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

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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

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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	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

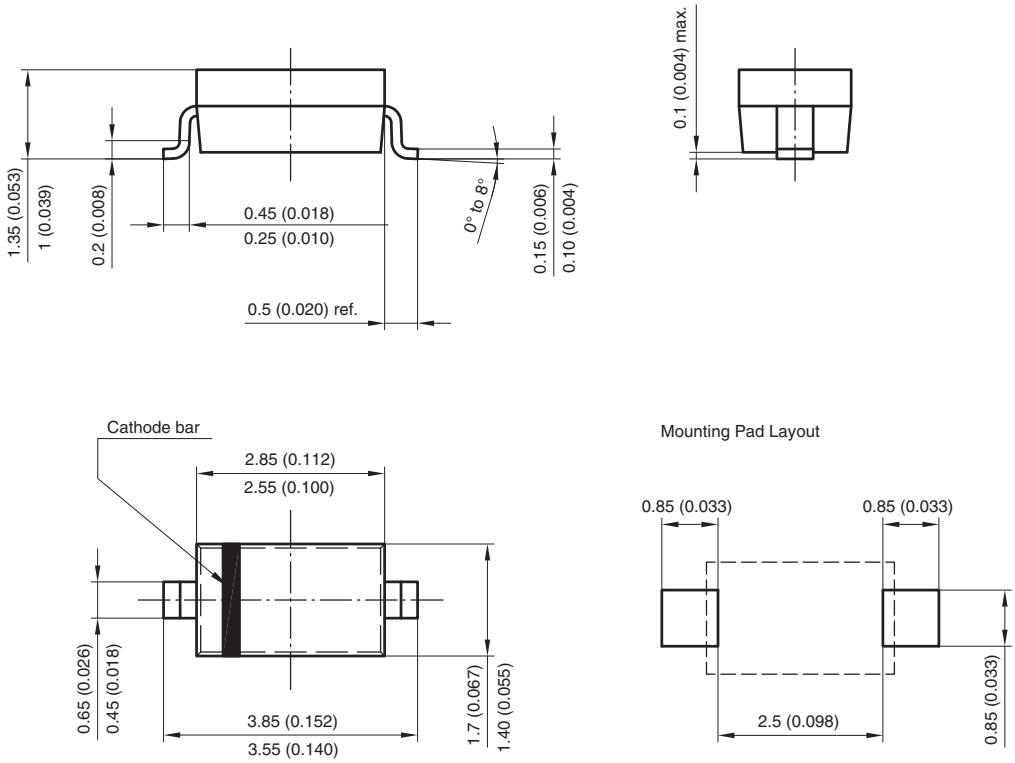
Notes

- Maximum V_F = 0.9 V at I_F = 10 mA

(1) Measured with device junction in thermal equilibrium

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



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