

SOD-123 Plastic-Encapsulate Diodes

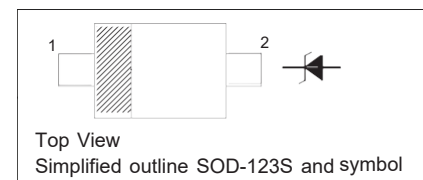
MM1Z5229AMM1Z5262A ZENER DIODE

FEATURES

- Planar Die Construction
- Ultra-Small Surface Mount Package
- General purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- Wide Zener Voltage Range Selection, 4.3V to 51V of $\pm 2\%$

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Maximum Ratings($T_a=25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation(Note 1)	P_d	500	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	250	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-50~ +150	$^\circ\text{C}$

Notes:

1. Tested with pulses, $T_p \leq 1.0\text{ms}$.

Electrical characteristics (at T =25°C unless otherwise noted)

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking Code
	V _Z @ I _{ZT}			Z _{ZT} @ I _{ZT}		Z _{ZK} @ I _{ZK}		I _R @ V _R		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
500 mWatts Zener Diodes										
MM1Z5229A	4.3	4.21	4.39	22	20.0	2000	0.25	5.0	1.0	D4
MM1Z5230A	4.7	4.61	4.79	19	20.0	1900	0.25	5.0	2.0	D5
MM1Z5231A	5.1	5.00	5.20	17	20.0	1600	0.25	5.0	2.0	E1
MM1Z5232A	5.6	5.49	5.71	11	20.0	1600	0.25	5.0	3.0	E2
MM1Z5234A	6.2	6.08	6.32	7	20.0	1000	0.25	5.0	4.0	E4
MM1Z5235A	6.8	6.66	6.94	5	20.0	750	0.25	3.0	5.0	E5
MM1Z5236A	7.5	7.35	7.65	6	20.0	500	0.25	3.0	6.0	F1
MM1Z5237A	8.2	8.04	8.36	8	20.0	500	0.25	3.0	6.0	F2
MM1Z5238A	8.7	8.53	8.87	8	20	600	0.25	3.0	6.5	F3
MM1Z5239A	9.1	8.92	9.28	10	20.0	600	0.25	3.0	6.5	F4
MM1Z5240A	10	9.80	10.20	17	20.0	600	0.25	3.0	8.0	F5
MM1Z5241A	11	10.78	11.22	22	20.0	600	0.25	3.0	8.4	H1
MM1Z5242A	12	11.76	12.24	30	20.0	600	0.25	2.0	9.1	H2
MM1Z5243A	13	12.74	13.26	13	9.5	600	0.25	1.0	9.9	H3
MM1Z5244A	14	13.72	14.28	15	9.0	600	0.25	0.5	10.5	H4
MM1Z5245A	15	14.70	15.30	16	8.5	600	0.25	0.5	11.0	H5
MM1Z5246A	16	15.68	16.32	17	7.8	600	0.25	0.1	12.0	J1
MM1Z5247A	17	16.66	17.34	19	7.5	600	0.25	0.1	13.0	J2
MM1Z5248A	18	17.64	18.36	21	7.0	600	0.25	0.1	14.0	J3
MM1Z5250A	20	19.60	20.40	25	6.2	600	0.25	0.1	15.0	J5
MM1Z5251A	22	21.56	22.44	29	5.6	600	0.25	0.1	17.0	K1
MM1Z5252A	24	23.52	24.48	33	5.2	600	0.25	0.1	18.0	K2
MM1Z5254A	27	26.46	27.54	41	5.0	600	0.25	0.1	21.0	K4
MM1Z5255A	28	27.44	28.56	44	4.5	600	0.25	0.1	21.0	K5
MM1Z5256A	30	29.40	30.60	49	4.2	600	0.25	0.1	23.0	M1
MM1Z5257A	33	32.34	33.66	58	3.8	700	0.25	0.1	25.0	M2
MM1Z5258A	36	35.28	36.72	70	3.4	700	0.25	0.1	27.0	M3
MM1Z5259A	39	38.22	39.78	80	3.2	800	0.25	0.1	30.0	M4
MM1Z5260A	43	42.14	43.86	93	3.0	900	0.25	0.1	33.0	M5
MM1Z5261A	47	46.06	47.94	105	2.7	1000	0.25	0.1	36.0	N1
MM1Z5262A	51	49.98	52.02	125	2.5	1100	0.25	0.1	39.0	N2

Notes:

1. The zener voltage (V_Z) is tested under pulse condition of 1ms.
2. The device numCers listed have a standard tolerance on the nominal zener voltage of ±2%.
3. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.

Typical Characteristics

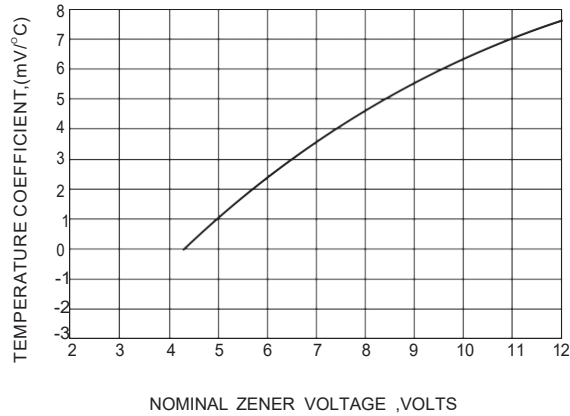


Fig.1 TEMPERATURE COEFFICIENTS

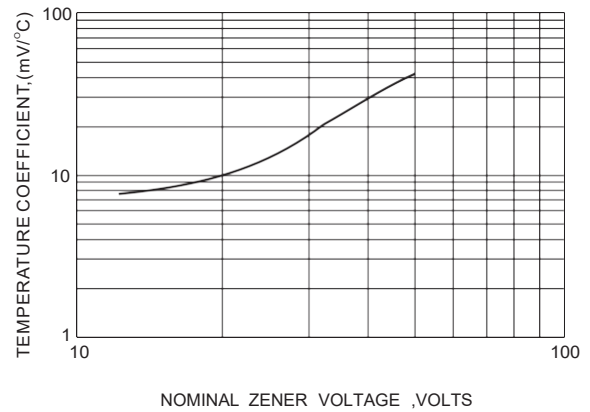


Fig.2 TEMPERATURE COEFFICIENTS

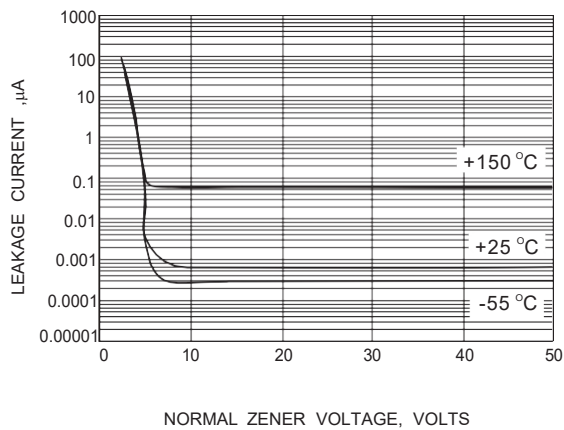


Fig.3 TYPICAL LEAKAGE CURRENT

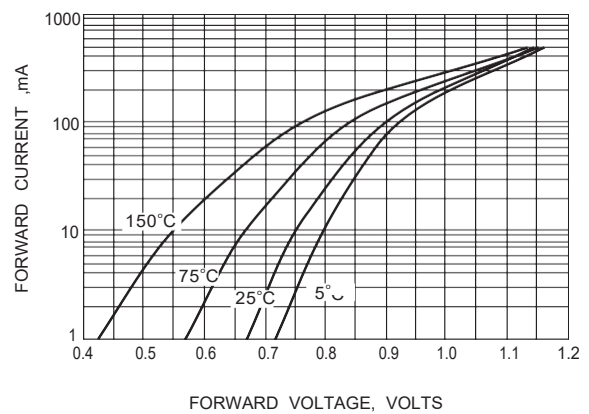


Fig.4 TYPICAL FORWARD VOLTAGE

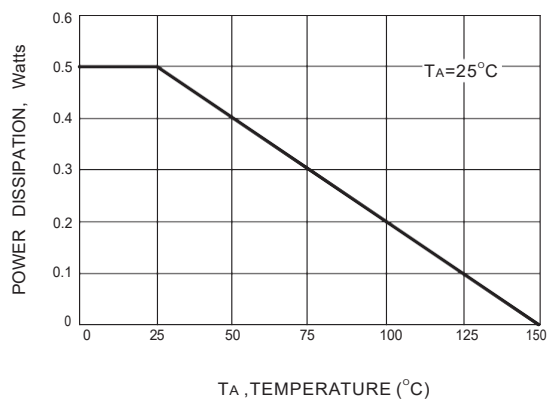


Fig.5 STEADY STATE POWER DERATING

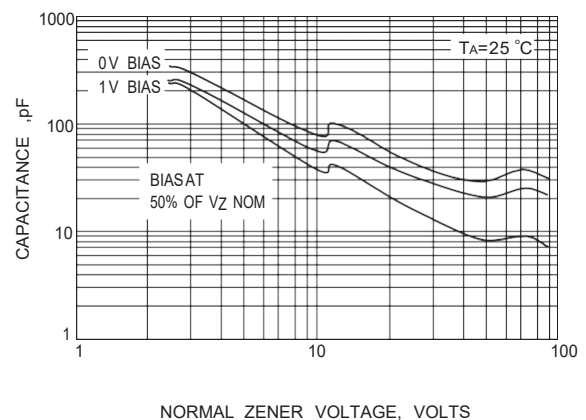


Fig.6 TYPICAL CAPACITANCE

Typical Characteristics

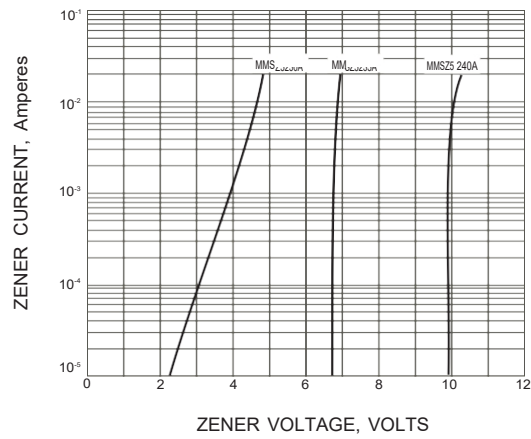


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

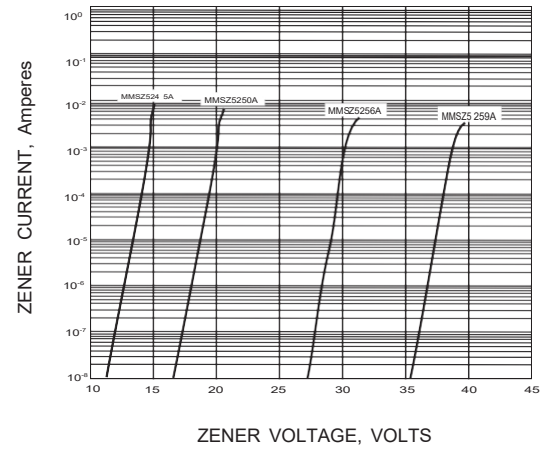
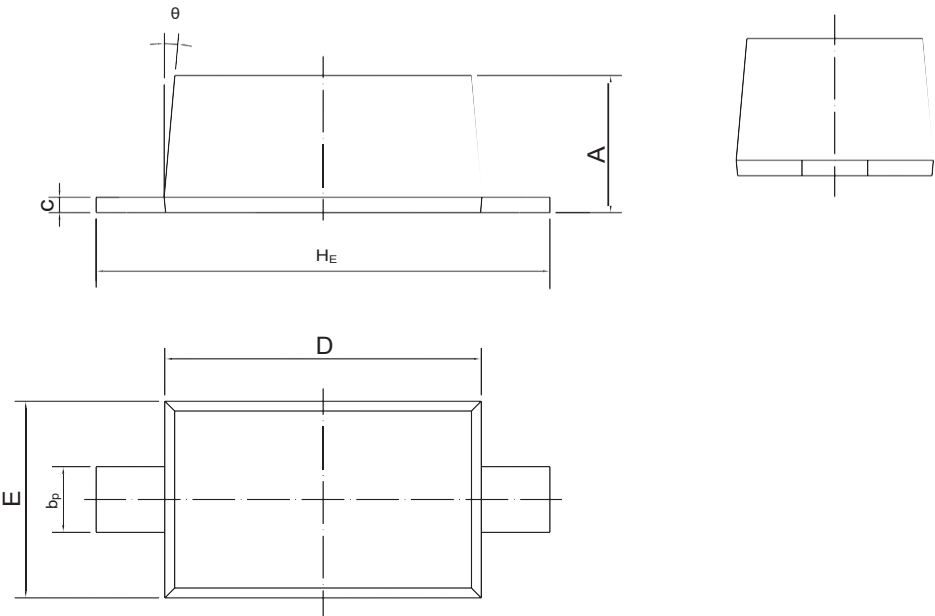


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123S



UNIT	A	b _p	c	D	E	H _E	θ
mm	0.975 0.875	0.6 0.5	0.135 0.100	2.7 2.6	1.65 1.55	3.85 3.55	5°