

Features

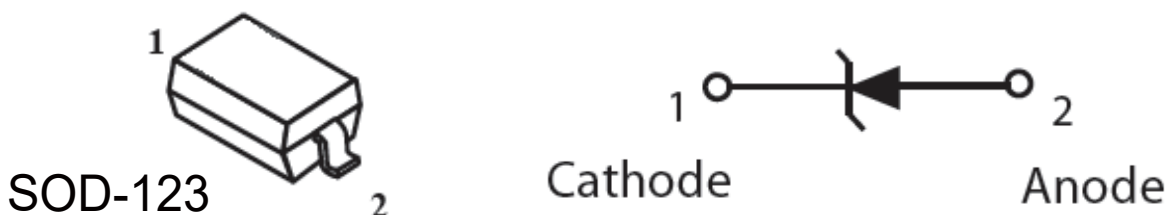
- Total power dissipation: Max. 500mW
- Wide zener reverse voltage range 2V to 30V
- Small plastic package suitable for surface mounted design
- 2% high-precision regulated voltage stability
- High reliability chip and packaging process



Applications

Low-power voltage regulator is mainly used for circuit voltage adjustment of mobile phones, hand-held devices and high-density computer motherboards.

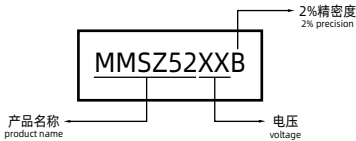
Schematic diagram of package die



Schematic diagram of package die

Parameter	Symbol	Value	Value
Power Dissipation	P_D	500	mW
Forward Voltage at $I_F = 10\text{ mA}$	V_F	0.85	V
Typical thermal resistance juncting to ambient ⁽¹⁾	$R_{\theta JA}$	556	°C/W
Operating and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	°C

Ordering information

Product ID	Pack	Naming rule	voltage	Qty(PCS)
MMSZ52XX	SOD-123	 The diagram shows the naming rule for the product MMSZ52XXB. It breaks down the name into: 'MMSZ52' (product name), 'XX' (2% precision), and 'B' (voltage).	2V-30V	3000

Electrical Characteristics (T_A=25℃, unless otherwise noted)

Type	Marking	Zener Voltage Range ⁽²⁾				Maximum Zener ⁽³⁾ mpedance			Reverse Current ⁽²⁾		Typical temperature coefficient @I _{ZTC} mV/°C		Test current I _{ZTC}
		V _{ZT} (at I _{ZT})			I _{ZT}	Z _{KT} @I _{ZT}	Z _{KK} @I _{ZK}	I _{ZK}	I _R	@V _R			
		Min (V)	Nom (V)	Max (V)	(mA)	(Ω)		(mA)	μA	V	MIN	MAX	
MMSZ5221B	C1	2.4	2.35	2.45	5	100	600	1	50	1.0	-3.5	0	5
MMSZ5223B	C3	2.7	2.65	2.75	5	100	600	1	20	1.0	-3.5	0	5
MMSZ5225B	C5	3.0	2.94	3.06	5	95	600	1	10	1.0	-3.5	0	5
MMSZ5226B	G1	3.3	3.23	3.37	5	95	600	1	5	1.0	-3.5	0	5
MMSZ5227B	G2	3.6	3.53	3.67	5	90	600	1	5	1.0	-3.5	0	5
MMSZ5228B	G3	3.9	3.82	3.98	5	90	600	1	0.5	1.0	-3.5	0	5
MMSZ5229B	G4	4.3	4.21	4.39	5	90	600	1	0.5	1.0	-3.5	0	5
MMSZ5230B	G5	4.7	4.61	4.79	5	80	500	1	3	2.0	-3.5	0.2	5
MMSZ5231B	E1	5.1	5.00	5.20	5	60	480	1	2	2.0	-2.7	1.2	5
MMSZ5232B	E2	5.6	5.49	5.71	5	40	400	1	1	2.0	2.0	2.5	5
MMSZ5234B	E4	6.2	6.08	6.32	5	9.5	150	1	3	4.0	0.4	3.7	5
MMSZ5235B	E5	6.8	6.66	6.94	5	14.2	76	1	2	4.0	1.2	4.5	5
MMSZ5236B	F1	7.5	7.35	7.65	5	14.2	76	1	1	5.0	2.5	5.3	5
MMSZ5237B	F2	8.2	8.04	8.36	5	14.2	76	1	0.7	5.0	3.2	6.2	5
MMSZ5239B	F4	9.1	8.92	9.28	5	14.2	95	1	0.5	7.0	3.8	7.0	5
MMSZ5240B	F5	10	9.80	10.20	5	19	142.5	1	0.2	8.0	4.5	8.0	5
MMSZ5241B	H1	11	10.78	11.22	5	19	142.5	1	0.1	8.0	5.4	9.0	5
MMSZ5242B	H2	12	11.76	12.24	5	23.7	150	1	0.1	8.0	6.0	10.0	5
MMSZ5243B	H3	13	12.74	13.30	5	28.5	190	1	0.1	8.0	7.0	11.0	5
MMSZ5245B	H5	15	14.70	15.30	5	28.5	190	1	0.1	11.0	9.2	13.0	5
MMSZ5246B	J1	16	15.68	16.30	5	38	190	1	0.1	11.0	10.4	14.0	5
MMSZ5248B	J3	18	17.60	18.40	5	42.7	213	1	0.1	13.0	12.4	16.0	5
MMSZ5250B	J5	20	19.60	20.40	5	52.2	213	1	0.1	14.0	14.4	18.0	5
MMSZ5251B	K1	22	21.56	22.44	5	52.2	237	1	0.1	15.0	16.4	20.0	5
MMSZ5252B	K2	24	23.52	24.50	5	66.5	250	1	0.1	17.0	18.4	22.0	5
MMSZ5254B	K4	27	26.46	27.54	2	75	295	0.5	0.1	19.0	21.4	25.3	2
MMSZ5256B	M1	30	29.40	30.60	2	75	295	0.5	0.1	21.0	24.4	29.4	2

Notes:

1. Device mounted on ceramic PCB:7.6mm x 9.4mm x 0.87mm with pad areas 25mm²
2. Short duration test pulse used to minimize self-heating effect
3. f = 1kHz

Typical Characteristics

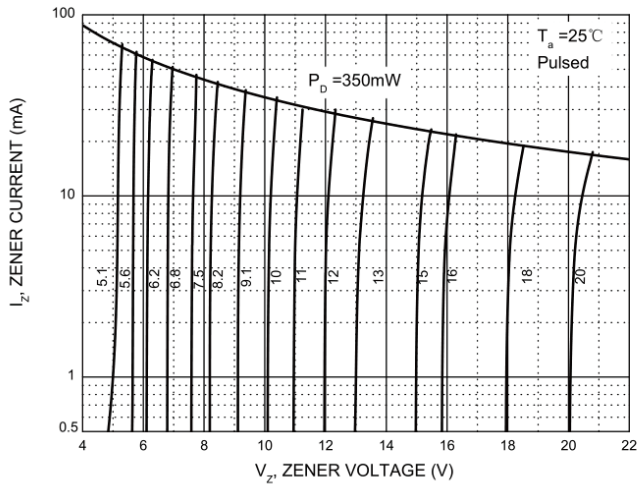


Fig.1 Zener Characteristics (V_Z 5.1V to 20 V)

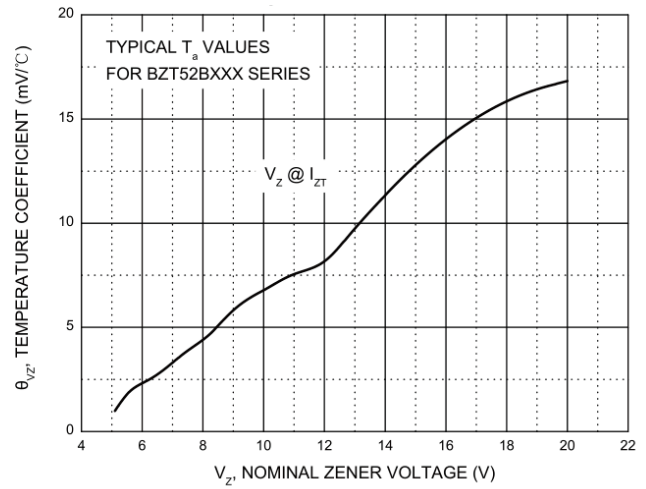


Fig.2 Temperature Coefficients

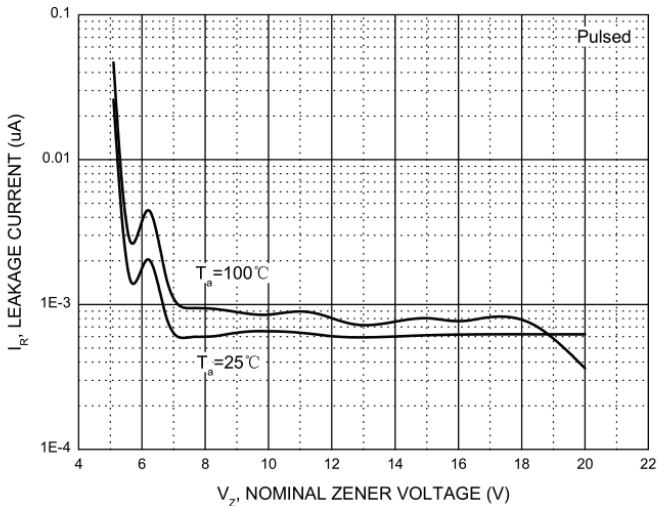


Fig.3 Typical Leakage Current

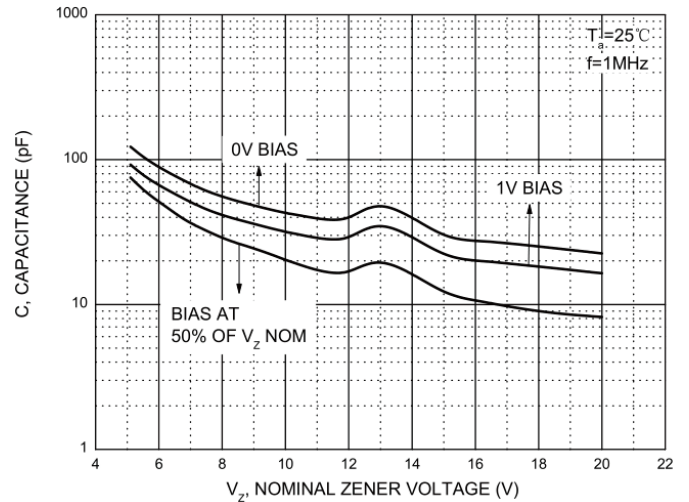


Fig.4 Typical Capacitance

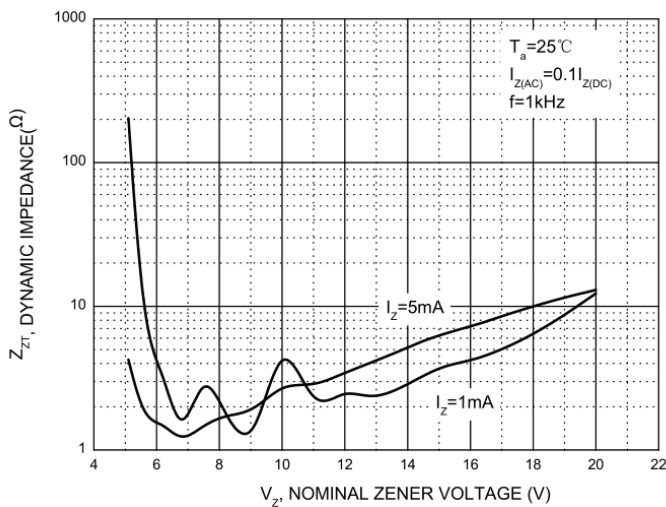


Fig.5 Effect of Zener Voltage on Zener Impedance

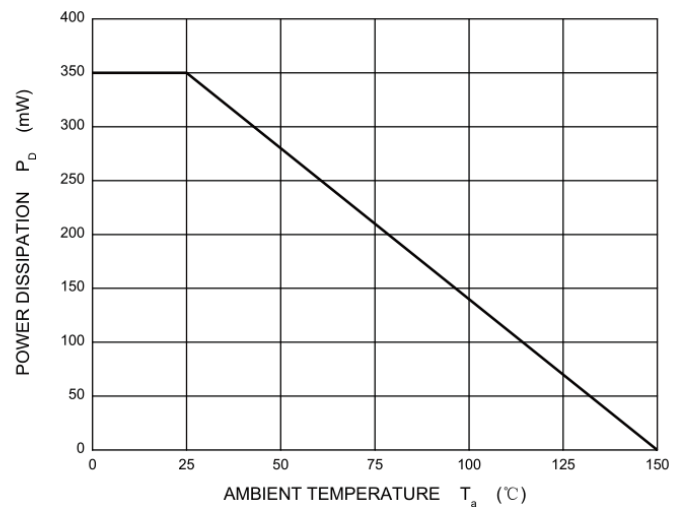
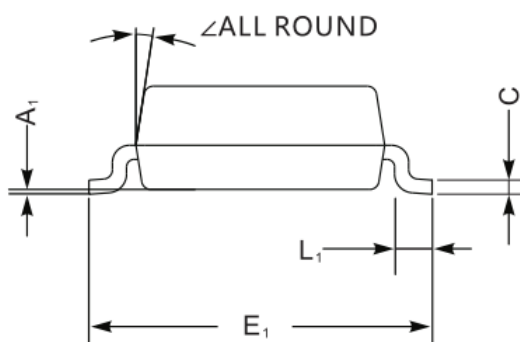
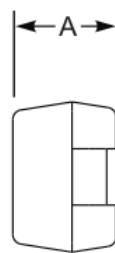
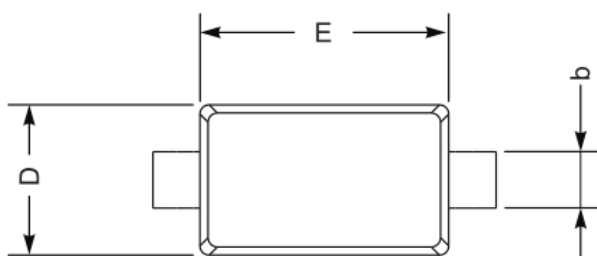


Fig.6 Power Derating Curve



SOD-123 Package Outline Dimensions



Symbol	mm		mil	
	min	max	min	max
A	0.9	1.3	35	51
C	0.09	0.22	3.5	8.7
D	1.5	1.8	59	71
E	2.5	2.8	98	110
E ₁	3.6	3.9	142	154
L ₁	0.25	0.45	10	18
b	0.5	0.7	20	28
A ₁		0.2		8
∠	9°			