

SOD-123 Plastic-Encapsulate Diodes

MMSZ5229A.....MMSZ5262A

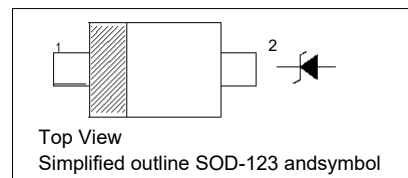
ZENER DIODE

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	350	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	357	$^\circ\text{C/W}$
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 _{VT} @ I _{ZT}		Z _{VK} @ I _{ZK}		I _R @V _R		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
350 mWatts Zener Diodes										
MMSZ5229A	4.3	4.21	4.39	22	20.0	2000	0.25	5.0	1.0	D4
MMSZ5230A	4.7	4.61	4.79	19	20.0	1900	0.25	5.0	2.0	D5
MMSZ5231A	5.1	5.00	5.20	17	20.0	1600	0.25	5.0	2.0	E1
MMSZ5232A	5.6	5.49	5.71	11	20.0	1600	0.25	5.0	3.0	E2
MMSZ5234A	6.2	6.08	6.32	7	20.0	1000	0.25	5.0	4.0	E4
MMSZ5235A	6.8	6.66	6.94	5	20.0	750	0.25	3.0	5.0	E5
MMSZ5236A	7.5	7.35	7.65	6	20.0	500	0.25	3.0	6.0	F1
MMSZ5237A	8.2	8.04	8.36	8	20.0	500	0.25	3.0	6.0	F2
MMSZ5238A	8.7	8.53	8.87	8	20	600	0.25	3.0	6.5	F3
MMSZ5239A	9.1	8.92	9.28	10	20.0	600	0.25	3.0	6.5	F4
MMSZ5240A	10	9.80	10.20	17	20.0	600	0.25	3.0	8.0	F5
MMSZ5241A	11	10.78	11.22	22	20.0	600	0.25	3.0	8.4	H1
MMSZ5242A	12	11.76	12.24	30	20.0	600	0.25	2.0	9.1	H2
MMSZ5243A	13	12.74	13.26	13	9.5	600	0.25	1.0	9.9	H3
MMSZ5244A	14	13.72	14.28	15	9.0	600	0.25	0.5	10.5	H4
MMSZ5245A	15	14.70	15.30	16	8.5	600	0.25	0.5	11.0	H5
MMSZ5246A	16	15.68	16.32	17	7.8	600	0.25	0.1	12.0	J1
MMSZ5247A	17	16.66	17.34	19	7.5	600	0.25	0.1	13.0	J2
MMSZ5248A	18	17.64	18.36	21	7.0	600	0.25	0.1	14.0	J3
MMSZ5250A	20	19.60	20.40	25	6.2	600	0.25	0.1	15.0	J5
MMSZ5251A	22	21.56	22.44	29	5.6	600	0.25	0.1	17.0	K1
MMSZ5252A	24	23.52	24.48	33	5.2	600	0.25	0.1	18.0	K2
MMSZ5254A	27	26.46	27.54	41	5.0	600	0.25	0.1	21.0	K4
MMSZ5255A	28	27.44	28.56	44	4.5	600	0.25	0.1	21.0	K5
MMSZ5256A	30	29.40	30.60	49	4.2	600	0.25	0.1	23.0	M1
MMSZ5257A	33	32.34	33.66	58	3.8	700	0.25	0.1	25.0	M2
MMSZ5258A	36	35.28	36.72	70	3.4	700	0.25	0.1	27.0	M3
MMSZ5259A	39	38.22	39.78	80	3.2	800	0.25	0.1	30.0	M4
MMSZ5260A	43	42.14	43.86	93	3.0	900	0.25	0.1	33.0	M5
MMSZ5261A	47	46.06	47.94	105	2.7	1000	0.25	0.1	36.0	N1
MMSZ5262A	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

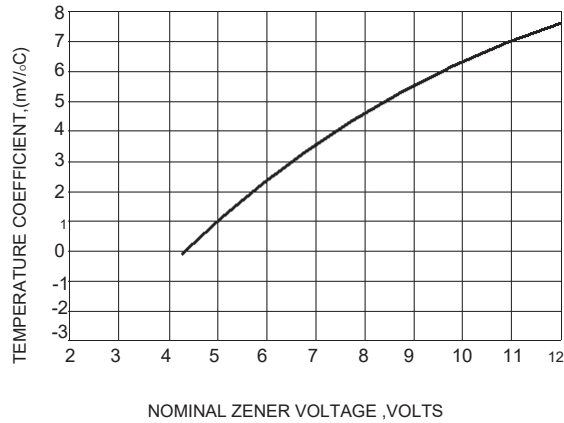


Fig.1 TEMPERATURE COEFFICIENTS

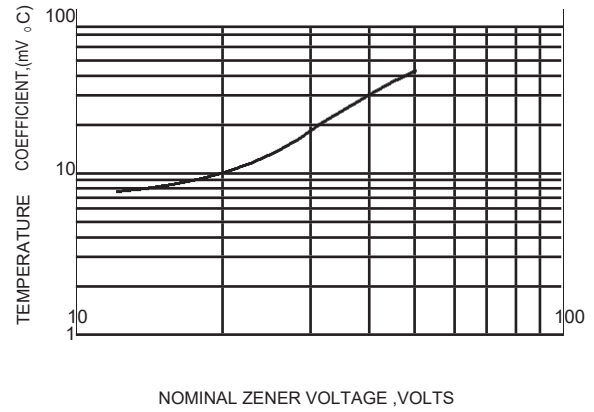


Fig.2 TEMPERATURE COEFFICIENTS

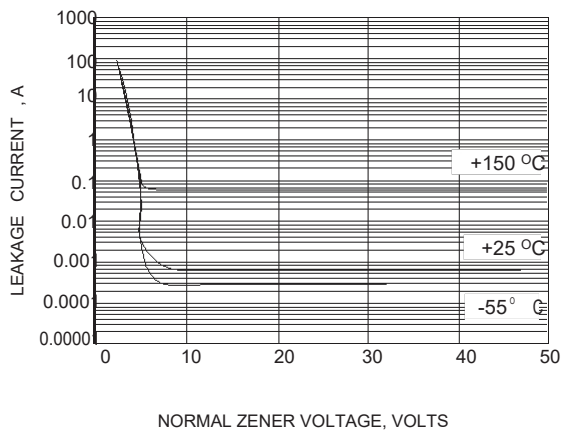


Fig.3 TYPICAL LEAKAGE CURRENT

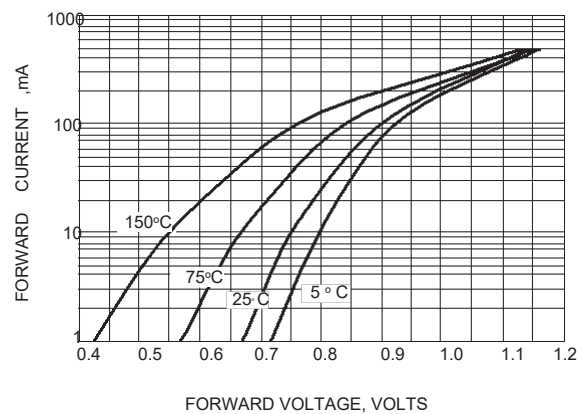


Fig.4 TYPICAL FORWARD VOLTAGE

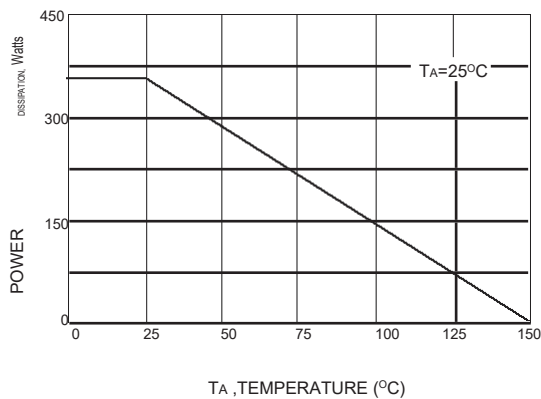


Fig.5 STEADY STATE POWER DERATING

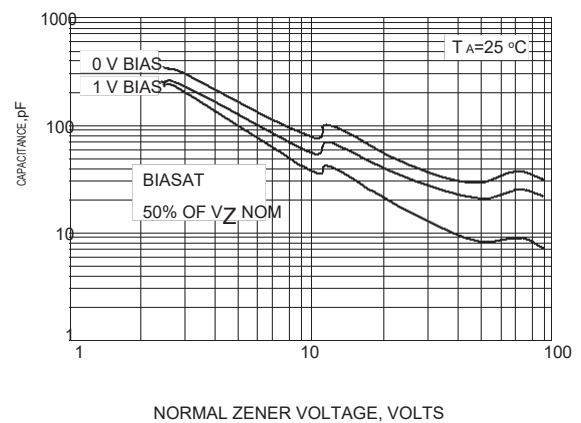


Fig.6 TYPICAL CAPACITANCE

Typical Characteristics

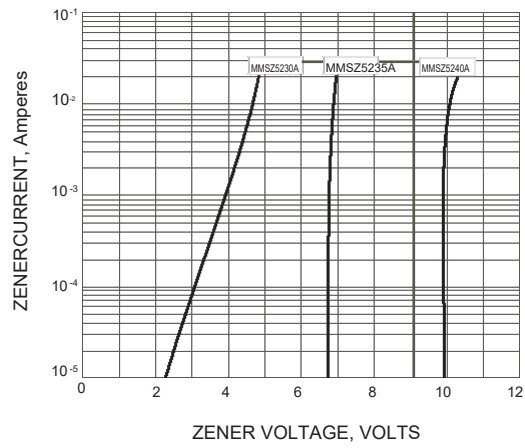


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

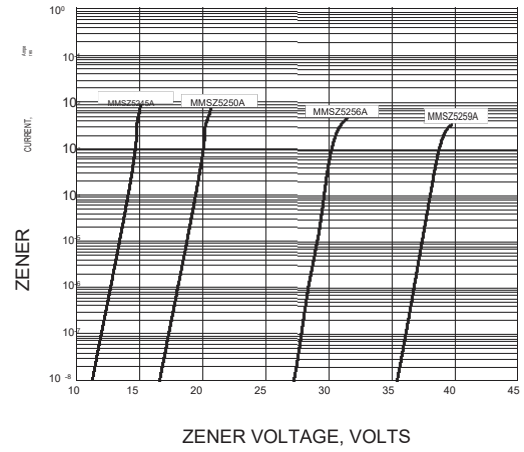
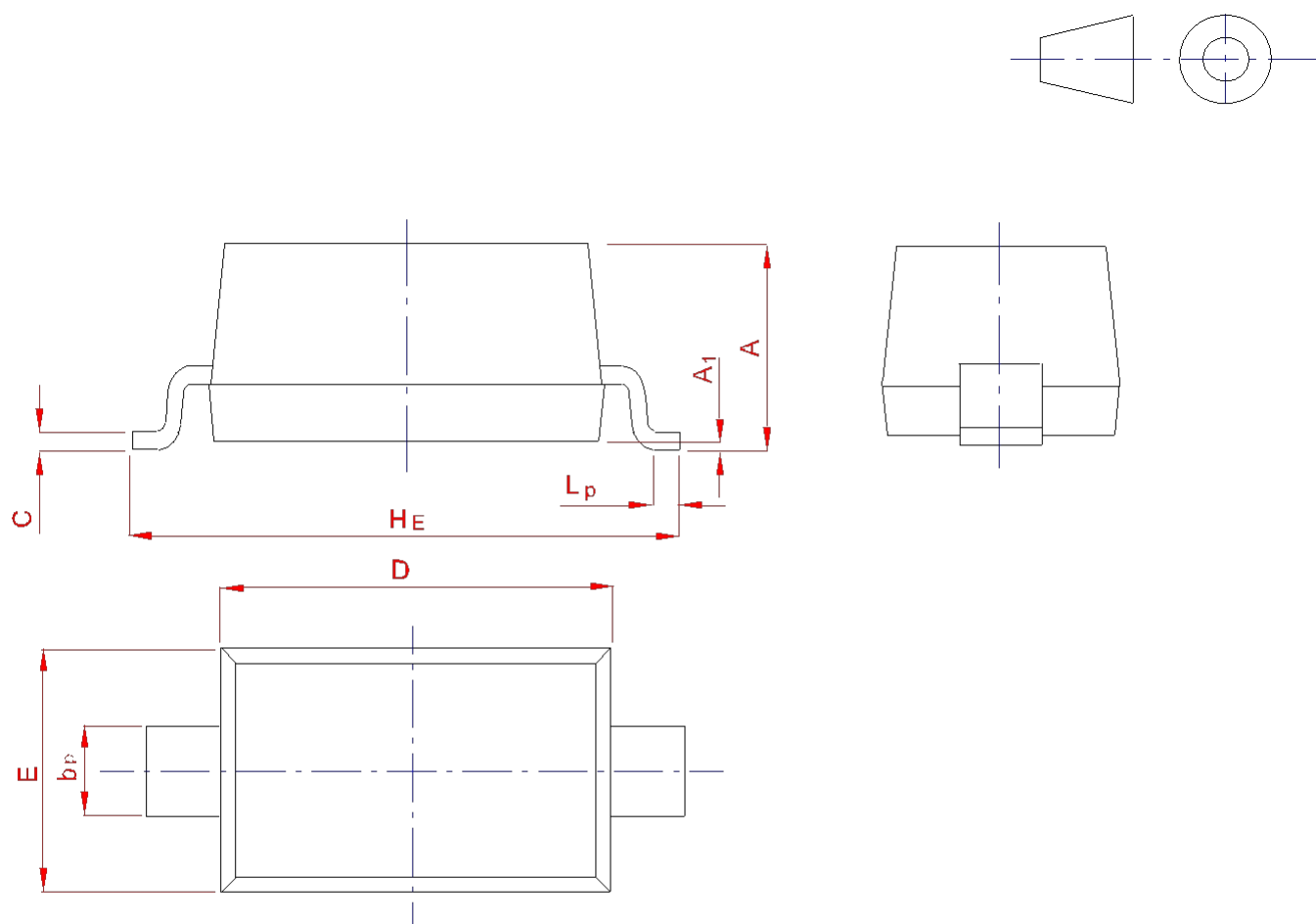


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	bp	C	D	E	HE	A1	Lp
mm	1.20 0.90	0.60 0.50	0.135 0.100	2.75 2.55	1.65 1.55	3.85 3.55	0.10 0.01	0.50 0.20