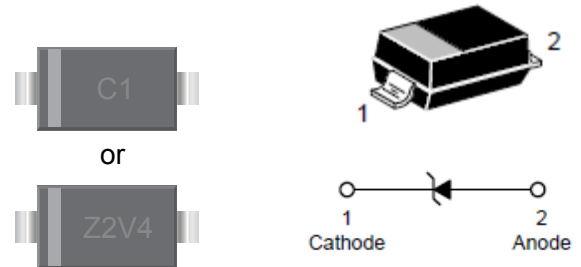


**500mW SURFACE MOUNT SILICON ZENER DIODES 2.4V ~ 75V**

PRIMARY CHARACTERISTICS	
$P_D$	500mW
$V_Z$	2.4V~75V
$I_{ZT}$	Please refer to the specification
$T_{J,Max}$	150°C

**SOD-123 PACKAGE**

Marking Code : Please refer to the specification  
Ex : MMSZ5221B



**FEATURES**

- Planar Die Construction
- Ultra-Small Surface Mount Package
- General purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- Moisture Sensitivity Level 1

**MECHANICAL DATA**

- Case : Molded plastic, SOD-123
- Polarity : As Above Marked
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Epoxy : UL94-V0 rated flame retardant

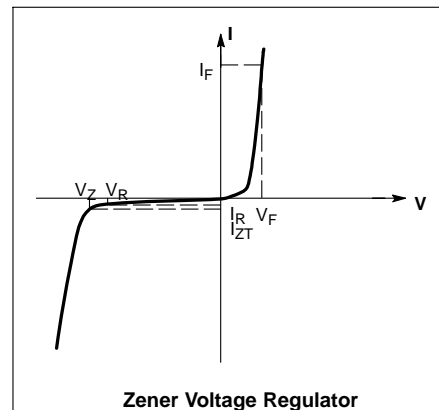
**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation at $T_a=25^\circ\text{C}$ (Note 1)	$P_{TOT}$	500	mW
Operating Junction and Storage Temperature	$T_J, T_S$	-55 to +150	°C

Note: 1. Mounted on 5.0mm<sup>2</sup>(.013mm thick)

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted,  $V_F=0.9\text{V Max. @ } I_F=10\text{mA}$ )

Symbol	Parameter
$V_Z$	Reverse Zener Voltage @ $I_{ZT}$
$I_{ZT}$	Reverse Current
$Z_{ZT}$	Maximum Zener Impedance @ $I_{ZT}$
$I_{ZK}$	Reverse Current
$Z_{ZK}$	Maximum Zener Impedance @ $I_{ZK}$
$I_R$	Reverse Leakage Current @ $V_R$
$V_R$	Reverse Voltage
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



Part No.	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking Code	Case
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>			
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V		
MMSZ5221B	2.4	2.28	2.52	30	20.0	1200	0.25	100	1.0	C1/Z2V4	SOD-123
MMSZ5222B	2.5	2.38	2.63	30	20.0	1250	0.25	100	1.0	C2/Z2V5	SOD-123
MMSZ5223B	2.7	2.57	2.84	30	20.0	1300	0.25	75	1.0	C3/Z2V7	SOD-123
MMSZ5225B	3.0	2.85	3.15	30	20.0	1600	0.25	50	1.0	C5/Z3V0	SOD-123
MMSZ5226B	3.3	3.14	3.47	28	20.0	1600	0.25	25	1.0	D1/G1/Z3V3	SOD-123
MMSZ5227B	3.6	3.42	3.78	24	20.0	1700	0.25	15	1.0	D2/G2/Z3V6	SOD-123
MMSZ5228B	3.9	3.71	4.10	23	20.0	1900	0.25	10	1.0	D3/G3/Z3V9	SOD-123
MMSZ5229B	4.3	4.09	4.52	22	20.0	2000	0.25	5.0	1.0	D4/G4/Z4V3	SOD-123
MMSZ5230B	4.7	4.47	4.94	19	20.0	1900	0.25	5.0	2.0	D5/G5/Z4V7	SOD-123
MMSZ5231B	5.1	4.85	5.36	17	20.0	1600	0.25	5.0	2.0	E1/Z5V1	SOD-123
MMSZ5232B	5.6	5.32	5.88	11	20.0	1600	0.25	5.0	3.0	E2/Z5V6	SOD-123
MMSZ5233B	6.0	5.70	6.30	7	20.0	1600	0.25	5.0	3.5	E3/Z6V0	SOD-123
MMSZ5234B	6.2	5.89	6.51	7	20.0	1000	0.25	5.0	4.0	E4/Z6V2	SOD-123
MMSZ5235B	6.8	6.46	7.14	5	20.0	750	0.25	3.0	5.0	E5/Z6V8	SOD-123
MMSZ5236B	7.5	7.13	7.88	6	20.0	500	0.25	3.0	6.0	F1/Z7V5	SOD-123
MMSZ5237B	8.2	7.79	8.61	8	20.0	500	0.25	3.0	6.0	F2/Z8V2	SOD-123
MMSZ5238B	8.7	8.27	9.14	8	20.0	600	0.25	3.0	6.5	F3/Z8V7	SOD-123
MMSZ5239B	9.1	8.65	9.56	10	20.0	600	0.25	3.0	6.5	F4/Z9V1	SOD-123
MMSZ5240B	10.0	9.50	10.50	17	20.0	600	0.25	3.0	8.0	F5/Z10	SOD-123
MMSZ5241B	11.0	10.45	11.55	22	20.0	600	0.25	2.0	8.4	H1/Z11	SOD-123
MMSZ5242B	12.0	11.40	12.60	30	20.0	600	0.25	1.0	9.1	H2/Z12	SOD-123
MMSZ5243B	13.0	12.35	13.65	13	9.5	600	0.25	0.5	9.9	H3/Z13	SOD-123
MMSZ5244B	14.0	13.30	14.70	15	9.0	600	0.25	0.1	10.5	H4/Z14	SOD-123
MMSZ5245B	15.0	14.25	15.75	16	8.5	600	0.25	0.1	11.0	H5/Z15	SOD-123
MMSZ5246B	16.0	15.20	16.80	17	7.8	600	0.25	0.1	12.0	J1/Z16	SOD-123
MMSZ5247B	17.0	16.15	17.85	19	7.5	600	0.25	0.1	13.0	J2/Z17	SOD-123
MMSZ5248B	18.0	17.10	18.90	21	7.0	600	0.25	0.1	14.0	J3/Z18	SOD-123
MMSZ5250B	20.0	19.00	21.00	25	6.2	600	0.25	0.1	15.0	J5/Z20	SOD-123
MMSZ5251B	22.0	20.90	23.10	29	5.6	600	0.25	0.1	17.0	K1/Z22	SOD-123
MMSZ5252B	24.0	22.80	25.20	33	5.2	600	0.25	0.1	18.0	K2/Z24	SOD-123
MMSZ5253B	25.0	23.75	26.25	35	5.0	600	0.25	0.1	19.0	K3/Z25	SOD-123
MMSZ5254B	27.0	25.65	28.35	41	5.0	600	0.25	0.1	21.0	K4/Z27	SOD-123
MMSZ5255B	28.0	26.60	29.40	44	4.5	600	0.25	0.1	21.0	K5Z28	SOD-123
MMSZ5256B	30.0	28.50	31.50	49	4.2	600	0.25	0.1	23.0	M1/Z30	SOD-123
MMSZ5257B	33.0	31.35	34.65	58	3.8	700	0.25	0.1	25.0	M2/Z33	SOD-123
MMSZ5258B	36.0	34.20	37.80	70	3.4	700	0.25	0.1	27.0	M3/Z36	SOD-123
MMSZ5259B	39.0	37.05	40.95	80	3.2	800	0.25	0.1	30.0	M4/Z39	SOD-123
MMSZ5260B	43.0	40.85	45.15	93	3.0	900	0.25	0.1	33.0	M5/Z43	SOD-123
MMSZ5261B	47.0	44.65	49.35	105	2.7	1000	0.25	0.1	36.0	N1/Z47	SOD-123
MMSZ5262B	51.0	48.45	53.55	125	2.5	1100	0.25	0.1	39.0	N2/Z51	SOD-123
MMSZ5263B	56.0	53.20	58.80	150	2.2	1300	0.25	0.1	43.0	N3/Z56	SOD-123
MMSZ5264B	60.0	57.00	63.00	170	2.1	1400	0.25	0.1	46.0	N4/Z60	SOD-123
MMSZ5265B	62.0	58.90	65.10	185	2.0	1500	0.25	0.1	47.0	N5/Z62	SOD-123
MMSZ5266B	68.0	64.60	71.40	230	1.8	1600	0.25	0.1	52.0	N6/P1/Z68	SOD-123
MMSZ5267B	75.0	71.25	78.75	270	1.7	1700	0.25	0.1	56.0	N7/P2/Z75	SOD-123

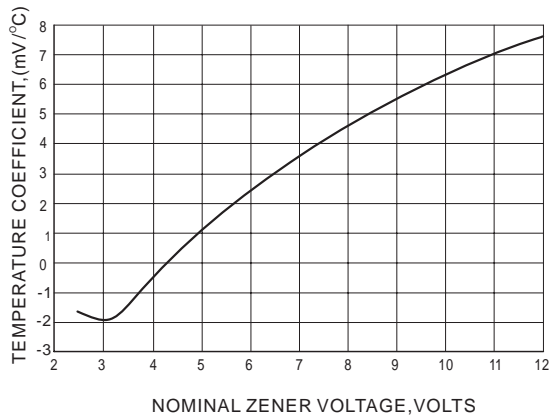


Fig.1 TEMPERATURE COEFFICIENTS

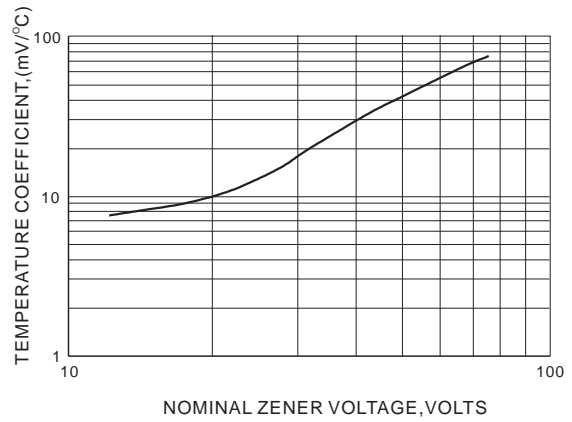


Fig.2 TEMPERATURE COEFFICIENTS

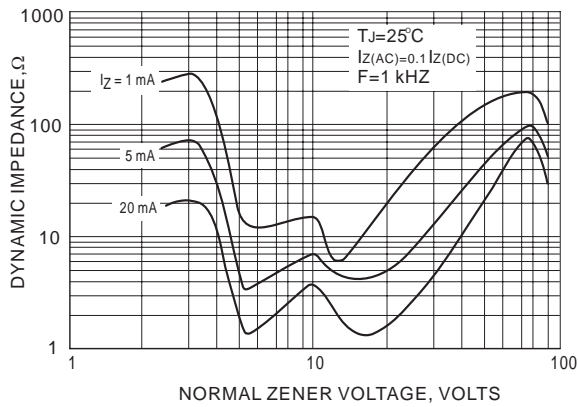


Fig.3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

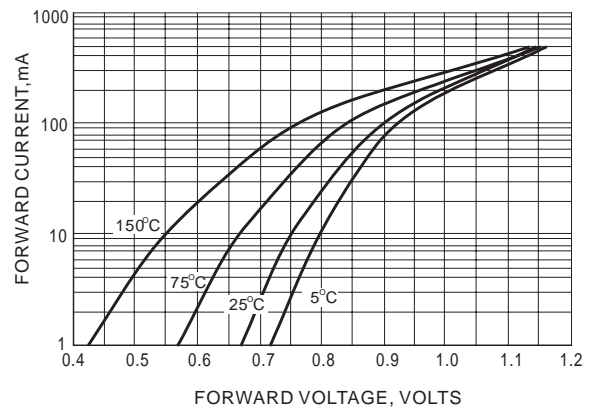


Fig.4 TYPICAL FORWARD VOLTAGE

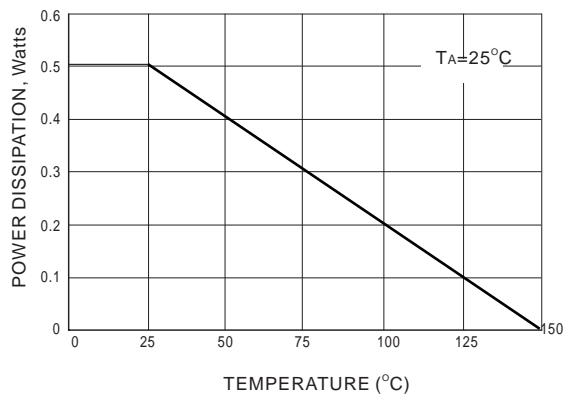


Fig.5 STEADY STATE POWER DERATING

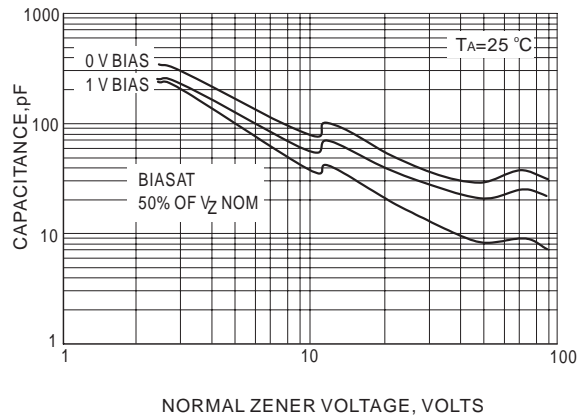


Fig.6 TYPICAL CAPACITANCE

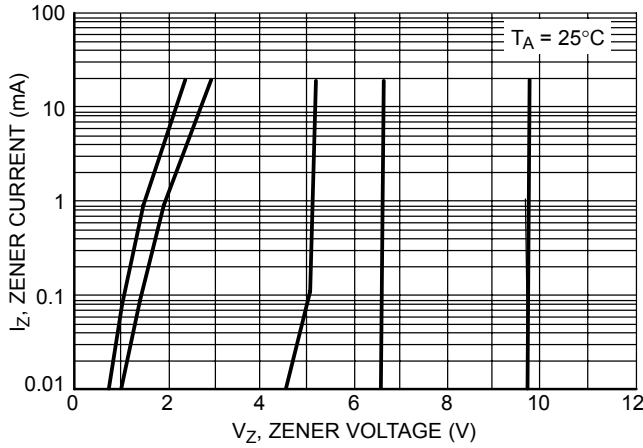


Fig. 7 ZENER VOLTAGE VERSUS ZENER CURRENT

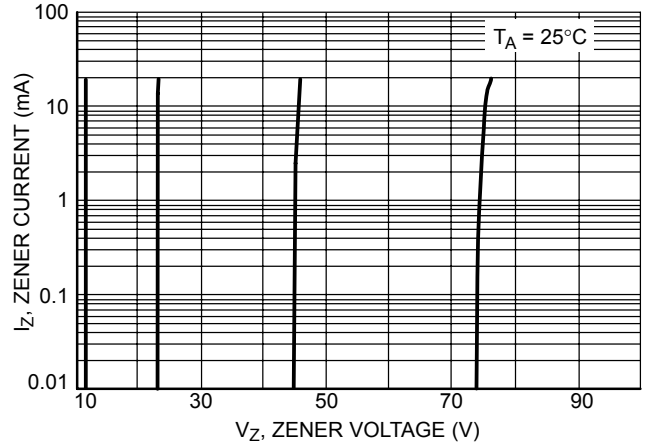


Fig. 8 ZENER VOLTAGE VERSUS ZENER CURRENT

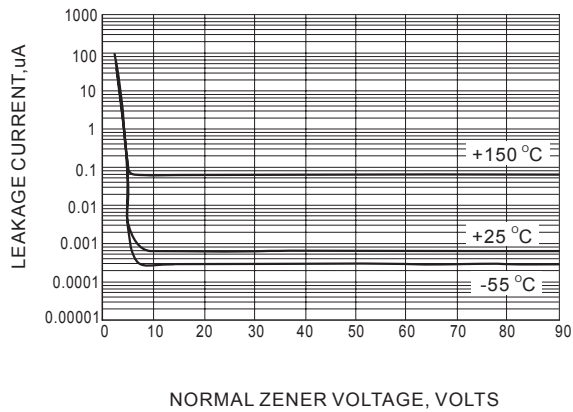
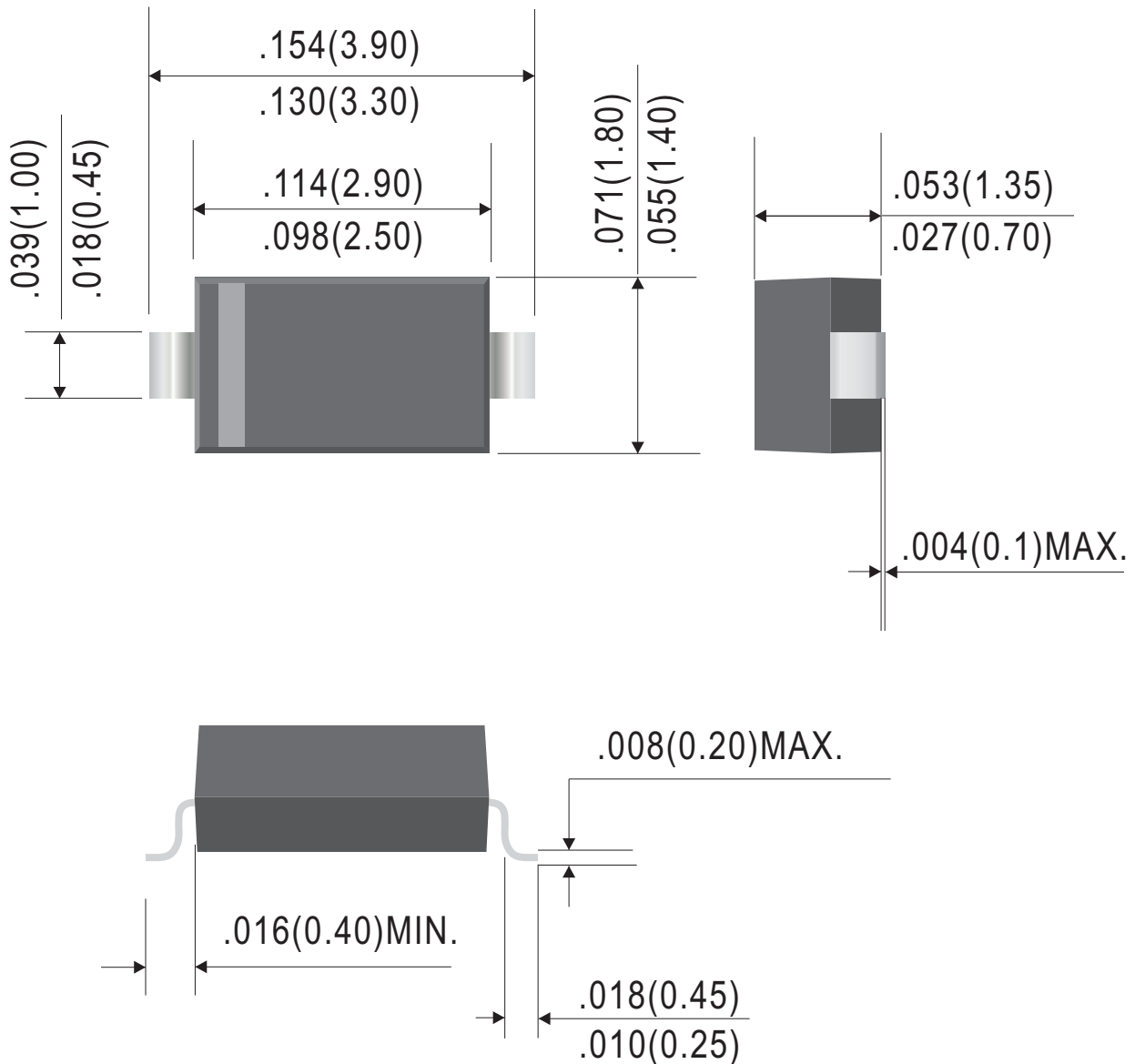


Fig. 9 TYPICAL LEAKAGE CURRENT

# Outline Drawing

# SOD-123

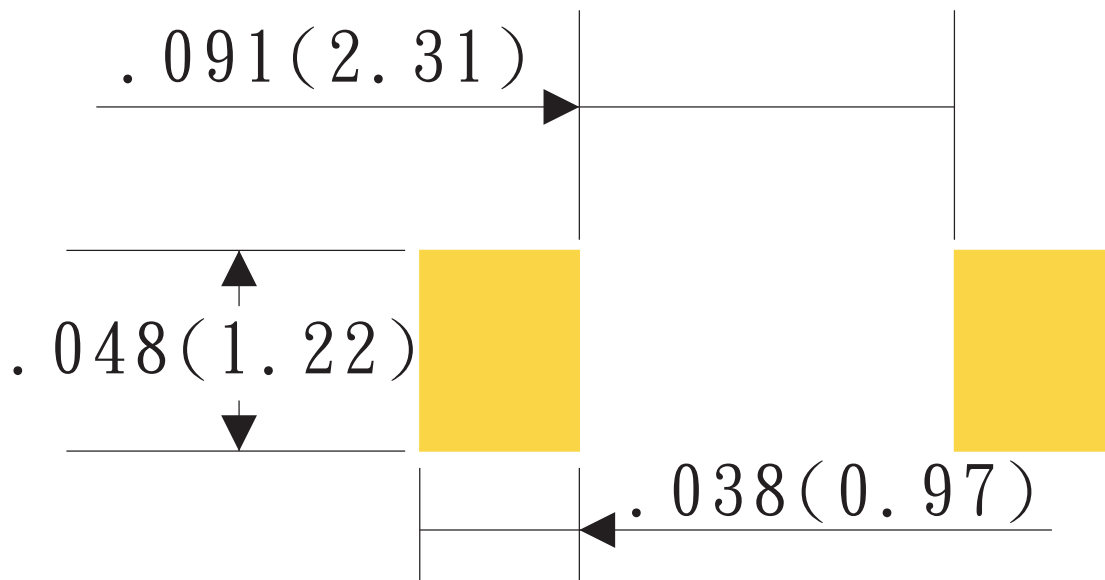


Dimensions in inches and (millimeters)

Rev.D

Suggested Soldering Pad Layout

SOD-123



Dimensions in inches and (millimeters)

RevA

**Ordering Information:**

Device PN	Packing
Part Number -T <sup>(1)</sup> G <sup>(2)</sup> -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape &amp; Reel Packing

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

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