11.4
MMSZ4703	DN	15.2	16	16.8	0.05	0.05	12.1
MMSZ4704	DP	16.2	17	17.9	0.05	0.05	12.9
MMSZ4705	DT	17.1	18	18.9	0.05	0.05	13.6
MMSZ4706	DU	18.1	19	20	0.05	0.05	14.4
MMSZ4707	DV	19	20	21	0.05	0.01	15.2
MMSZ4708	DA	20.9	22	23.1	0.05	0.01	16.7
MMSZ4709	DZ	22.8	24	25.2	0.05	0.01	18.2
MMSZ4710	DY	23.8	25	26.3	0.05	0.01	19
MMSZ4711	EA	25.7	27	28.4	0.05	0.01	20.4
MMSZ4712	EC	26.6	28	29.4	0.05	0.01	21.2
MMSZ4713	ED	28.5	30	31.5	0.05	0.01	22.8
MMSZ4714	EE	31.4	33	34.7	0.05	0.01	25
MMSZ4715	EF	34.2	36	37.8	0.05	0.01	27.3
MMSZ4716	EH	37.1	39	41	0.05	0.01	29.6
MMSZ4717	EJ	40.9	43	45.2	0.05	0.01	32.6

Notes

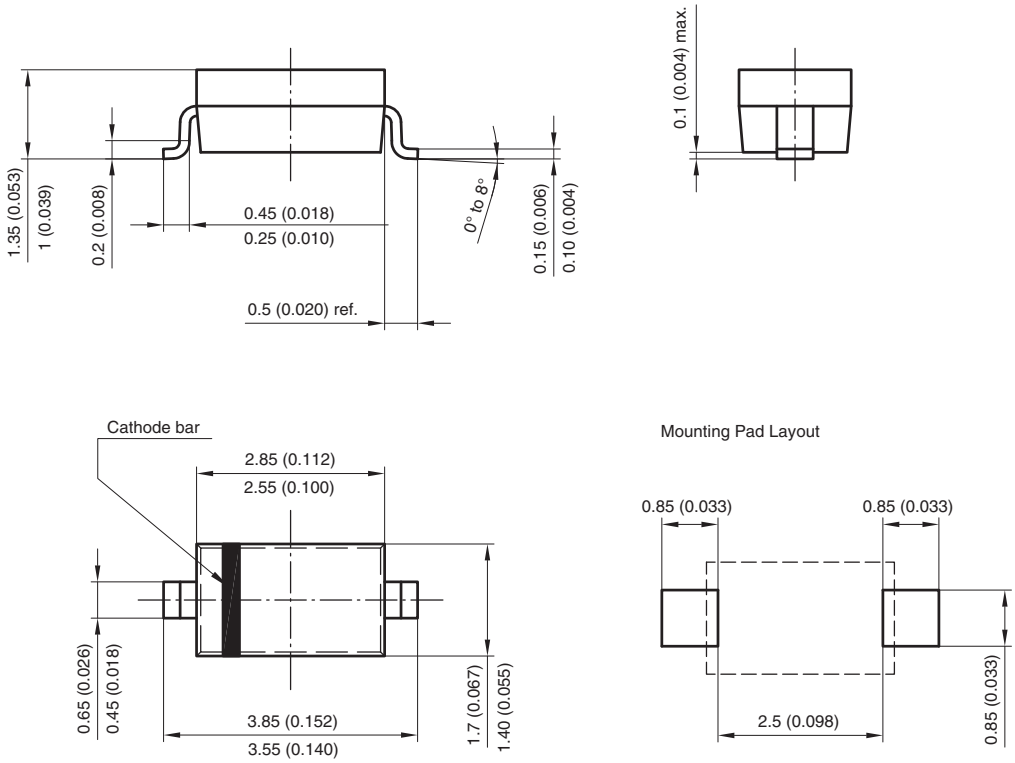
- Maximum V_F = 0.9 V at I_F = 10 mA

(1) Measured with device junction in thermal equilibrium

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Downloaded from Arrow.com.

PACKAGE DIMENSIONS in millimeters (inches): **SOD-123**



Rev. 4 - Date: 24. Sep. 2009
Document no.: S8-V-3910.01-001 (4)
17432

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Downloaded from Arrow.com.

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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

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.

© 2022 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED

Downloaded from Arrow.com.