YEA SHIN TECHNOLOGY CO., LTD

MMSZ52xxBS Series

200mW SOD-323 SURFACE MOUNT
Small Outline Flat Lead Plastic Package
Zener Voltage Regulators

SOD-323 Flat Lead

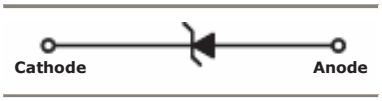
Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_{OPR}	Operating Temperature Range	-55 to +150	°C

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

- Wide Zener Voltage Range Selection, 2.4V to 75V
- VZ Tolerance Selection of ±5%
- Flat Lead SOD-323 Small Outline Plastic Package
- Surface Device Type Mounting
- Moisture Sensitivity Level 1
- Green EMC
- RoHS Compliant
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode



ELECTRICAL SYMBOL

Electrical Characteristics T_A = 25°C unless otherwise noted

Device Type	Device Marking	V_Z @ I_{ZT} (Volts) (Note 1)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	Z_{ZK} @ I_{ZK} = 0.25mA (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min	Nom	Max					
MMSZ5221BS	Z2V4	2.28	2.4	2.52	20	30	1200	100	1
MMSZ5222BS	Z2V5	2.38	2.5	2.63	20	30	1250	100	1
MMSZ5223BS	Z2V7	2.57	2.7	2.84	20	30	1300	75	1
MMSZ5224BS	Z2V8	2.66	2.8	2.94	20	30	1400	75	1
MMSZ5225BS	Z3V0	2.85	3.0	3.15	20	29	1600	50	1
MMSZ5226BS	Z3V3	3.14	3.3	3.47	20	28	1600	25	1
MMSZ5227BS	Z3V6	3.42	3.6	3.78	20	24	1700	15	1
MMSZ5228BS	Z3V9	3.71	3.9	4.10	20	23	1900	10	1
MMSZ5229BS	Z4V3	4.09	4.3	4.52	20	22	2000	5	1
MMSZ5230BS	Z4V7	4.47	4.7	4.94	20	19	1900	5	2
MMSZ5231BS	Z5V1	4.85	5.1	5.36	20	17	1600	5	2
MMSZ5232BS	Z5V6	5.32	5.6	5.88	20	11	1600	5	3
MMSZ5233BS	Z6V0	5.70	6.0	6.30	20	7	1600	5	3.5
MMSZ5234BS	Z6V2	5.89	6.2	6.51	20	7	1000	5	4
MMSZ5235BS	Z6V8	6.46	6.8	7.14	20	5	750	3	5
MMSZ5236BS	Z7V5	7.13	7.5	7.88	20	6	500	3	6
MMSZ5237BS	Z8V2	7.79	8.2	8.61	20	8	500	3	6.5
MMSZ5238BS	Z8V7	8.27	8.7	9.14	20	8	600	3	6.5
MMSZ5239BS	Z9V1	8.65	9.1	9.56	20	10	600	3	7
MMSZ5240BS	Z10V	9.50	10	10.50	20	17	600	3	8
MMSZ5241BS	Z11V	10.45	11	11.55	20	22	600	2	8.4
MMSZ5242BS	Z12V	11.40	12	12.60	20	30	600	1	9.1
MMSZ5243BS	Z13V	12.35	13	13.65	9.5	13	600	0.5	9.9

DEVICE CHARACTERISTICS

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Device Type	Device Marking	V_Z @ I_{ZT} (Volts) (Note 1)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	Z_{ZK} @ I_{ZK} = 0.25mA (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min	Nom	Max					
MMSZ5244BS	Z14V	13.30	14	14.70	9	15	600	0.1	10
MMSZ5245BS	Z15V	14.25	15	15.75	8.5	16	600	0.1	11
MMSZ5246BS	Z16V	15.20	16	16.80	7.8	17	600	0.1	12
MMSZ5247BS	Z17V	16.15	17	17.85	7.4	19	600	0.1	13
MMSZ5248BS	Z18V	17.10	18	18.90	7	21	600	0.1	14
MMSZ5249BS	Z19V	18.05	19	19.95	6.6	23	600	0.1	14
MMSZ5250BS	Z20V	19.00	20	21.00	6.2	25	600	0.1	15
MMSZ5251BS	Z22V	20.90	22	23.10	5.6	29	600	0.1	17
MMSZ5252BS	Z24V	22.80	24	25.20	5.2	33	600	0.1	18
MMSZ5253BS	Z25V	23.75	25	26.25	5	35	600	0.1	19
MMSZ5254BS	Z27V	25.65	27	28.35	4.6	41	600	0.1	21
MMSZ5255BS	Z28V	26.60	28	29.40	4.5	44	600	0.1	21
MMSZ5256BS	Z30V	28.50	30	31.50	4.2	49	600	0.1	23
MMSZ5257BS	Z33V	31.35	33	34.65	3.8	58	700	0.1	25
MMSZ5258BS	Z36V	34.20	36	37.80	3.4	70	700	0.1	27
MMSZ5259BS	Z39V	37.05	39	40.95	3.2	80	800	0.1	30
MMSZ5260BS	Z43V	40.85	43	45.15	3	93	900	0.1	33
MMSZ5261BS	Z47V	44.65	47	49.35	2.7	105	1000	0.1	36
MMSZ5262BS	Z51V	48.45	51	53.55	2.5	125	1100	0.1	39
MMSZ5263BS	Z56V	53.20	56	58.80	2.2	150	1300	0.1	43
MMSZ5264BS	Z60V	57.00	60	63.00	2.1	170	1400	0.1	46
MMSZ5265BS	Z62V	58.90	62	65.10	2.0	185	1400	0.1	47
MMSZ5266BS	Z68V	64.60	68	71.40	1.8	230	1600	0.1	52
MMSZ5267BS	Z75V	71.25	75	78.75	1.7	270	1700	0.1	56

V_F Forward Voltage = 900mV Maximum @ I_F = 10 mA for all types

Notes:

1. The zener voltage (V_Z) is tested under pulse condition of 1mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
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}.

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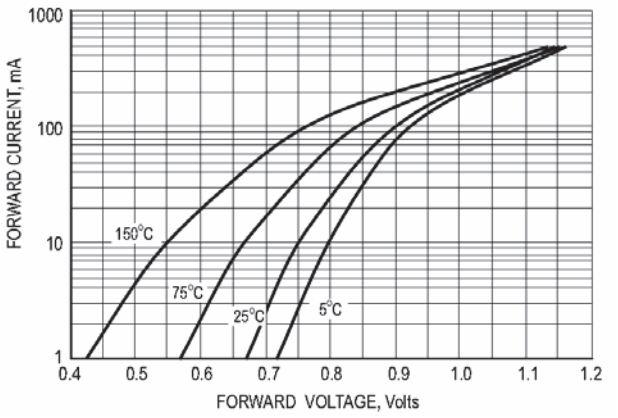


Fig.1 TYPICAL FORWARD VOLTAGE

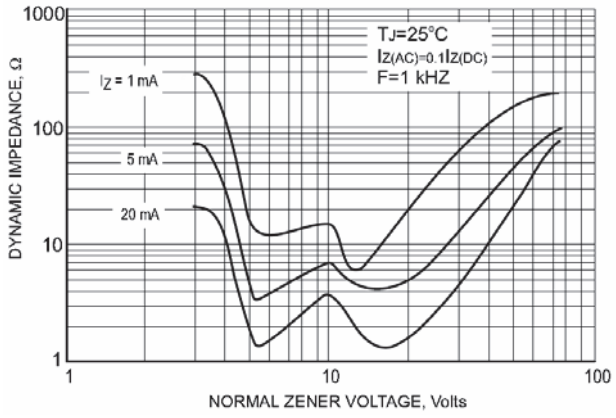


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

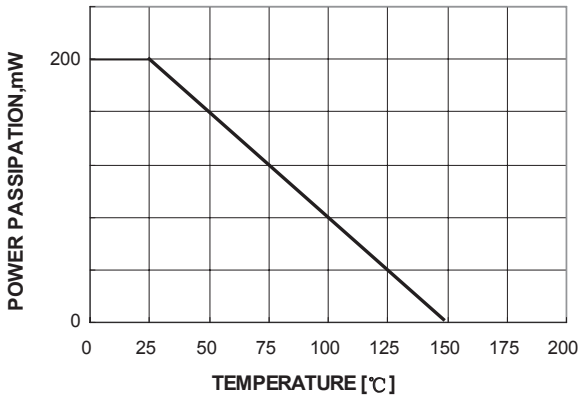


Fig.3 MAXIMUM NONREPETITIVE SURGE

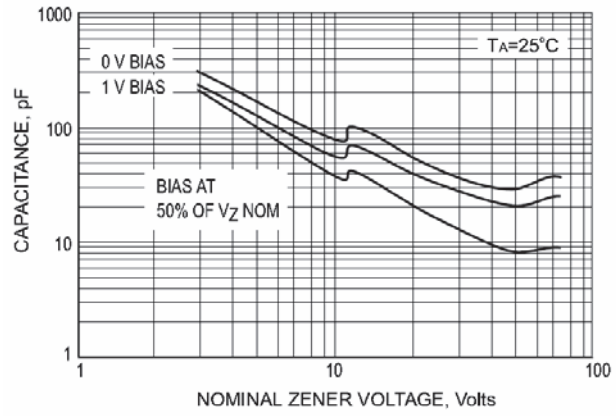


Fig.4 TYPICAL CAPACITANCE

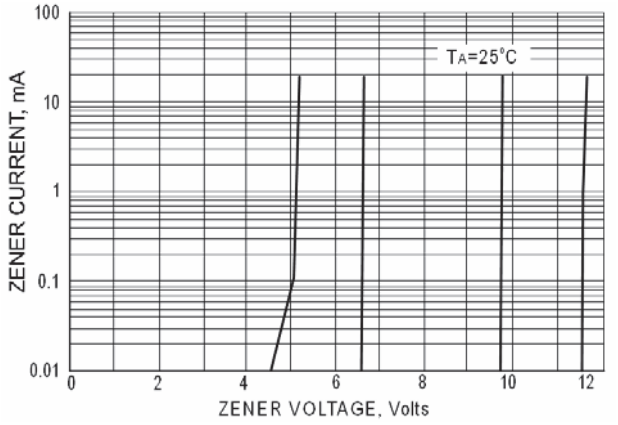


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

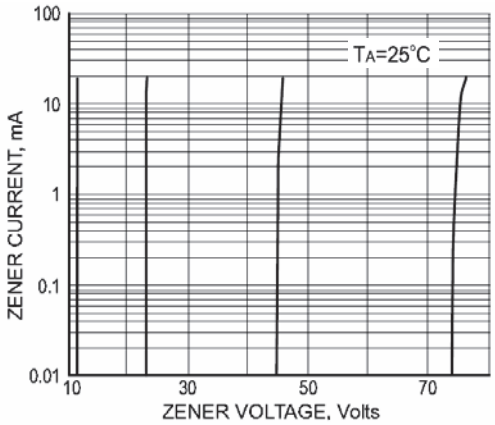


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

PACKAGE OUTLINE AND DIMENSIONS

MMSZ52xxBS Series

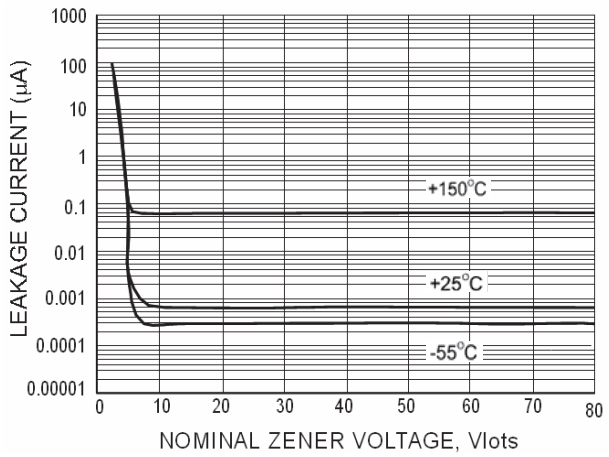
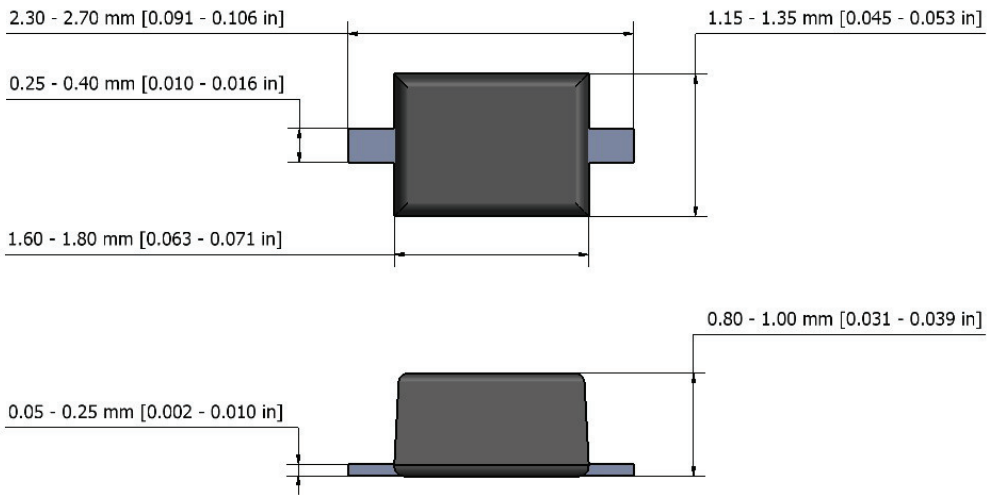


Fig.7 TYPICAL LEAKGE CURRENT

SOD-323 Package Outline



NOTE: The above package outline is similar to JEITA SC-90.

MOUNTING PAD