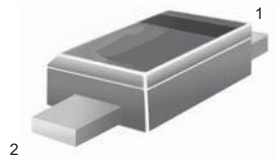
We declare that the material of product compliance with RoHS requirements.

ORDERING INFORMATION

Device	Package	Shipping
MM5Z2V0 Series	SOD-523	3000/Tape&Reel
MM5Z2V0 Series	SOD-523	8000/Tape&Reel

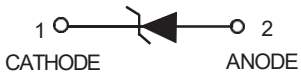


SOD– 523

MARKING DIAGRAM



Please contact WPM sales for marking code.



This series of Zener diodes is packaged in a SOD–523 surface mount package.They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards.

Specification Features:

- Standard Zener Breakdown Voltage Range – 2.0 V to 75 V
- Steady State Power Rating of 200 mW
- Small Body Outline Dimensions: 0.047" x 0.032"(1.20 mm x 0.80 mm)
- Low Body Height: 0.028" (0.7 mm)
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

Mechanical Characteristics:

CASE: Void-free, transfer-molded,thermosetting plastic Epoxy Meets UL 94 V-0

LEAD FINISH: 100% Matte Sn (Tin)

QUALIFIED MAX REFLOW TEMPERATURE:260°C

Device Meets MSL 1 Requirements

MOUNTING POSITION: Any

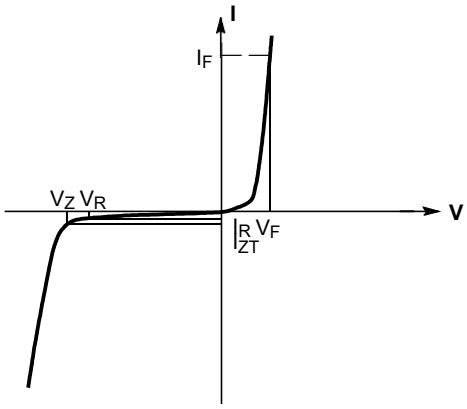
MAXIMUM RATINGS

Rating	Symbol	Max	Unit
Total Device Dissipation FR−5 Board, @ T_A = 25°C	P_D	200	mW
Junction and Storage Temperature Range	T_J, T_{stg}	−65 to +150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS
(T_A = 25°C unless otherwise noted,
V_F = 0.9 V Max. @ I_F = 10 mA for all types)

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
®V_Z	Maximum Temperature Coefficient of V_Z
C	Max. Capacitance @V_R = 0 and f = 1 MHz



Zener Voltage Regulator

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 0.9 V Max. @ I_F = 10 mA for all types)

Device	Device Marking	Zener Voltage (Note 1)				Zener Impedance			Leakage Current		©V_Z (mV/k) @ I_{ZT}		C @ V_R = 0 f = 1 MHz
		V_Z (Volts)			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R				
		Min	Nom	Max	mA	fi	fi	mA	µA	Volts	Min	Max	pF
MM5Z2V0	WY	1.91	2.0	2.09	5	100	600	1.0	150	1.0	–3.5	0	450
MM5Z2V4	00	2.2	2.4	2.6	5	100	1000	1.0	50	1.0	−3.5	0	450
MM5Z2V7	01	2.5	2.7	2.9	5	100	1000	1.0	20	1.0	−3.5	0	450
MM5Z3V0	02	2.8	3.0	3.2	5	100	1000	1.0	10	1.0	−3.5	0	450
MM5Z3V3	05	3.1	3.3	3.5	5	95	1000	1.0	5	1.0	−3.5	0	450
MM5Z3V6	06	3.4	3.6	3.8	5	90	1000	1.0	5	1.0	−3.5	0	450
MM5Z3V9	07	3.7	3.9	4.1	5	90	1000	1.0	3	1.0	−3.5	−2.5	450
MM5Z4V3	08	4.0	4.3	4.6	5	90	1000	1.0	3	1.0	−3.5	0	450
MM5Z4V7	09	4.4	4.7	5.0	5	80	800	1.0	3	2.0	−3.5	0.2	260
MM5Z5V1	0A	4.8	5.1	5.4	5	60	500	1.0	2	2.0	−2.7	1.2	225
MM5Z5V6	0C	5.2	5.6	6.0	5	40	400	1.0	1	2.0	−2.0	2.5	200
MM5Z6V2	0E	5.8	6.2	6.6	5	10	100	1.0	3	4.0	0.4	3.7	185
MM5Z6V8	0F	6.4	6.8	7.2	5	15	160	1.0	2	4.0	1.2	4.5	155
MM5Z7V5	0G	7.0	7.5	7.9	5	15	160	1.0	1	5.0	2.5	5.3	140
MM5Z8V2	0H	7.7	8.2	8.7	5	15	160	1.0	0.7	5.0	3.2	6.2	135
MM5Z9V1	0K	8.5	9.1	9.6	5	15	160	1.0	0.2	7.0	3.8	7.0	130
MM5Z10	0L	9.4	10	10.6	5	20	160	1.0	0.1	8.0	4.5	8.0	130
MM5Z11	0M	10.4	11	11.6	5	20	160	1.0	0.1	8.0	5.4	9.0	130
MM5Z12	0N	11.4	12	12.7	5	25	80	1.0	0.1	8.0	6.0	10	130
MM5Z13	0P	12.4	13.25	14.1	5	30	80	1.0	0.1	8.0	7.0	11	120
MM5Z15	0T	14.3	15	15.8	5	30	200	1.0	0.05	10.5	9.2	13	110
MM5Z16	0U	15.3	16.2	17.1	2	40	200	1.0	0.05	11.2	10.4	14	105
MM5Z18	0W	16.8	18	19.1	2	45	225	1.0	0.05	12.6	12.4	16	100
MM5Z20	0Z	18.8	20	21.2	2	55	225	1.0	0.05	14.0	14.4	18	85
MM5Z22	10	20.8	22	23.3	2	55	250	1.0	0.05	15.4	16.4	20	85
MM5Z24	11	22.8	24.2	25.6	2	70	120	1.0	0.05	16.8	18.4	22	80
MM5Z27	12	25.1	27	28.9	2	80	300	1.0	0.05	18.9	21.4	25.3	70
MM5Z30	14	28	30	32	2	80	300	1.0	0.05	21.0	24.4	29.4	70
MM5Z33	18	31	33	35	2	80	300	1.0	0.05	23.2	27.4	33.4	70
MM5Z36	19	34	36	38	2	90	500	1.0	0.05	25.2	30.4	37.4	70
MM5Z39	20	37	39	41	2	130	500	1.0	0.05	27.3	33.4	41.2	45
MM5Z43	21	40	43	46	2	150	500	1.0	0.05	30.1	37.6	46.6	40
MM5Z47	1A	44	47	50	2	170	500	1.0	0.05	32.9	42.0	51.8	40
MM5Z51	1C	48	51	54	2	180	500	1.0	0.05	35.7	46.6	57.2	40
MM5Z56	1D	52	56	60	2	200	500	1.0	0.05	39.2	52.2	63.8	40
MM5Z62	1E	58	62	66	2	215	500	1.0	0.05	43.4	58.8	71.6	35
MM5Z68	1F	64	68	72	2	240	500	1.0	0.05	47.6	65.6	79.8	35
MM5Z75	1G	70	75	79	2	255	500	1.0	0.05	52.5	73.4	88.6	35

1. Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C.

Typical Characteristics

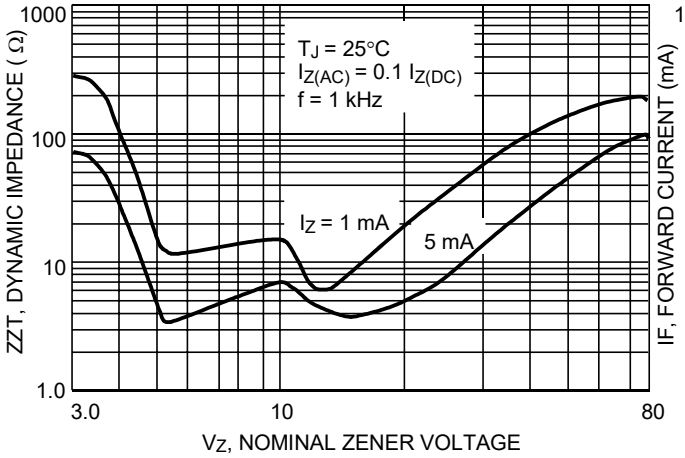


Figure 1. Effect of Zener Voltage on Zener Impedance

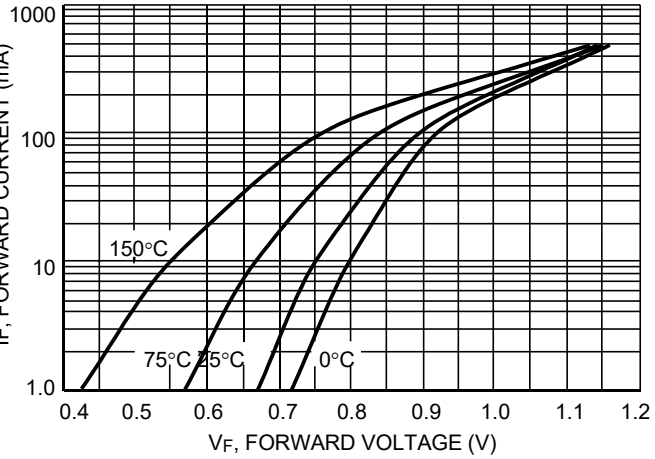


Figure 2. Typical Forward Voltage

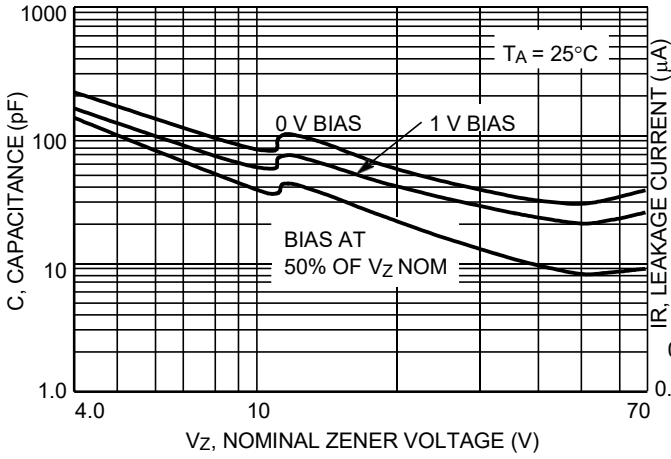


Figure 3. Typical Capacitance

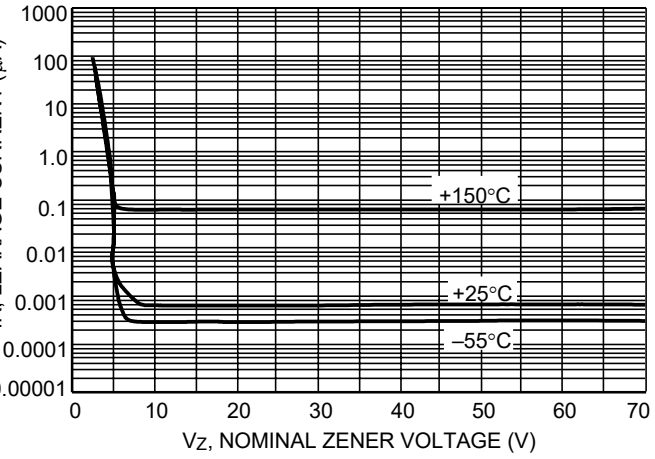


Figure 4. Typical Leakage Current

Typical Characteristics

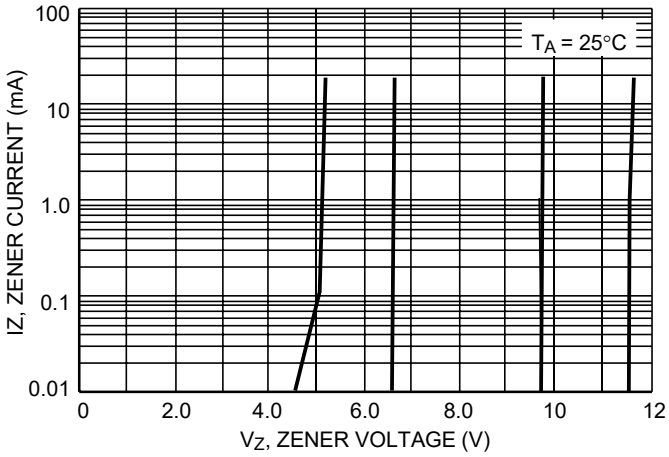


Figure 5. Zener Voltage versus Zener Current (V_Z Up to 12 V)

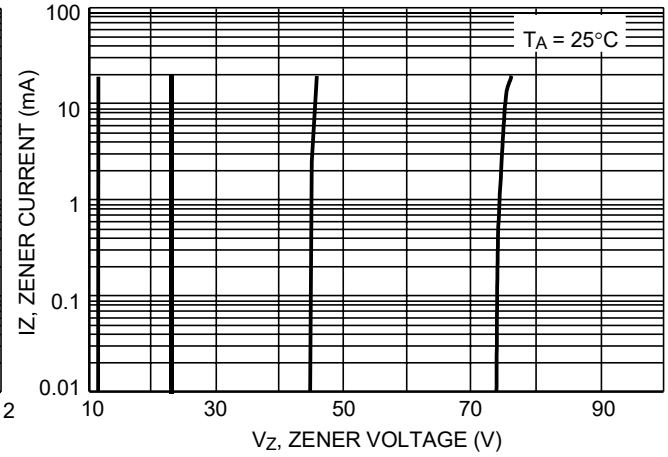


Figure 6. Zener Voltage versus Zener Current (12 V to 75 V)

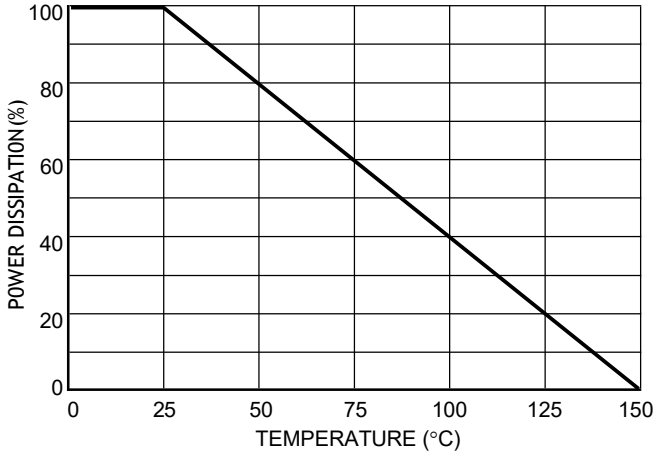
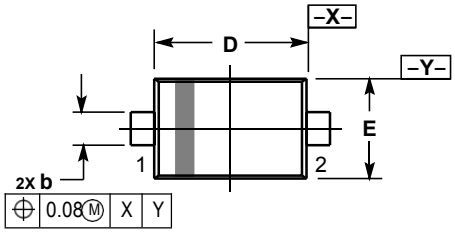
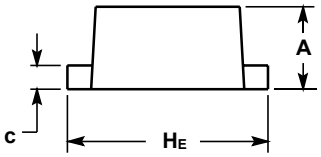


Figure 7. Steady State Power Derating

SOD-523



TOP VIEW

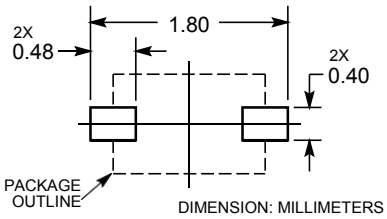


SIDE VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS		
DIM	MIN	NOM	MAX
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.07	0.14	0.20
D	1.10	1.20	1.30
E	0.70	0.80	0.90
HE	1.50	1.60	1.70
L		0.30 REF	
L2	0.15	0.20	0.25

RECOMMENDED SOLDERING FOOTPRINT*



DIMENSION: MILLIMETERS

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