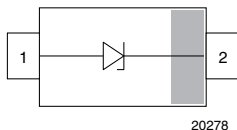


## Small Signal Zener Diodes



20278

### MARKING (example only)



X.Y = type code  
Y4 = date code

23210 Cathode mark

### LINKS TO ADDITIONAL RESOURCES



3D Models



Models

### FEATURES

- Silicon planar Zener diodes
- Standard Zener voltage tolerance is  $\pm 5\%$  with a "B" suffix (e.g.: MMSZ5225B-G), suffix "C" is  $\pm 2\%$  tolerance
- AEC-Q101 qualified available (part number on request)
- ESD capability according to AEC-Q101:  
Human body model  $> 8\text{ kV}$   
Machine model  $> 800\text{ V}$
- Base P/N-G3 - RoHS-compliant, commercial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

**HALOGEN**  
**FREE**
**GREEN**  
(5-2008)

### PRIMARY CHARACTERISTICS

PARAMETER	VALUE	UNIT
$V_Z$ range nom.	3.0 to 75	V
Test current $I_{ZT}$	1.7 to 20	mA
$V_Z$ specification	Thermal equilibrium	
Circuit configuration	Single	

### ORDERING INFORMATION

DEVICE NAME	ORDERING CODE	ZENER VOLTAGE TOLERANCE	AEC-Q101 QUALIFIED	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
MMSZ5225 to MMSZ5267	MMSZ5225B-G3-08 to MMSZ5267B-G3-08	5 %	no	3000 (8 mm tape on 7" reel)	15 000/box
	MMSZ5225C-G3-08 to MMSZ5267C-G3-08	2 %	no		
	MMSZ5225B-G3-18 to MMSZ5267B-G3-18	5 %	no	10 000 (8 mm tape on 13" reel)	10 000/box
	MMSZ5225C-G3-18 to MMSZ5267C-G3-18	2 %	no		

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	$R_{thJL} = 250\text{ K/W}$	$P_{tot}$	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	

**ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PART NUMBER	MARKING CODE		ZENER VOLTAGE RANGE <sup>(1)</sup>	TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE		TEMPERATURE COEFFICIENT
			$V_Z$ at $I_{ZT1}$	$I_{ZT1}$	$I_{ZT2}$	$I_R$ at $V_R$		$Z_Z$ at $I_{ZT1}$	$Z_{ZK}$ at $I_{ZT2}$	$\alpha_{VZ}$
			V	mA		$\mu\text{A}$	V	$\Omega$		%/ $^{\circ}\text{C}$
	$\pm 2\%$	$\pm 5\%$	NOM.			MAX.		MAX.	MAX.	TYP.
MMSZ5225-G	C.0	C0	3	20	0.25	50	1	30	1600	-0.06
MMSZ5226-G	D.6	D6	3.3	20	0.25	25	1	28	1600	-0.057
MMSZ5227-G	D.7	D7	3.6	20	0.25	15	1	24	1700	-0.056
MMSZ5228-G	D.8	D8	3.9	20	0.25	10	1	23	1900	-0.045
MMSZ5229-G	D.9	D9	4.3	20	0.25	5	1	22	2000	-0.029
MMSZ5230-G	D.0	D0	4.7	20	0.25	5	2	19	1900	0.00
MMSZ5231-G	E.6	E6	5.1	20	0.25	5	2	17	1600	0.00
MMSZ5232-G	E.7	E7	5.6	20	0.25	5	3	11	1600	0.032
MMSZ5233-G	E.8	E8	6	20	0.25	5	3.5	7	1600	0.035
MMSZ5234-G	E.9	E9	6.2	20	0.25	5	4	7	1000	0.039
MMSZ5235-G	E.0	E0	6.8	20	0.25	3	5	5	750	0.045
MMSZ5236-G	F.6	F6	7.5	20	0.25	3	6	6	500	0.052
MMSZ5237-G	F.7	F7	8.2	20	0.25	3	6.5	8	500	0.056
MMSZ5238-G	F.8	F8	8.7	20	0.25	3	6.5	8	600	0.058
MMSZ5239-G	F.9	F9	9.1	20	0.25	3	7	10	600	0.060
MMSZ5240-G	F.0	F0	10	20	0.25	3	8	17	600	0.064
MMSZ5241-G	H.6	H6	11	20	0.25	2	8.4	22	600	0.067
MMSZ5242-G	H.7	H7	12	20	0.25	1	9.1	30	600	0.070
MMSZ5243-G	H.8	H8	13	9.5	0.25	0.5	9.9	13	600	0.073
MMSZ5244-G	H.9	H9	14	9	0.25	0.1	10	15	600	0.076
MMSZ5245-G	H.0	H0	15	8.5	0.25	0.1	11	16	600	0.078
MMSZ5246-G	J.6	J6	16	7.8	0.25	0.1	12	17	600	0.080
MMSZ5247-G	J.7	J7	17	7.4	0.25	0.1	13	19	600	0.081
MMSZ5248-G	J.8	J8	18	7	0.25	0.1	14	21	600	0.082
MMSZ5249-G	J.9	J9	19	6.6	0.25	0.1	14	23	600	0.083
MMSZ5250-G	J.0	J0	20	6.2	0.25	0.1	15	25	600	0.084
MMSZ5251-G	K.6	K6	22	5.6	0.25	0.1	17	29	600	0.085
MMSZ5252-G	K.7	K7	24	5.2	0.25	0.1	18	33	600	0.087
MMSZ5253-G	K.8	K8	25	5	0.25	0.1	19	35	600	0.088
MMSZ5254-G	K.9	K9	27	4.6	0.25	0.1	21	41	600	0.09
MMSZ5255-G	K.0	K0	28	4.5	0.25	0.1	21	44	600	0.091
MMSZ5256-G	M.6	M6	30	4.2	0.25	0.1	23	49	600	0.092
MMSZ5257-G	M.7	M7	33	3.8	0.25	0.1	25	58	700	0.092
MMSZ5258-G	M.8	M8	36	3.4	0.25	0.1	27	70	700	0.093
MMSZ5259-G	M.9	M9	39	3.2	0.25	0.1	30	80	800	0.094
MMSZ5260-G	M.0	M0	43	3	0.25	0.1	33	93	900	0.095
MMSZ5261-G	N.6	N6	47	2.7	0.25	0.1	36	105	1000	0.095
MMSZ5262-G	N.7	N7	51	2.5	0.25	0.1	39	125	1100	0.096
MMSZ5263-G	N.8	N8	56	2.2	0.25	0.1	43	150	1300	0.096
MMSZ5264-G	N.9	N9	60	2.1	0.25	0.1	46	170	1400	0.097
MMSZ5265-G	N.0	N0	62	2	0.25	0.1	47	185	1400	0.097
MMSZ5266-G	P.6	P6	68	1.8	0.25	0.1	52	230	1600	0.097
MMSZ5267-G	P.7	P7	75	1.7	0.25	0.1	56	270	1700	0.098

**Notes**

- Maximum  $V_F = 0.9\text{ V}$ , at  $I_F = 10\text{ mA}$
- (1) Measured with device junction in thermal equilibrium with typ.  $R_{thJA}$  of 370 K/W



**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

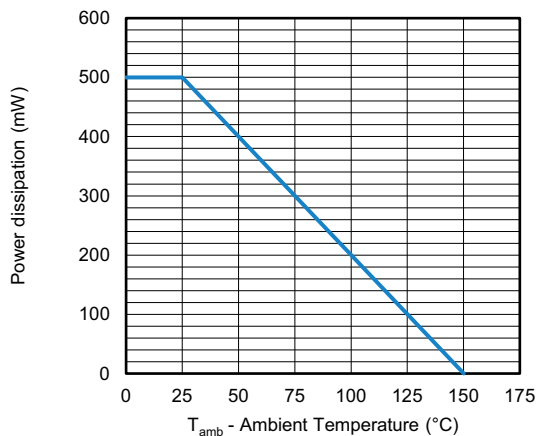


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

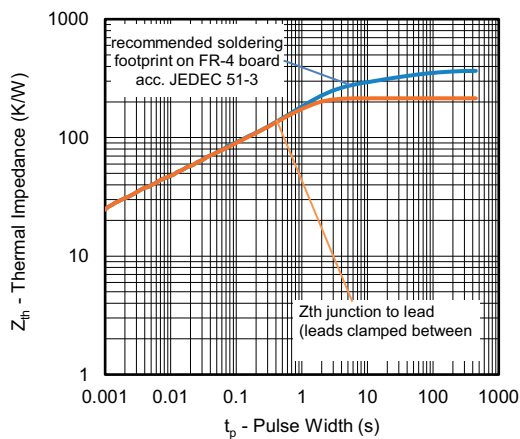
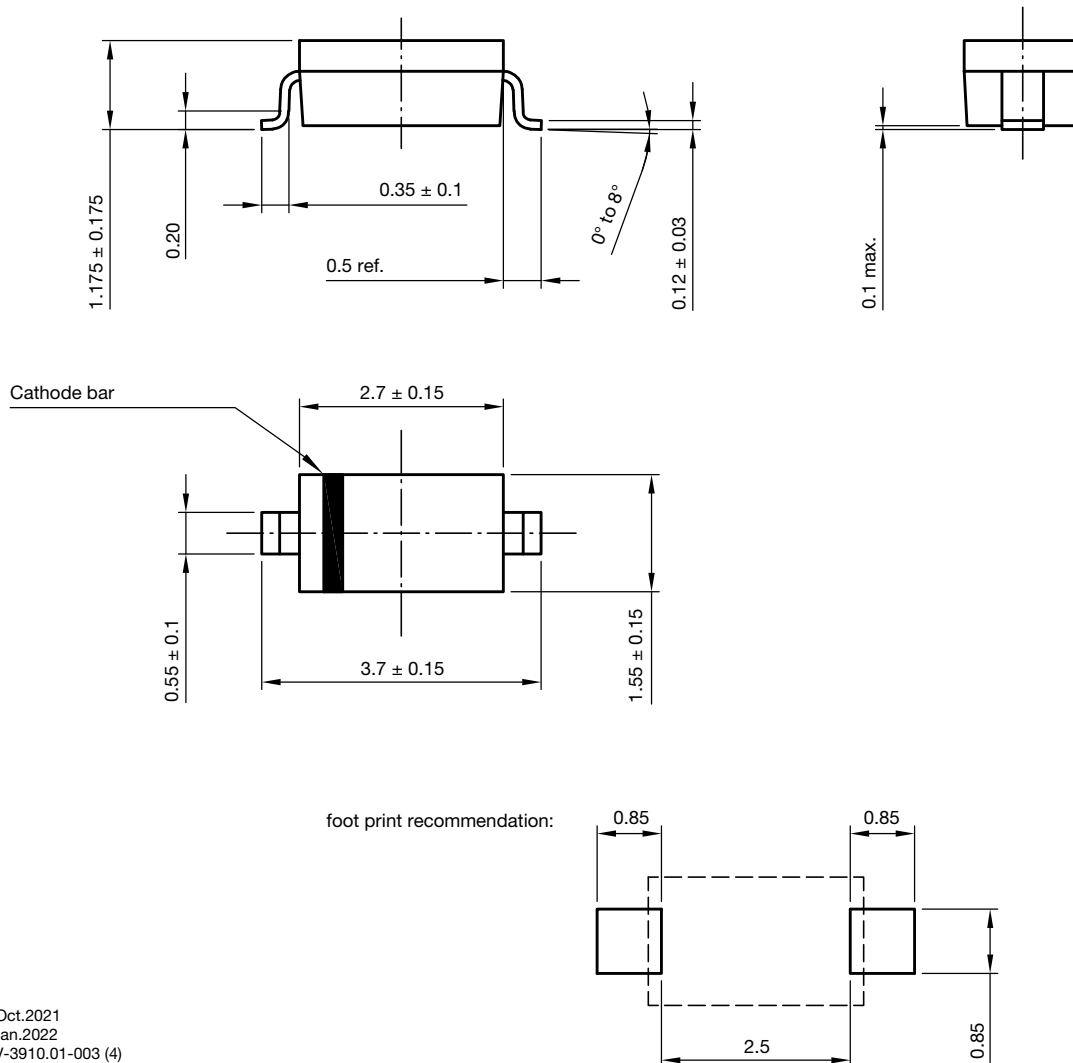


Fig. 2 - Thermal Impedance vs. Time



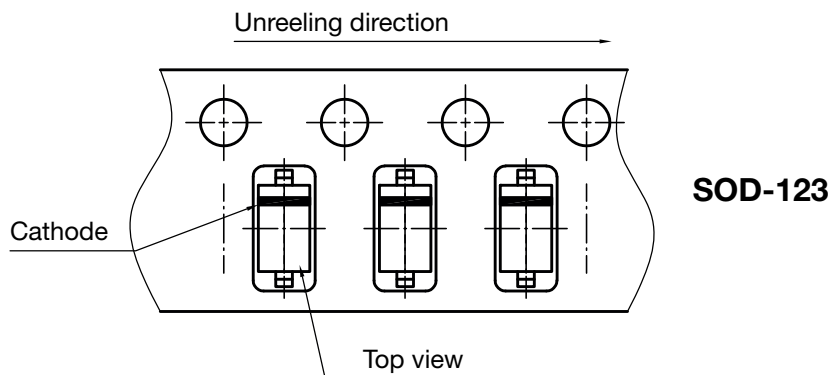
## PACKAGE DIMENSIONS in millimeters (inches): SOD-123



Created - Date: 18.Oct.2021  
Rev. 01 - Date: 18.Jan.2022  
Document no.: S8-V-3910.01-003 (4)

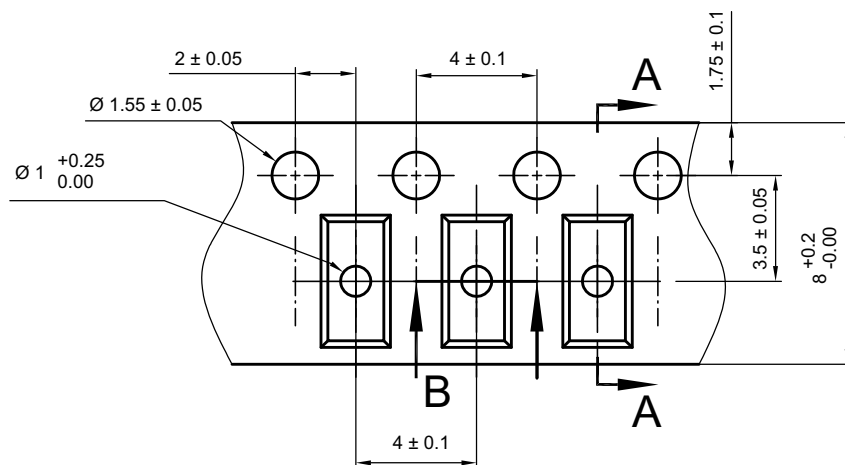


**ORIENTATION IN CARRIER TAPE**

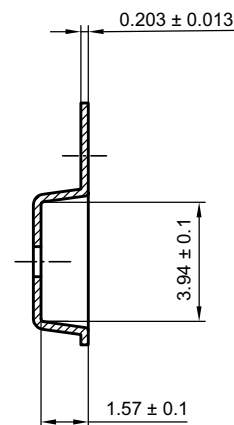


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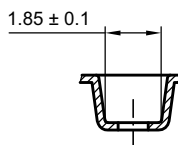
**CARRIER TAPE**



**A-A Section**



**B-B Section**



Created - Date: 07. Feb. 2013  
Rev. 01 - Date: 01. Mar. 2014  
Document no.: S8-V-3717.10-003 (4)



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