

Surface mount zener diode

MMSZ2V4-MMSZ56

FEATURES

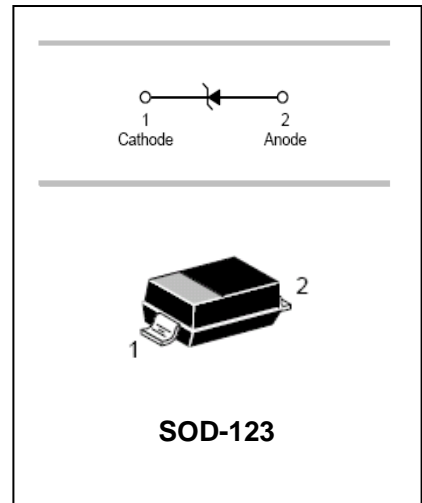
- Planar die construction.
- 500mW power dissipation.
- General purpose, medium current.
- Ideally suited for automated assembly processes.



Lead-free

APPLICATIONS

- Zener diode.
- Ultra-small surface mount package.



ORDERING INFORMATION

Type No.	Marking	Package Code
MMSZ2V4-MMSZ56	See table 2	SOD-123

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I _F =10mA	V _F	0.95	V
Power Dissipation	P _d	500	mW
Thermal resistance, junction to ambient air	R _{θjA}	340	°C/W
Junction temperature	T _j	150	°C
Storage temperature range	T _{stg}	-55 to +150	°C



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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Type Number	Type Code	Zener Voltage Range			Z _{ZT1}	Zener Voltage Range		Z _{ZT2}	Leakage Current	
		V _Z @I _{ZT1} =5mA				V _Z @I _{ZT2} =1mA			I _R @V _R	
		Min(V)	Nom(V)	Max(V)	Ω	Min(V)	Max(V)	Ω	μA	V
MMSZ2V4	T1	2.28	2.4	2.52	100	1.7	2.1	600	50	1
MMSZ2V7	T2	2.57	2.7	2.84	100	1.9	2.4	600	20	1
MMSZ3V0	T3	2.85	3.0	3.15	95	2.1	2.7	600	10	1
MMSZ3V3	T4	3.14	3.3	3.47	95	2.3	2.9	600	5	1
MMSZ3V6	T5	3.42	3.6	3.78	90	2.7	3.3	600	5	1
MMSZ3V9	U1	3.71	3.9	4.10	90	2.9	3.5	600	3	1
MMSZ4V3	U2	4.09	4.3	4.52	90	3.3	4.0	600	3	1
MMSZ4V7	U3	4.47	4.7	4.94	80	3.7	4.7	500	3	2
MMSZ5V1	U4	4.85	5.1	5.36	60	4.2	5.3	480	2	2
MMSZ5V6	U5	5.32	5.6	5.88	40	4.8	6.0	400	1	2
MMSZ6V2	V1	5.89	6.2	6.51	10	5.6	6.6	150	3	4
MMSZ6V8	V2	6.46	6.8	7.14	15	6.3	7.2	80	2	4
MMSZ7V5	V3	7.13	7.5	7.88	15	6.9	7.9	80	1	5
MMSZ8V2	V4	7.79	8.2	8.61	15	7.6	8.7	80	0.7	5
MMSZ9V1	V5	8.65	9.1	9.56	15	8.4	9.6	100	0.5	6
MMSZ10	A1	9.50	10	10.50	20	9.3	10.6	150	0.2	7
MMSZ11	A2	10.45	11	11.55	20	10.2	11.6	150	0.1	8
MMSZ12	A3	11.40	12	12.60	25	11.2	12.7	150	0.1	8
MMSZ13	A4	12.35	13	13.65	30	12.3	14.0	170	0.1	8
MMSZ15	A5	14.25	15	15.75	30	13.7	15.5	200	0.05	10.5
MMSZ16	X1	15.20	16	16.80	40	15.2	17.0	200	0.05	11.2
MMSZ18	X2	17.10	18	18.90	45	16.7	19.0	225	0.05	12.6
MMSZ20	X3	19.00	20	21.00	55	18.7	21.1	225	0.05	14
MMSZ22	X4	20.90	22	23.10	55	20.7	23.2	250	0.05	15.4
MMSZ24	X5	22.80	24	25.20	70	22.7	25.5	250	0.05	16.8
MMSZ27	Y1	25.65	27	28.35	80	25	28.9	300	0.05	18.9
MMSZ30	Y2	28.05	30	31.50	80	27.8	32	300	0.05	21

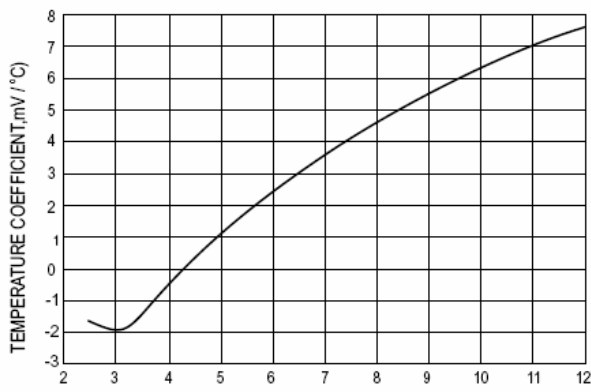


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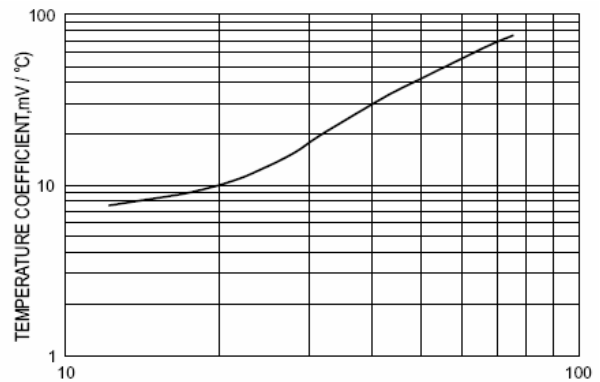
Type Number	Type Code	Zener Voltage Range			Z_{ZT1}	Zener Voltage Range		Z_{ZT2}	Leakage Current	
		$V_z @ I_{ZT1}=5mA$				$V_z @ I_{ZT2}=1mA$			$I_R @ V_R$	
		Min(V)	Nom(V)	Max(V)	Ω	Min(V)	Max(V)	Ω	μA	V
MMSZ33	Y3	31.35	33	34.65	80	30.8	35	325	0.05	23.1
MMSZ36	Y4	34.20	36	37.80	90	33.8	38	350	0.05	25.2
MMSZ39	Y5	37.05	39	40.95	130	36.7	41	350	0.05	27.3
MMSZ43	Z1	40.85	43	45.15	150	39.7	46	375	0.05	30.1
MMSZ47	Z2	44.65	47	49.35	170	43.7	50	375	0.05	32.9
MMSZ51	Z3	48.45	51	53.55	180	47.6	54	400	0.05	35.7
MMSZ56	Z4	53.2	56	58.8	200	51.5	60	425	0.05	39.2

TYPICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified



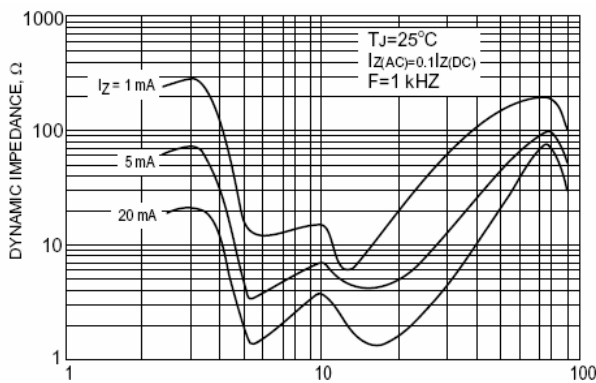
NOMINAL ZENER VOLTAGE, Volts

TYPICAL REVERSE CURRENT



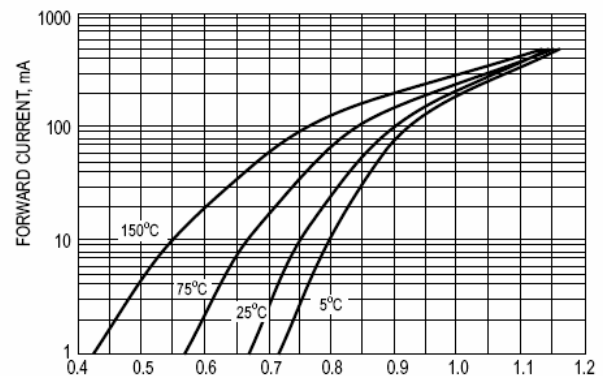
NOMINAL ZENER VOLTAGE, Volts

STEADY STATE POWER DERATING



NORMAL ZENER VOLTAGE, Volts

EFFECT OF ZENER VOLTAGE ON ZENER IMPERANCE



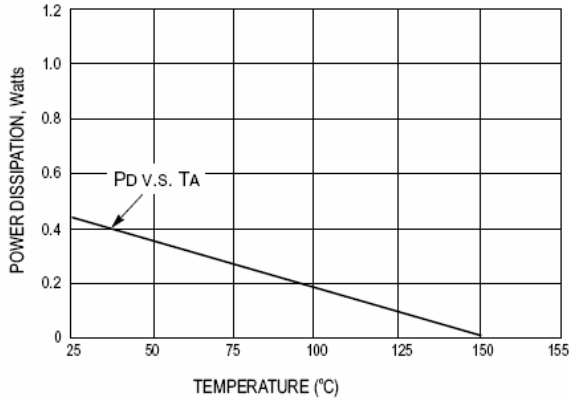
FORWARD VOLTAGE, Volts

TYPICAL FORWARD VOLTAGE

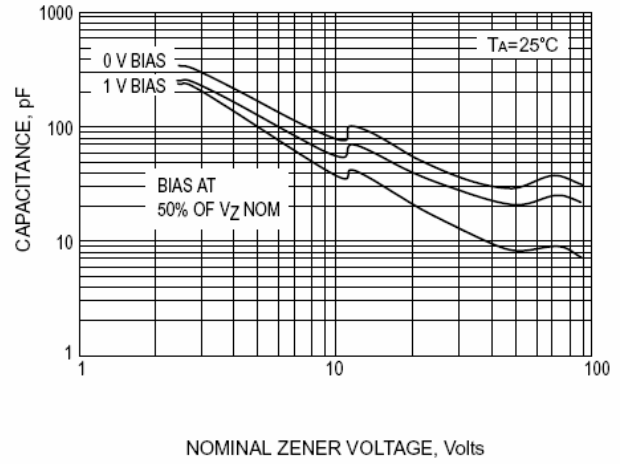


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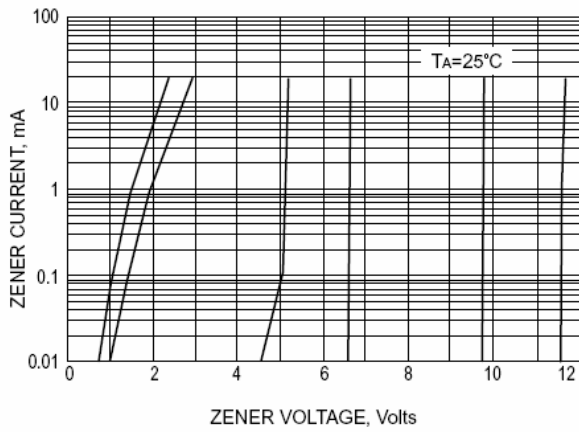
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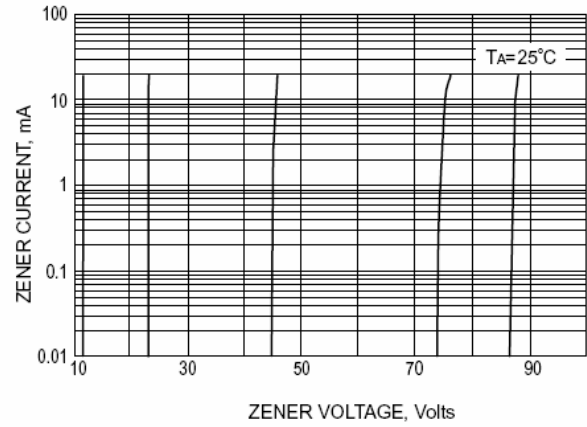
STEADY STATE POWER DERATING



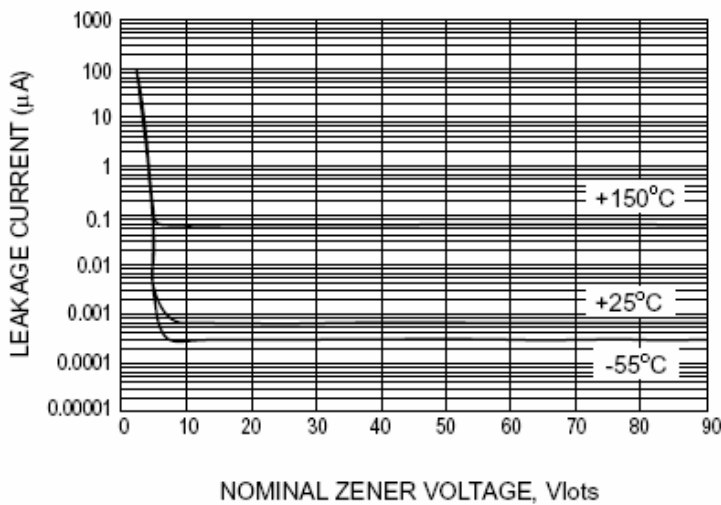
TYPICAL CAPACITANCE



ZENER VOLTAGE V.S ZENER CURRENT



ZENER VOLTAGE V.S ZENER CURRENT



TYPICAL LEAKGE CURRENT

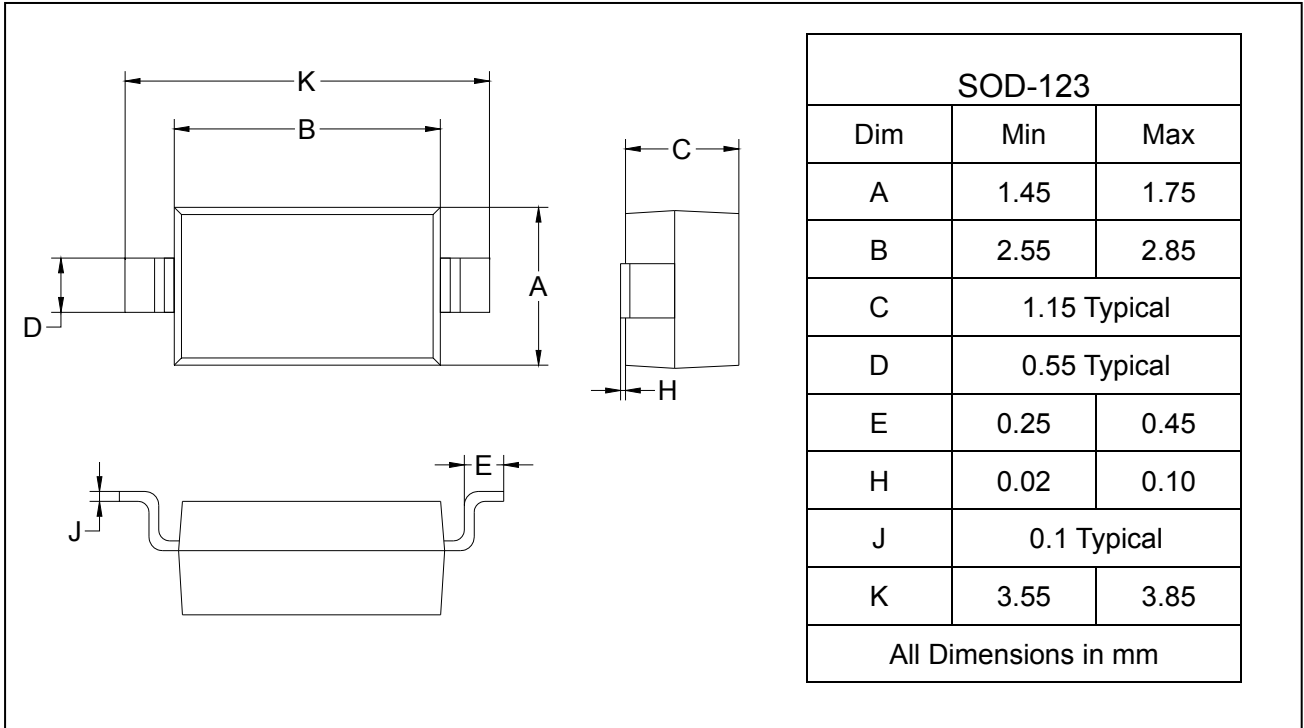
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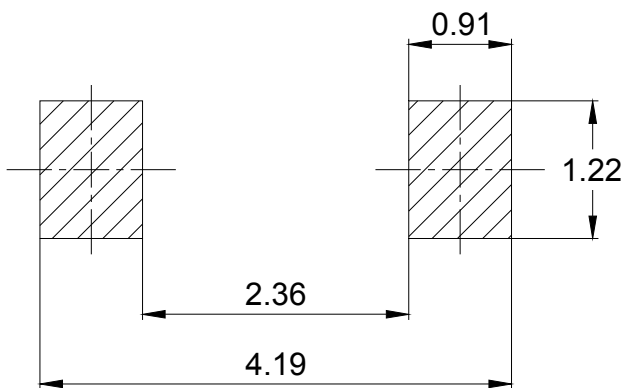
PACKAGE OUTLINE

Plastic surface mounted package

SOD-123



SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
MMSZ2V4-MMSZ56	SOD-123	3000/Tape&Reel