

SMT-Type Zener Diode

MMSZ5221BS-MMSZ5267BS

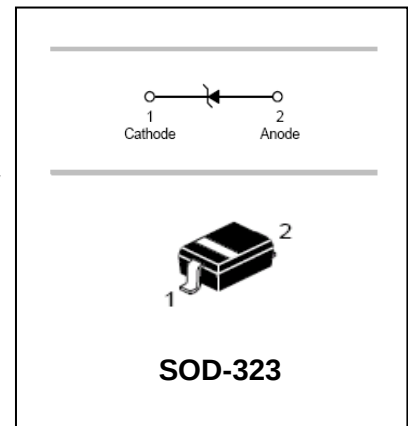
FEATURES

- Large selection of zener voltages: 2.4V ~ 75V
- Tight voltage tolerance: $\pm 5\%$ for B-series
- Ultra low-profile package well suited for automated assembly
- MSL Class 1 compatible

HF

Mechanical Data

- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



APPLICATIONS

- General voltage regulation
- Mobile & handheld systems

ORDERING INFORMATION

Part Number	Marking	Package
MMSZ5221BS – MMSZ5267BS	See Electrical Characteristics	SOD-323

MAXIMUM RATING (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation (Collector)	P_C	200	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Case)	$R_{\theta JC}$	337	$^\circ\text{C/W}$
Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 ~ +150	$^\circ\text{C}$

Note: These ratings are limiting values above which the serviceability of the diodes may be impaired.

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ELECTRICAL CHARACTERISTICS (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Part Number	Marking Code	Zener Voltage V_Z (V)			@ I_{ZT} (mA)	Maximum Zener Impedance			Maximum Reverse Current I_R (μA)	@ V_R (V)
		Min.	Typ.	Max.		Z_{ZT} (Ω) @ I_{ZT}	Z_{ZK} (Ω)	@ I_{ZK} (mA)		
MMSZ5221BS	C1	2.28	2.40	2.52	20	30	1200	0.25	100.000	1.0
MMSZ5223BS	C3	2.57	2.70	2.84	20	30	1300	0.25	75.000	1.0
MMSZ5225BS	C5	2.85	3.00	3.15	20	30	1600	0.25	50.000	1.0
MMSZ5226BS	G1	3.14	3.30	3.47	20	28	1600	0.25	25.000	1.0
MMSZ5227BS	G2	3.42	3.60	3.78	20	24	1700	0.25	15.000	1.0
MMSZ5228BS	G3	3.71	3.90	4.10	20	23	1900	0.25	10.000	1.0
MMSZ5229BS	G4	4.09	4.30	4.52	20	22	2000	0.25	5.000	1.0
MMSZ5230BS	G5	4.47	4.70	4.94	20	19	1900	0.25	5.000	2.0
MMSZ5231BS	E1	4.85	5.10	5.36	20	17	1600	0.25	5.000	2.0
MMSZ5232BS	E2	5.32	5.60	5.88	20	11	1600	0.25	5.000	3.0
MMSZ5233BS	E3	5.70	6.00	6.30	20	7	1600	0.25	5.000	3.5
MMSZ5234BS	E4	5.89	6.20	6.51	20	7	1000	0.25	5.000	4.0
MMSZ5235BS	E5	6.46	6.80	7.14	20	5	750	0.25	3.000	5.0
MMSZ5236BS	F1	7.13	7.50	7.88	20	6	500	0.25	3.000	6.0
MMSZ5237BS	F2	7.79	8.20	8.61	20	8	500	0.25	3.000	6.5
MMSZ5238BS	F3	8.27	8.70	9.14	20	8	600	0.25	3.000	6.5
MMSZ5239BS	F4	8.65	9.10	9.56	20	10	600	0.25	3.000	7.0
MMSZ5240BS	F5	9.50	10.00	10.50	20	17	600	0.25	3.000	8.0
MMSZ5241BS	H1	10.45	11.00	11.55	20	22	600	0.25	2.000	8.4
MMSZ5242BS	H2	11.40	12.00	12.60	20	30	600	0.25	1.000	9.1
MMSZ5243BS	H3	12.35	13.00	13.65	9.5	13	600	0.25	0.500	9.9
MMSZ5244BS	H4	13.30	14.00	14.70	9	15	600	0.25	0.100	10.0
MMSZ5245BS	H5	14.25	15.00	15.75	8.5	16	600	0.25	0.100	11.0
MMSZ5246BS	J1	15.20	16.00	16.80	7.8	17	600	0.25	0.100	12.0
MMSZ5247BS	J2	16.15	17.00	17.85	7.5	19	600	0.25	0.100	13.0
MMSZ5248BS	J3	17.10	18.00	18.90	7	21	600	0.25	0.100	14.0
MMSZ5250BS	J5	19.00	20.00	21.00	6.2	25	600	0.25	0.100	15.0
MMSZ5251BS	K1	20.90	22.00	23.10	5.6	29	600	0.25	0.100	17.0
MMSZ5252BS	K2	22.80	24.00	25.20	5.2	33	600	0.25	0.100	18.0
MMSZ5254BS	K4	25.65	27.00	28.35	5	41	600	0.25	0.100	21.0
MMSZ5255BS	K5	26.60	28.00	29.40	4.5	44	600	0.25	0.100	21.0
MMSZ5256BS	M1	28.50	30.00	31.50	4.2	49	600	0.25	0.100	23.0
MMSZ5257BS	M2	31.35	33.00	34.65	3.8	58	700	0.25	0.100	25.0
MMSZ5258BS	M3	34.20	36.00	37.80	3.4	70	700	0.25	0.100	27.0
MMSZ5259BS	M4	37.05	39.00	40.95	3.2	80	800	0.25	0.100	30.0
MMSZ5260BS	M5	40.85	43.00	45.15	3	93	900	0.25	0.100	33.0
MMSZ5261BS	M6	44.65	47.00	49.35	2.7	105	1000	0.25	0.100	36.0
MMSZ5262BS	M7	48.45	51.00	53.55	2.5	125	1100	0.25	0.100	39.0
MMSZ5263BS	M8	53.20	56.00	58.80	2.2	150	1300	0.25	0.100	43.0
MMSZ5265BS	M9	58.90	62.00	65.10	2	185	1400	0.25	0.100	47.0
MMSZ5267BS	P2	71.25	75.00	78.75	1.7	270	1700	0.25	0.100	56.0

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TYPICAL CHARACTERISTICS (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

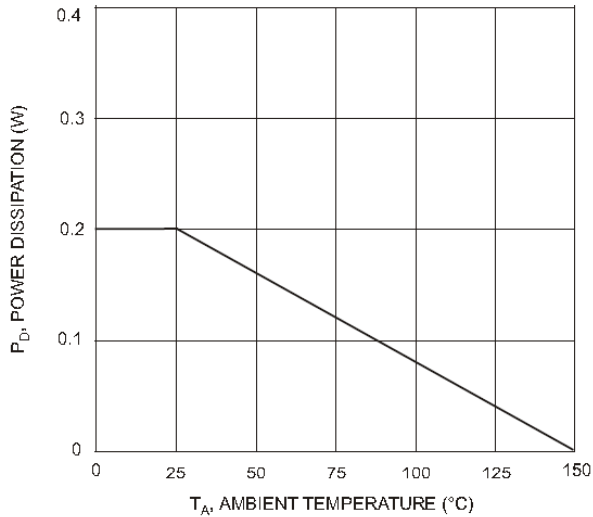


Fig. 1 Power Dissipation vs Ambient Temperature

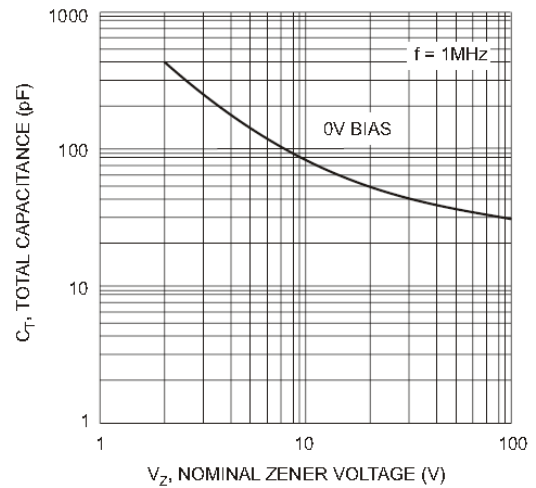


Fig. 2 Typical Capacitance

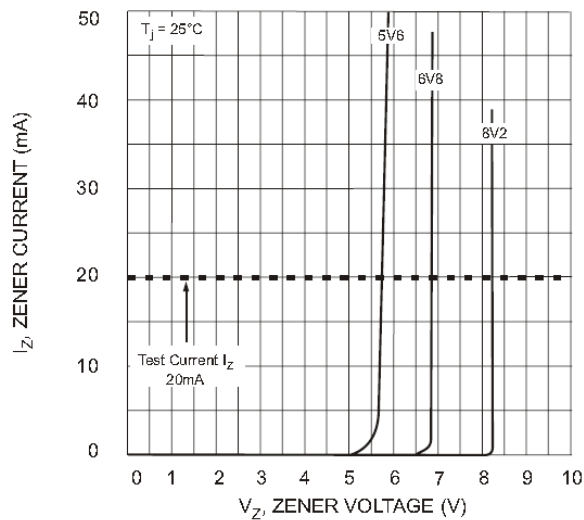


Fig. 3 Zener Breakdown Characteristics

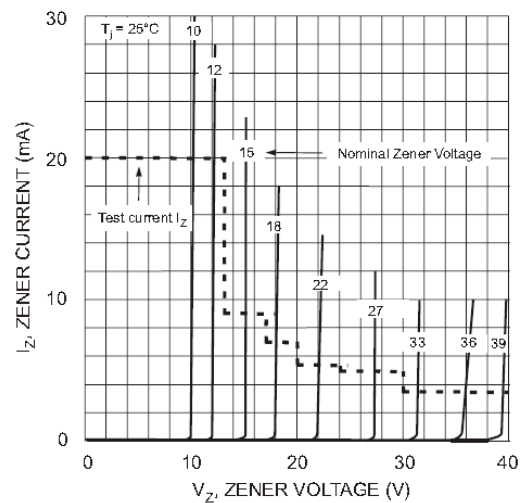


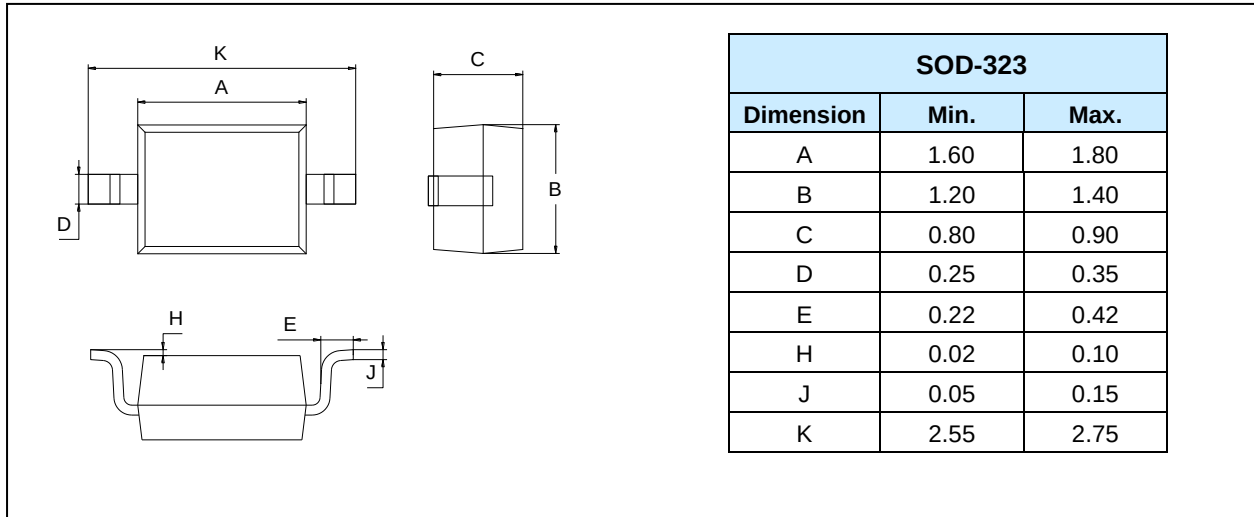
Fig. 4 Zener Breakdown Characteristics

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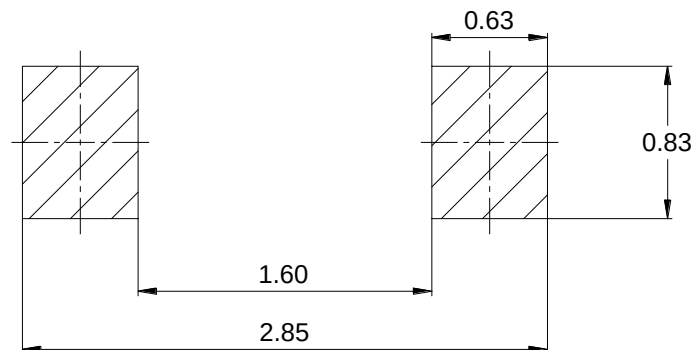
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PACKAGE OUTLINE (Unit: mm)

Plastic surface mounted package



MOUNTING PAD LAYOUT (Unit: mm)



PACKAGE INFORMATION

Part Number	Package	Shipping Quantity
MMSZ5221BS – MMSZ5267BS	SOD-323	3000 pcs / Tape & Reel