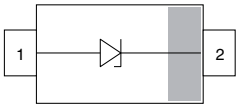
Small Signal Zener Diodes





FEATURES

- Silicon planar Zener diodes
- Standard Zener voltage tolerance is ± 5 %
- AEC-Q101 qualified available (part number on request)
- 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

Pb-free

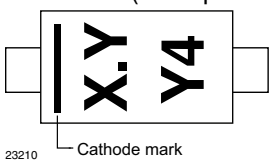
e3

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

MARKING (example only)



X.Y = type code
Y4 = date code

LINKS TO ADDITIONAL RESOURCES

3D Models

SPICE Models

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-G3-08 to MMSZ4717-G3-08	3000 (8 mm tape on 7" reel)	15 000/box
	MMSZ4681-G3-18 to MMSZ4717-G3-18	10 000 (8 mm tape on 13" reel)	10 000/box

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD-123	10.6 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	R_{thJL} = 250 K/W	P_{tot}	500	mW
	On FR-4 board with recommended soldering footprint	P_{tot}	300	mW
Thermal resistance junction to lead		R_{thJL}	250	K/W
Thermal resistance junction to ambient	According to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	R_{thJA}	420	K/W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-65 to +150	
Operating temperature range		T_{op}	-55 to +150	

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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-G	TF	2.28	2.4	2.52	0.05	2	1
MMSZ4682-G	TH	2.57	2.7	2.84	0.05	1	1
MMSZ4683-G	TJ	2.85	3	3.15	0.05	0.8	1
MMSZ4684-G	TK	3.14	3.3	3.47	0.05	7.5	1.5
MMSZ4685-G	TM	3.42	3.6	3.78	0.05	7.5	2
MMSZ4686-G	TN	3.71	3.9	4.1	0.05	5	2
MMSZ4687-G	TP	4.09	4.3	4.52	0.05	4	2
MMSZ4688-G	TT	4.47	4.7	4.94	0.05	10	3
MMSZ4689-G	TU	4.85	5.1	5.36	0.05	10	3
MMSZ4690-G	TV	5.32	5.6	5.88	0.05	10	4
MMSZ4691-G	TA	5.89	6.2	6.51	0.05	10	5
MMSZ4692-G	TX	6.46	6.8	7.14	0.05	10	5.1
MMSZ4693-G	TY	7.13	7.5	7.88	0.05	10	5.7
MMSZ4694-G	TZ	7.79	8.2	8.61	0.05	1	6.2
MMSZ4695-G	UC	8.27	8.7	9.14	0.05	1	6.6
MMSZ4696-G	UD	8.65	9.1	9.56	0.05	1	6.9
MMSZ4697-G	UE	9.5	10	10.5	0.05	1	7.6
MMSZ4698-G	UF	10.5	11	11.6	0.05	0.05	8.4
MMSZ4699-G	UH	11.4	12	12.6	0.05	0.05	9.1
MMSZ4700-G	UJ	12.4	13	13.7	0.05	0.05	9.8
MMSZ4701-G	UK	13.3	14	14.7	0.05	0.05	10.6
MMSZ4702-G	UM	14.3	15	15.8	0.05	0.05	11.4
MMSZ4703-G	UN	15.2	16	16.8	0.05	0.05	12.1
MMSZ4704-G	UP	16.2	17	17.9	0.05	0.05	12.9
MMSZ4705-G	UT	17.1	18	18.9	0.05	0.05	13.6
MMSZ4706-G	UU	18.1	19	20	0.05	0.05	14.4
MMSZ4707-G	UV	19	20	21	0.05	0.01	15.2
MMSZ4708-G	UA	20.9	22	23.1	0.05	0.01	16.7
MMSZ4709-G	UZ	22.8	24	25.2	0.05	0.01	18.2
MMSZ4710-G	UY	23.8	25	26.3	0.05	0.01	19
MMSZ4711-G	ZA	25.7	27	28.4	0.05	0.01	20.4
MMSZ4712-G	ZC	26.6	28	29.4	0.05	0.01	21.2
MMSZ4713-G	ZD	28.5	30	31.5	0.05	0.01	22.8
MMSZ4714-G	ZE	31.4	33	34.7	0.05	0.01	25
MMSZ4715-G	ZF	34.2	36	37.8	0.05	0.01	27.3
MMSZ4716-G	ZH	37.1	39	41	0.05	0.01	29.6
MMSZ4717-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 typ. R_{thJA} of 370 K/W

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

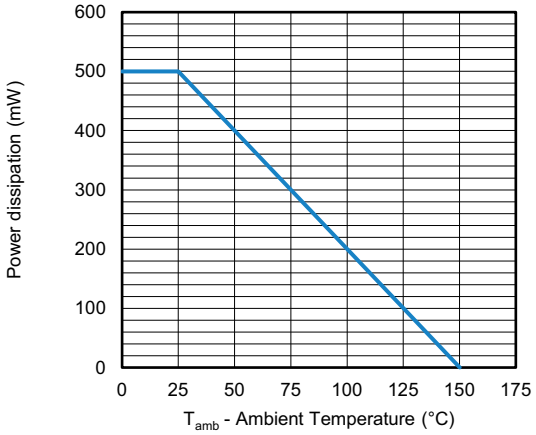


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

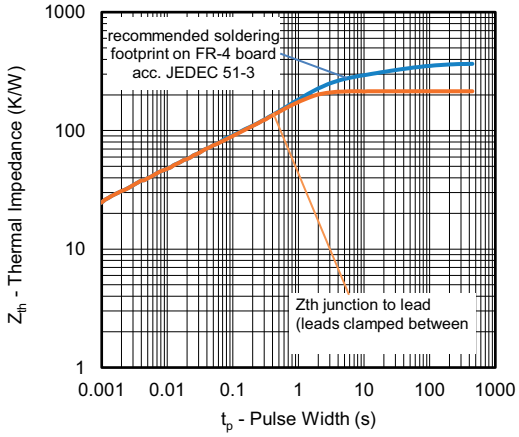
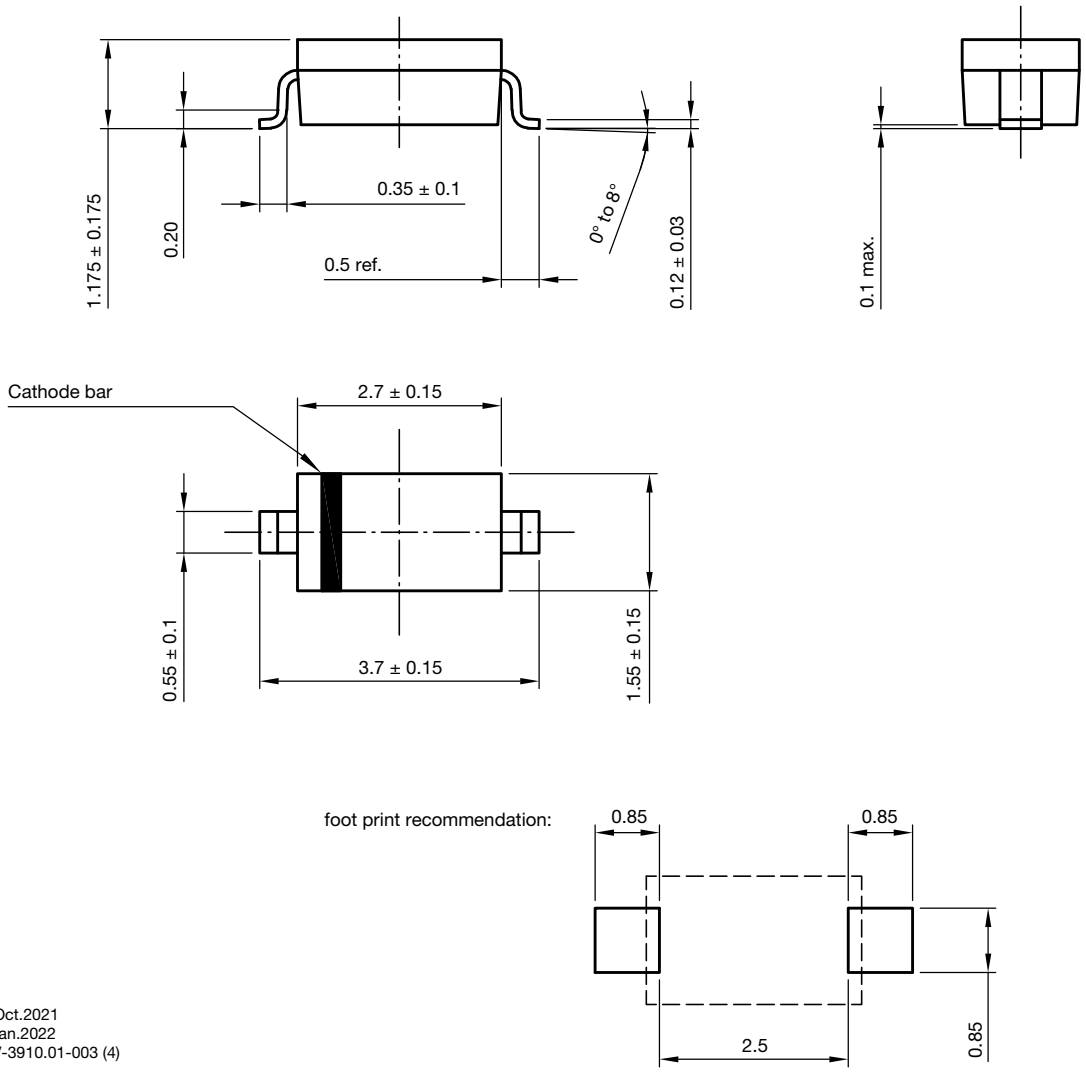


Fig. 2 - Thermal Impedance vs. Time

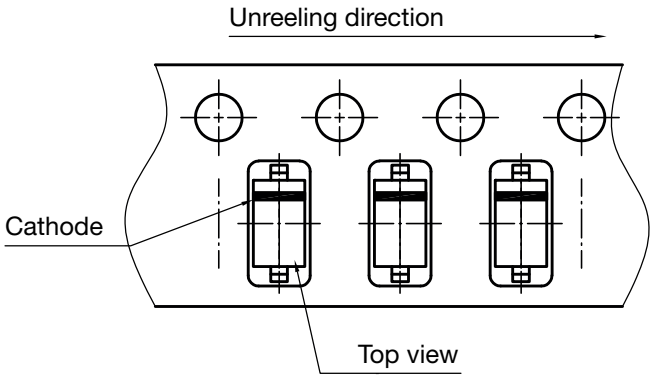
PACKAGE DIMENSIONS in millimeters (inches): SOD-123



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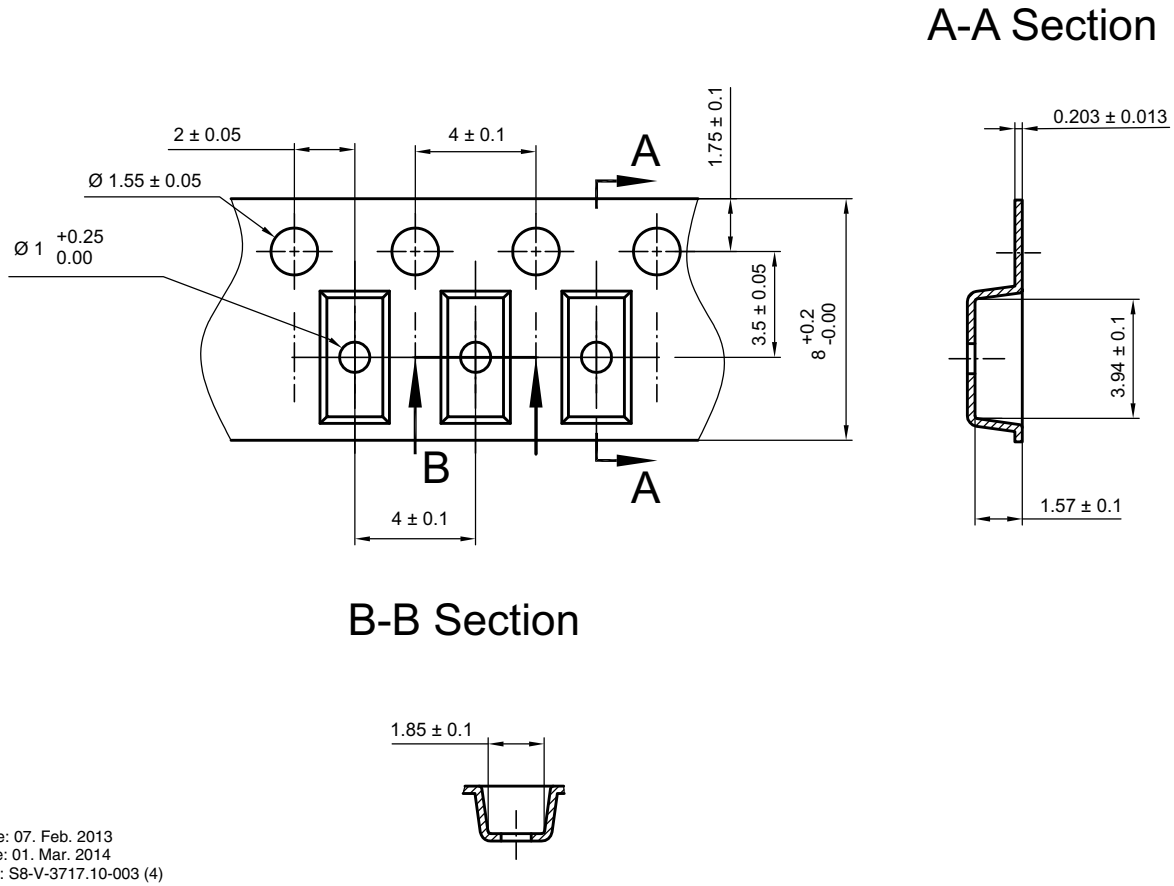
ORIENTATION IN CARRIER TAPE



SOD-123

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CARRIER TAPE



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