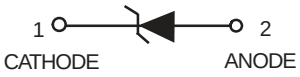
Features

- 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



SOD-523
(SOD-523F)



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MM5ZXX	SOD-523 (SOD-523F)	XX	3000

XX=Device code, see table on page2 the marking code.

The marking bar indicates the cathode.

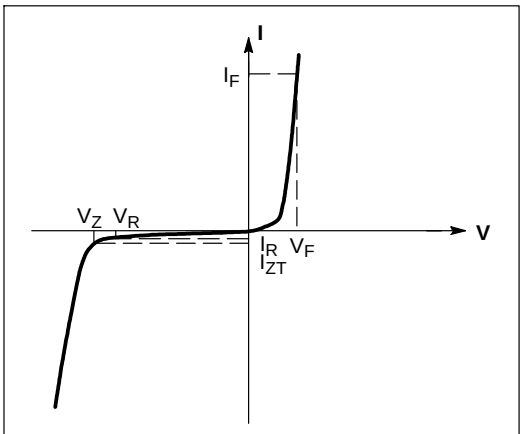
Absolute Maximum Ratings(Ta=25℃)

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

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



Zener Voltage Regulator

Elecrical 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) V_Z (Volts) Min	Nom	Max	@ I_{ZT} mA	Zener Impedance Z_{ZT} @ I_{ZT} Ω	Z_{ZK} @ I_{ZK} Ω	mA	Leakage Current I_R @ V_R µA	Volts	ΘV_Z (mV/k) @ I_{ZT} Min	Max	C @ V_R = 0 f = 1 MHz 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	W9	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
MM5Z10V	0L	9.4	10	10.6	5	20	160	1.0	0.1	8.0	4.5	8.0	130
MM5Z11V	0M	10.4	11	11.6	5	20	160	1.0	0.1	8.0	5.4	9.0	130
MM5Z12V	0N	11.4	12	12.7	5	25	80	1.0	0.1	8.0	6.0	10	130
MM5Z13V	0P	12.4	13.25	14.1	5	30	80	1.0	0.1	8.0	7.0	11	120
MM5Z15V	0T	14.3	15	15.8	5	30	200	1.0	0.05	10.5	9.2	13	110
MM5Z16V	0U	15.3	16.2	17.1	2	40	200	1.0	0.05	11.2	10.4	14	105
MM5Z18V	0W	16.8	18	19.1	2	45	225	1.0	0.05	12.6	12.4	16	100
MM5Z20V	0Z	18.8	20	21.2	2	55	225	1.0	0.05	14.0	14.4	18	85
MM5Z22V	10	20.8	22	23.3	2	55	250	1.0	0.05	15.4	16.4	20	85
MM5Z24V	11	22.8	24.2	25.6	2	70	120	1.0	0.05	16.8	18.4	22	80
MM5Z27V	12	25.1	27	28.9	2	80	300	1.0	0.05	18.9	21.4	25.3	70
MM5Z30V	14	28	30	32	2	80	300	1.0	0.05	21.0	24.4	29.4	70
MM5Z33V	18	31	33	35	2	80	300	1.0	0.05	23.2	27.4	33.4	70
MM5Z36V	19	34	36	38	2	90	500	1.0	0.05	25.2	30.4	37.4	70
MM5Z39V	20	37	39	41	2	130	500	1.0	0.05	27.3	33.4	41.2	45

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

Typical Characteristics

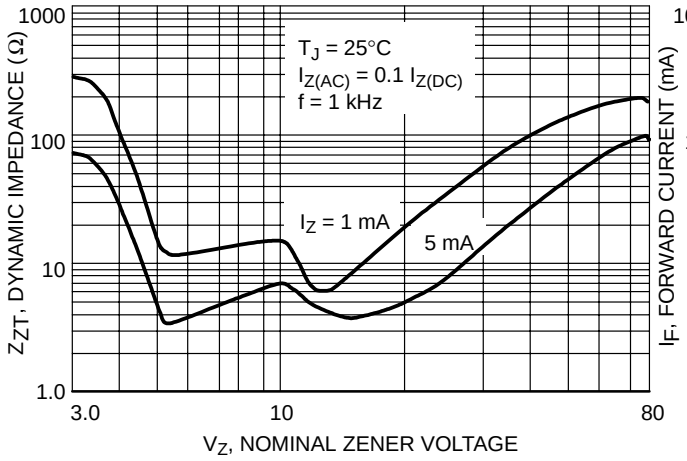


Figure 1. Effect of Zener Voltage on Zener Impedance

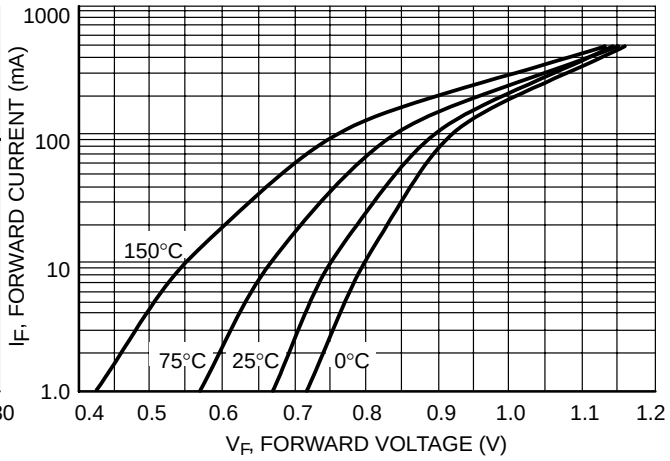


Figure 2. Typical Forward Voltage

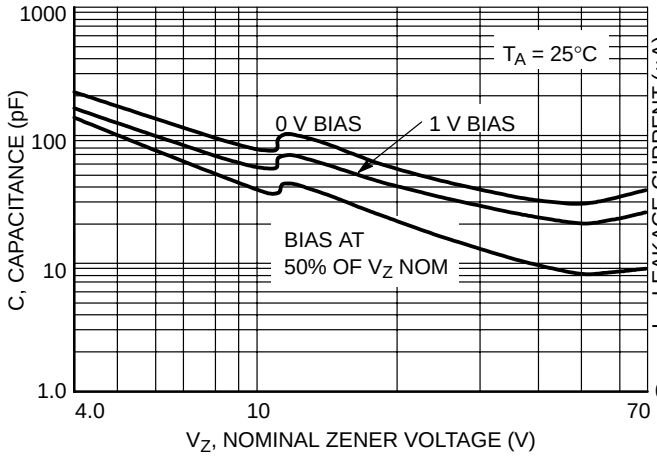


Figure 3. Typical Capacitance

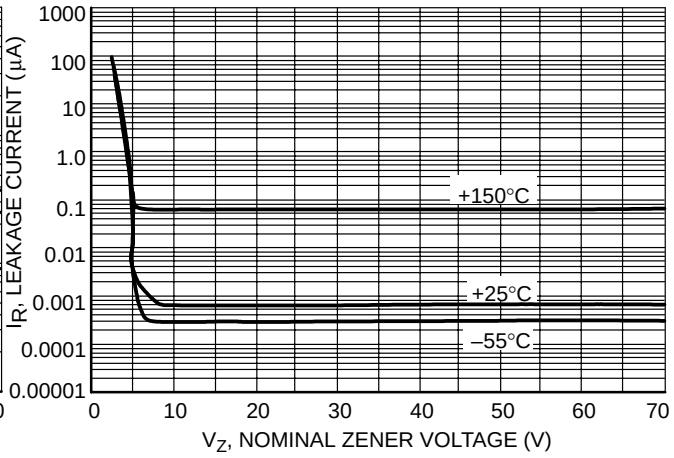


Figure 4. Typical Leakage Current

Typical Characteristics

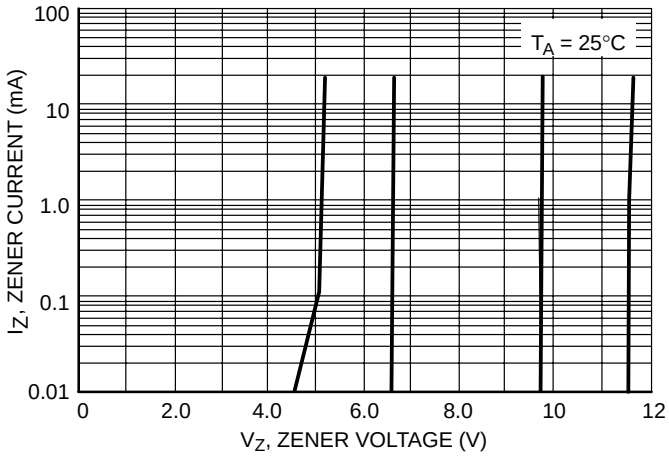


Figure 5. Zener Voltage versus Zener Current (V_Z Up to 12 V)

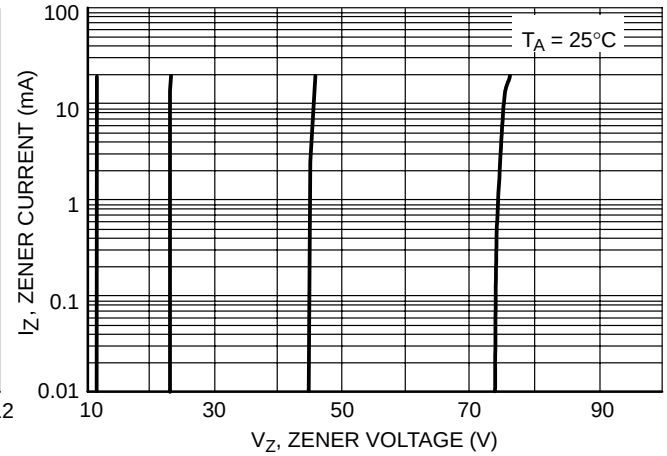


Figure 6. Zener Voltage versus Zener Current (12 V to 75 V)

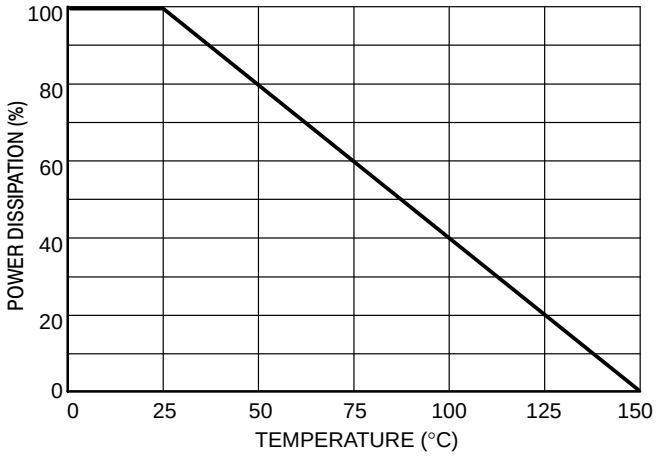
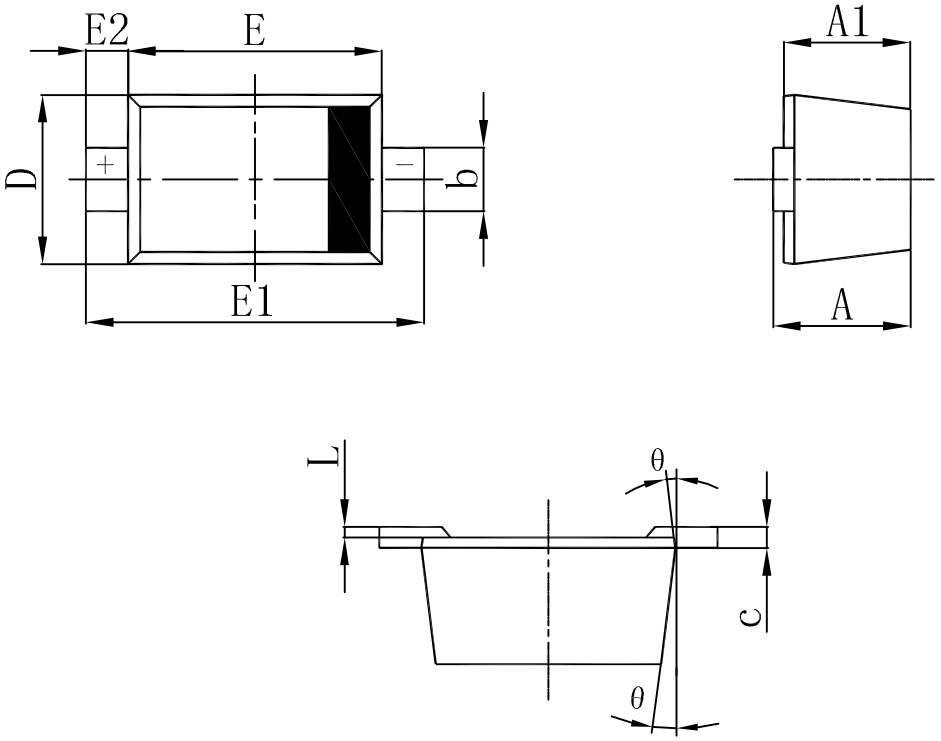


Figure 7. Steady State Power Derating

SOD-523(SOD-523F) Package Outline Dimensions



Sym ol	imensions In Millimeters		imensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

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