YEA SHIN TECHNOLOGY CO. , LTD

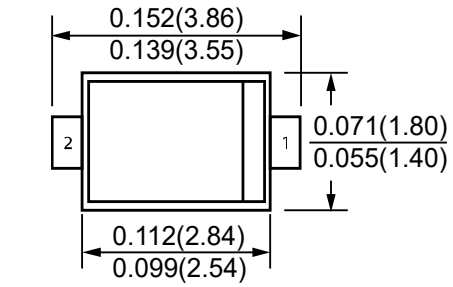
MMSZ52xxBW Series

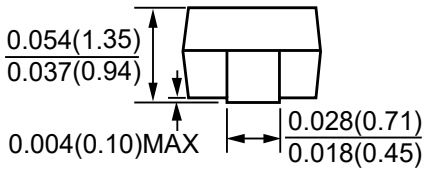
500mW SOD-123 Surface Mount Zener Voltage Regulators

FEATURES

- Wide Zener Reverse Voltage Range − 2.4V to 75V
- Package Designed for Optimal Automated Board Assembly
- Small Package Size for High Density Applications
- General Purpose, Medium Current
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- We declare that the material of product compliance with RoHS requirements

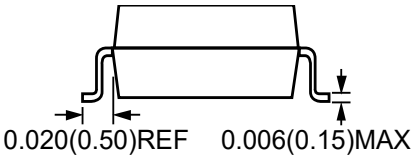
SOD-123 Unit:inch(mm)

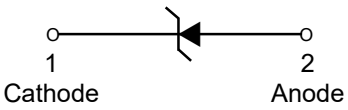




MECHANICAL DATA

- Case：SOD-123
- Finish：Corrosion Resistant Finish, Easily Solderable
- Polarity：Cathode Indicated by Polarity Band
- Flammability Rating：UL 94 V−0
- Maximum Case Temperature for Soldering Purposes：260°C for 10 Seconds





MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Total Power Dissipation	P_D	500	mW
Junction Temperature Range	T_J	-55~+150	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

DEVICE CHARACTERISTICS

MMSZ52xxBW Series

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

Device	Device Marking	V_Z@I_{ZT} (Volts)			I_{ZT}	Z_{ZT}@I_{ZT}	Z_{ZK}@I_{ZK}		I_R@V_R	V_R
		Min.	Nom.	Max.	mA	Ω	Ω	mA	uA	V
MMSZ5221BW	C1	2.28	2.40	2.52	20	30	1200	0.25	100	1
MMSZ5222BW	C2	2.38	2.50	2.63	20	30	1250	0.25	100	1
MMSZ5223BW	C3	2.57	2.70	2.84	20	30	1300	0.25	75	1
MMSZ5224BW	C4	2.66	2.80	2.94	20	30	1400	0.25	75	1
MMSZ5225BW	C5	2.85	3.00	3.15	20	29	1600	0.25	50	1
MMSZ5226BW	D1	3.14	3.30	3.47	20	28	1600	0.25	25	1
MMSZ5227BW	D2	3.42	3.60	3.78	20	24	1700	0.25	15	1
MMSZ5228BW	D3	3.71	3.90	4.10	20	23	1900	0.25	10	1
MMSZ5229BW	D4	4.09	4.30	4.52	20	22	2000	0.25	5	1
MMSZ5230BW	D5	4.47	4.70	4.94	20	19	1900	0.25	5	2
MMSZ5231BW	E1	4.85	5.10	5.36	20	17	1600	0.25	5	2
MMSZ5232BW	E2	5.32	5.60	5.88	20	11	1600	0.25	5	3
MMSZ5233BW	E3	5.70	6.00	6.30	20	7	1600	0.25	5	3.5
MMSZ5234BW	E4	5.89	6.20	6.51	20	7	1000	0.25	5	4
MMSZ5235BW	E5	6.46	6.80	7.14	20	5	750	0.25	3	5
MMSZ5236BW	F1	7.13	7.50	7.88	20	6	500	0.25	3	6
MMSZ5237BW	F2	7.79	8.20	8.61	20	8	500	0.25	3	6.5
MMSZ5238BW	F3	8.27	8.70	9.14	20	8	600	0.25	3	6.5
MMSZ5239BW	F4	8.65	9.10	9.56	20	10	600	0.25	3	7
MMSZ5240BW	F5	9.50	10.00	10.50	20	17	600	0.25	3	8
MMSZ5241BW	H1	10.45	11.00	11.55	20	22	600	0.25	2	8.4
MMSZ5242BW	H2	11.40	12.00	12.60	20	30	600	0.25	1	9.1
MMSZ5243BW	H3	12.35	13.00	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5244BW	H4	13.30	14.00	14.70	9	15	600	0.25	0.1	10
MMSZ5245BW	H5	14.25	15.00	15.75	8.5	16	600	0.25	0.1	11
MMSZ5246BW	J1	15.20	16.00	16.80	7.8	17	600	0.25	0.1	12
MMSZ5247BW	J2	16.15	17.00	17.85	7.4	19	600	0.25	0.1	13
MMSZ5248BW	J3	17.10	18.00	18.90	7	21	600	0.25	0.1	14
MMSZ5250BW	J5	19.00	20.00	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251BW	K1	20.90	22.00	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252BW	K2	22.80	24.00	25.20	5.2	33	600	0.25	0.1	18
MMSZ5253BW	K3	23.75	25.00	26.25	5	35	600	0.25	0.1	19
MMSZ5254BW	K4	25.65	27.00	28.35	4.6	41	600	0.25	0.1	21
MMSZ5255BW	K5	26.60	28.00	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256BW	M1	28.50	30.00	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257BW	M2	31.35	33.00	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258BW	M3	34.20	36.00	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259BW	M4	37.05	39.00	40.95	3.2	80	800	0.25	0.1	30
MMSZ5260BW	M5	40.85	43.00	45.15	3	93	900	0.25	0.1	33

DEVICE CHARACTERISTICS

MMSZ52xxBW Series

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

Device	Device Marking	V_Z@I_{ZT} (Volts)			I_{ZT}	Z_{ZT}@I_{ZT}	Z_{ZK}@I_{ZK}		I_R@V_R	V_R
		Min.	Nom.	Max.	mA	Ω	Ω	mA	uA	V
MMSZ5261BW	N1	44.65	47.00	49.35	2.7	105	1000	0.25	0.1	36
MMSZ5262BW	N2	48.45	51.00	53.55	2.5	125	1100	0.25	0.1	39
MMSZ5263BW	N3	53.20	56.00	58.80	2.2	150	1300	0.25	0.1	43
MMSZ5264BW	N4	57.00	60.00	63.00	2.1	170	1400	0.25	0.1	46
MMSZ5265BW	N5	58.90	62.00	65.10	2	185	1400	0.25	0.1	47
MMSZ5266BW	P1	64.60	68.00	71.40	1.8	230	1600	0.25	0.1	52
MMSZ5267BW	P2	71.25	75.00	78.75	1.7	270	1700	0.25	0.1	56

NOTES：

1. The type numbers shown have a standard tolerance of ±5% on the nominal Zener voltage.
2. Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the ac current applied. The specified limits are for $I_{Z(AC)}$ = 0.1 $I_{Z(dc)}$ with the AC frequency = 1 KHz.

DEVICE CHARACTERISTICS

MMSZ52xxBW Series

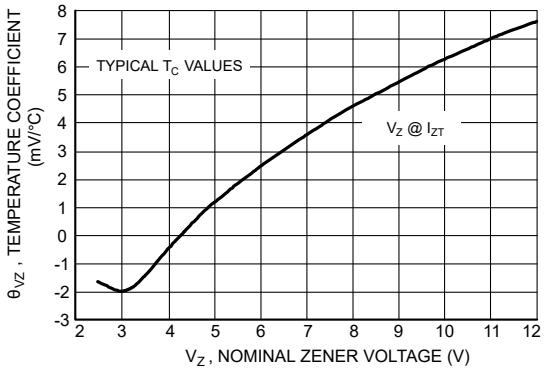


Figure 1. Temperature Coefficients
(Temperature Range −55 °C to +150 °C)

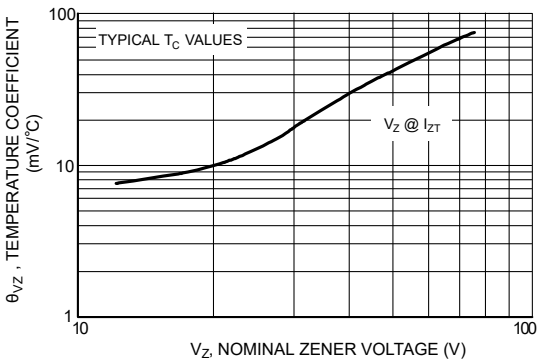


Figure 2. Temperature Coefficients
(Temperature Range −55 °C to +150 °C)

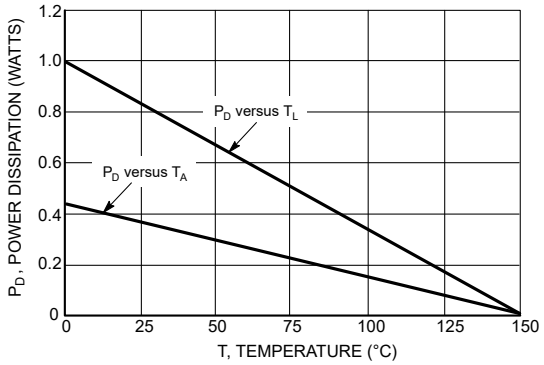


Figure 3. Steady State Power Derating

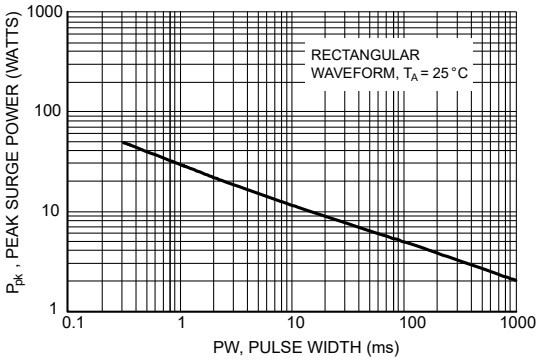


Figure 4. Maximum Nonrepetitive Surge Power

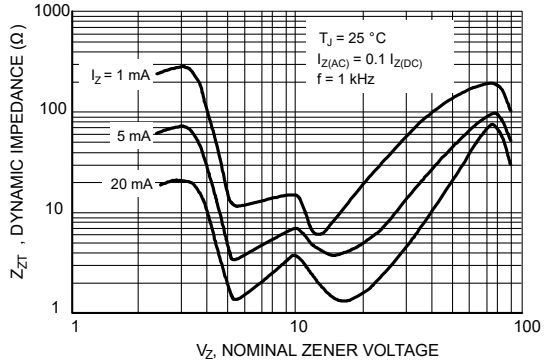


Figure 5. Effect of Zener Voltage on
Zener Impedance

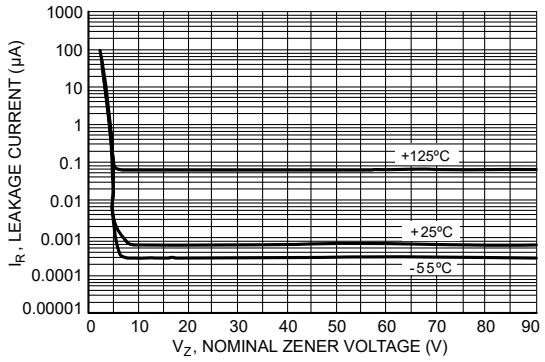


Figure 6. Typical Leakage Current

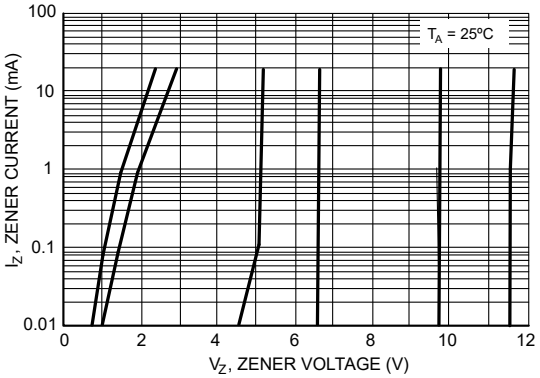


Figure 7. Zener Voltage versus Zener Current
(V_Z Up to 12 V)

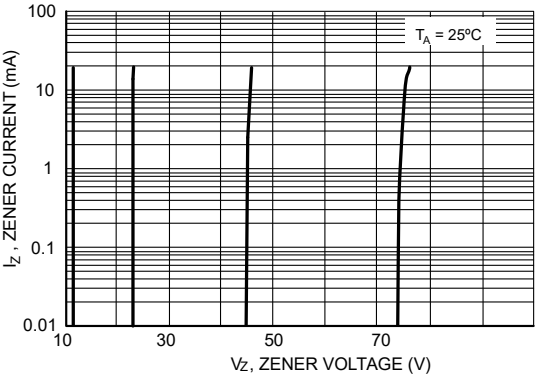


Figure 8. Zener Voltage versus Zener Current
(12 V to 75 V)