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
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT

GREEN (5-2008)**

Note

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

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	
Int. construction	Single	

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

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD-123	9.4 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 “Characteristics”)				
Junction to ambient air	On FR - 4 or FR - 5 board with minimum recommended solder pad layou	R_{thJA}	340	K/W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	- 55 to + 150	°C

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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-V-G	TF	2.28	2.4	2.52	0.05	2	1
MMSZ4682-V-G	TH	2.57	2.7	2.84	0.05	1	1
MMSZ4683-V-G	TJ	2.85	3	3.15	0.05	0.8	1
MMSZ4684-V-G	TK	3.14	3.3	3.47	0.05	7.5	1.5
MMSZ4685-V-G	TM	3.42	3.6	3.78	0.05	7.5	2
MMSZ4686-V-G	TN	3.71	3.9	4.1	0.05	5	2
MMSZ4687-V-G	TP	4.09	4.3	4.52	0.05	4	2
MMSZ4688-V-G	TT	4.47	4.7	4.94	0.05	10	3
MMSZ4689-V-G	TU	4.85	5.1	5.36	0.05	10	3
MMSZ4690-V-G	TV	5.32	5.6	5.88	0.05	10	4
MMSZ4691-V-G	TA	5.89	6.2	6.51	0.05	10	5
MMSZ4692-V-G	TX	6.46	6.8	7.14	0.05	10	5.1
MMSZ4693-V-G	TY	7.13	7.5	7.88	0.05	10	5.7
MMSZ4694-V-G	TZ	7.79	8.2	8.61	0.05	1	6.2
MMSZ4695-V-G	UC	8.27	8.7	9.14	0.05	1	6.6
MMSZ4696-V-G	UD	8.65	9.1	9.56	0.05	1	6.9
MMSZ4697-V-G	UE	9.5	10	10.5	0.05	1	7.6
MMSZ4698-V-G	UF	10.5	11	11.6	0.05	0.05	8.4
MMSZ4699-V-G	UH	11.4	12	12.6	0.05	0.05	9.1
MMSZ4700-V-G	UJ	12.4	13	13.7	0.05	0.05	9.8
MMSZ4701-V-G	UK	13.3	14	14.7	0.05	0.05	10.6
MMSZ4702-V-G	UM	14.3	15	15.8	0.05	0.05	11.4
MMSZ4703-V-G	UN	15.2	16	16.8	0.05	0.05	12.1
MMSZ4704-V-G	UP	16.2	17	17.9	0.05	0.05	12.9
MMSZ4705-V-G	UT	17.1	18	18.9	0.05	0.05	13.6
MMSZ4706-V-G	UU	18.1	19	20	0.05	0.05	14.4
MMSZ4707-V-G	UV	19	20	21	0.05	0.01	15.2
MMSZ4708-V-G	UA	20.9	22	23.1	0.05	0.01	16.7
MMSZ4709-V-G	UZ	22.8	24	25.2	0.05	0.01	18.2
MMSZ4710-V-G	UY	23.8	25	26.3	0.05	0.01	19
MMSZ4711-V-G	ZA	25.7	27	28.4	0.05	0.01	20.4
MMSZ4712-V-G	ZC	26.6	28	29.4	0.05	0.01	21.2
MMSZ4713-V-G	ZD	28.5	30	31.5	0.05	0.01	22.8
MMSZ4714-V-G	ZE	31.4	33	34.7	0.05	0.01	25
MMSZ4715-V-G	ZF	34.2	36	37.8	0.05	0.01	27.3
MMSZ4716-V-G	ZH	37.1	39	41	0.05	0.01	29.6
MMSZ4717-V-G	ZJ	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

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BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

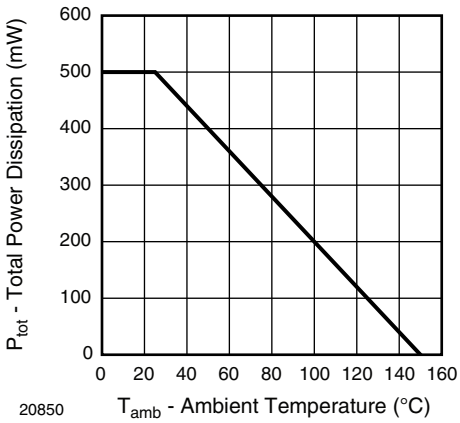

Fig. 1 - Total Power Dissipation vs. Ambient Temperature

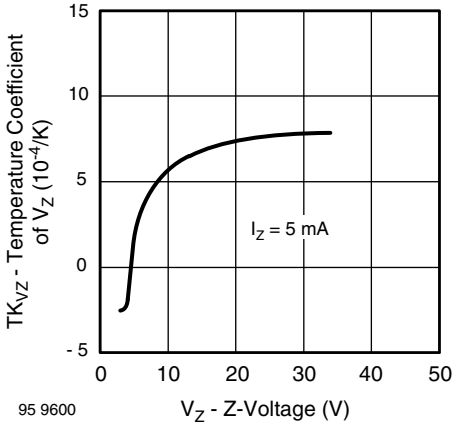

Fig. 4 - Temperature Coefficient of V_Z vs. Z-Voltage

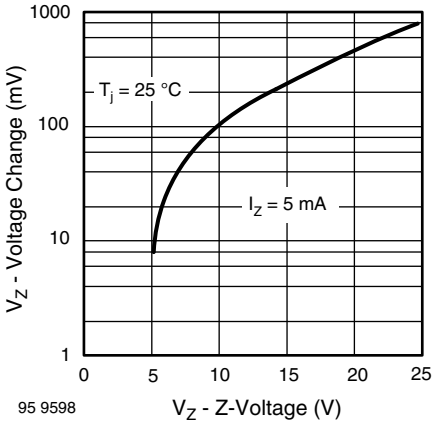

Fig. 2 - Typical Change of Working Voltage under Operating Conditions at T_{amb} = 25 °C

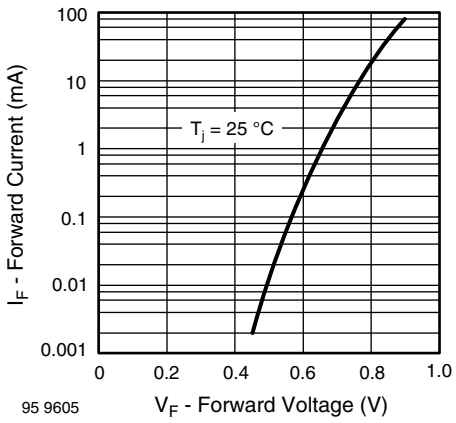

Fig. 5 - Forward Current vs. Forward Voltage

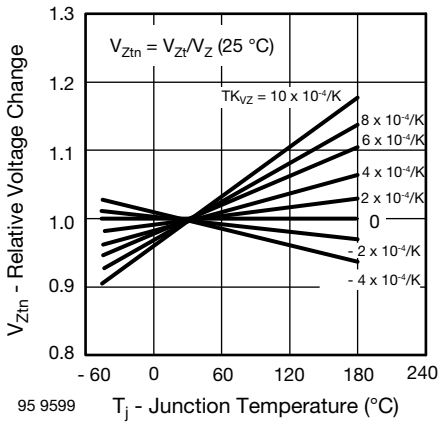

Fig. 3 - Typical Change of Working Voltage vs. Junction Temperature

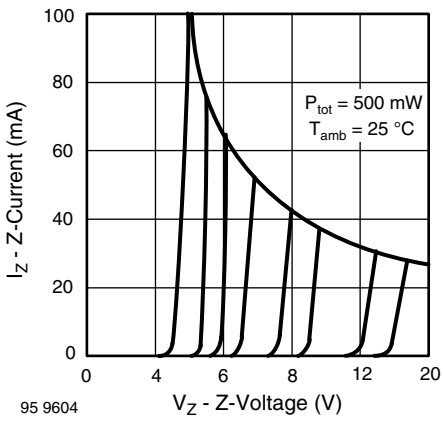

Fig. 6 - Z-Current vs. Z-Voltage

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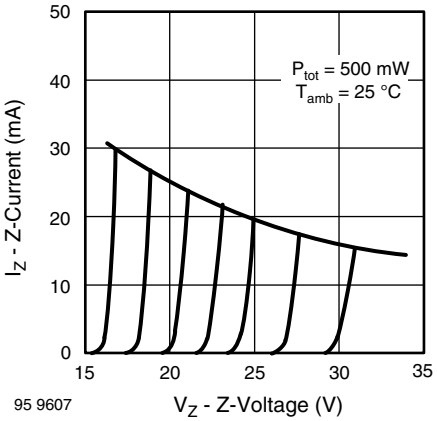


Fig. 7 - Z-Current vs. Z-Voltage

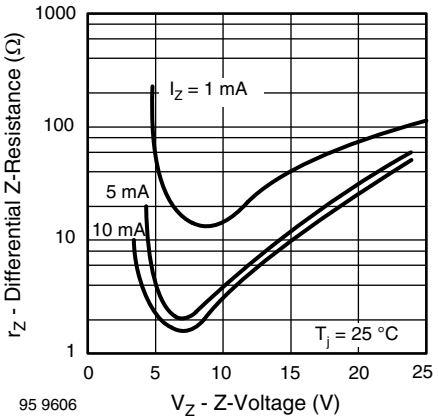
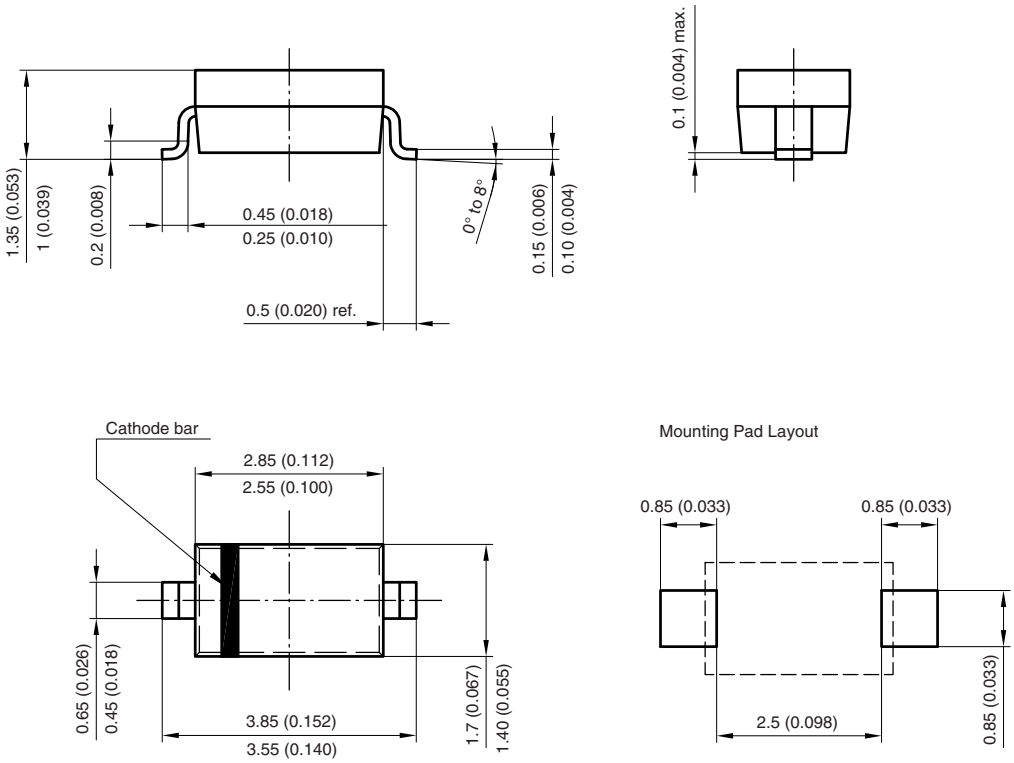


Fig. 8 - Differential Z-Resistance vs. Z-Voltage

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



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