

SURFACE MOUNT ZENER DIODE

VOLTAGE RANGE 2.4 to 43 Volts POWER RATING 500 mWatts

FEATURES

- * Planar Die Construction
- * 500mW Power Dissipation
- * General Purpose, Medium Current
- * Ideally Suited for Automated Assembly Processes

MECHANICAL DATA

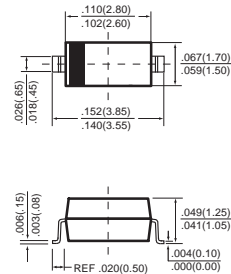
- * Case: Molded plastic
- * Epoxy: UL 94V-O rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.01 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



SOD-123



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (@ TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	VALUE	UNITS
Max. Steady State Power Dissipation @TA=25°C (Note 1)	P _D	500	mW
Max. Operating Temperature Range	T _J	-65 to +150	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS (@ TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient (Note 1)	R θ _{JA}	-	-	350	°C/W
Max. Instantaneous Forward Voltage at I _F = 10mA	V _F	-	-	0.9	Volts

Note 1. Dvice mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25 mm².

ELECTRICAL CHARACTERISTICS (@TA=25°C unless otherwise specified)

TYPE	Zener voltage Range (Note 1) Vz (V) @ IZT			Test current IZT (mA)	Maximum Zener impedance			Maximum Reverse leakage current	
	Nom	Min	Max		ZzT at IZT (Ω)	Zzk (Ω)	at Izk (mA)	IR (μA)	at VR (V)
	Volts	Volts	Volts						
MMSZ5221B	2.4	2.28	2.52	20	30	1200	0.25	100	1.0
MMSZ5223B	2.7	2.57	2.84	20	30	1300	0.25	75	1.0
MMSZ5225B	3.0	2.85	3.15	20	30	1600	0.25	50	1.0
MMSZ5226B	3.3	3.14	3.47	20	28	1600	0.25	25	1.0
MMSZ5227B	3.6	3.42	3.78	20	24	1700	0.25	15	1.0
MMSZ5228B	3.9	3.71	4.10	20	23	1900	0.25	10	1.0
MMSZ5229B	4.3	4.09	4.52	20	22	2000	0.25	5.0	1.0
MMSZ5230B	4.7	4.47	4.94	20	19	1900	0.25	5.0	2.0
MMSZ5231B	5.1	4.85	5.36	20	17	1600	0.25	5.0	2.0
MMSZ5232B	5.6	5.32	5.88	20	11	1600	0.25	5.0	3.0
MMSZ5233B	6.0	5.70	6.30	20	7	1600	0.25	5.0	3.5
MMSZ5234B	6.2	5.89	6.51	20	7	1000	0.25	5.0	4.0
MMSZ5235B	6.8	6.46	7.14	20	5	750	0.25	3.0	5.0
MMSZ5236B	7.5	7.13	7.88	20	6	500	0.25	3.0	6.0
MMSZ5237B	8.2	7.79	8.61	20	8	500	0.25	3.0	6.5
MMSZ5238B	8.7	8.27	9.14	20	8	600	0.25	3.0	6.5
MMSZ5239B	9.1	8.65	9.56	20	10	600	0.25	3.0	7.0
MMSZ5240B	10	9.50	10.50	20	17	600	0.25	3.0	8.0
MMSZ5241B	11	10.45	11.55	20	22	600	0.25	2.0	8.4
MMSZ5242B	12	11.40	12.60	20	30	600	0.25	1.0	9.1
MMSZ5243B	13	12.35	13.65	9.5	13	600	0.25	0.5	9.9
MMSZ5245B	15	14.25	15.75	8.5	16	600	0.25	0.1	11
MMSZ5246B	16	15.20	16.80	7.8	17	600	0.25	0.1	12
MMSZ5248B	18	17.10	18.90	7.0	21	600	0.25	0.1	14
MMSZ5250B	20	19.00	21.00	6.2	25	600	0.25	0.1	15
MMSZ5251B	22	20.90	23.10	5.6	29	600	0.25	0.1	17
MMSZ5252B	24	22.80	25.20	5.2	33	600	0.25	0.1	18
MMSZ5254B	27	25.65	28.35	5.0	41	600	0.25	0.1	21
MMSZ5255B	28	26.60	29.40	4.5	44	600	0.25	0.1	21
MMSZ5256B	30	28.50	31.50	4.2	49	600	0.25	0.1	23
MMSZ5257B	33	31.35	34.65	3.8	58	700	0.25	0.1	25
MMSZ5258B	36	34.20	37.80	3.4	70	700	0.25	0.1	27
MMSZ5259B	39	37.05	40.95	3.2	80	800	0.25	0.1	30
MMSZ5260B	43	40.85	45.15	3.0	93	900	0.25	0.1	33

Note 1. Tested with pulses, Tp<1.0ms.

RATING AND CHARACTERISTICS CURVES (MMBZ5221B-MMBZ5260B)

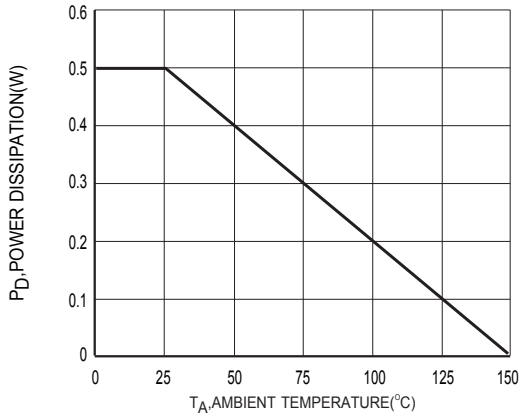


Figure 1 Power Dissipation vs Ambient Temperature

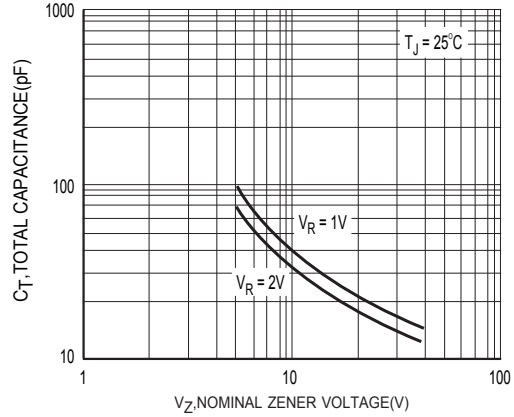


Figure 2 Typical Capacitance

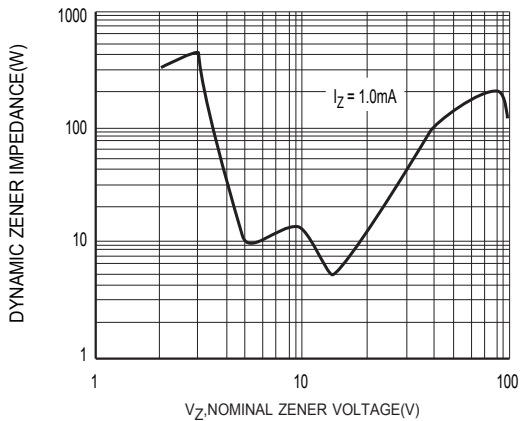


Figure 3 Zener Voltage vs Zener Impedance

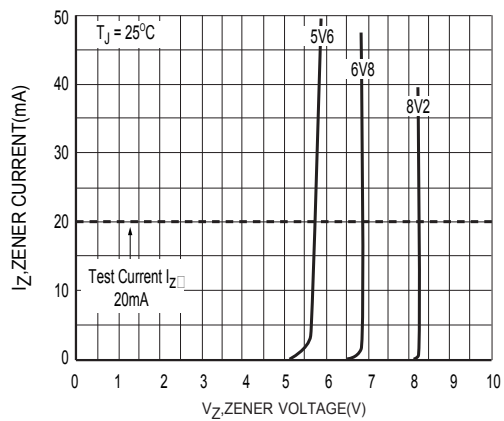


Figure 4 Zener Breakdown Characteristics

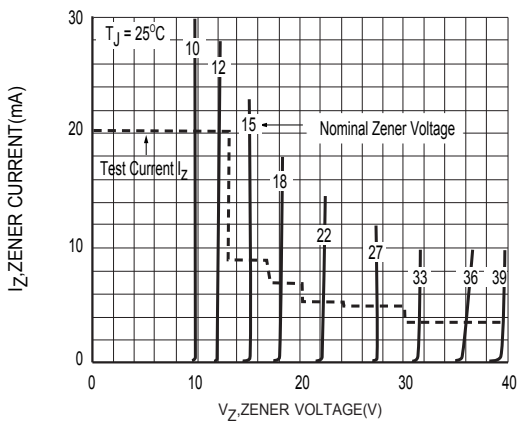


Figure 5 Zener Breakdown Characteristics

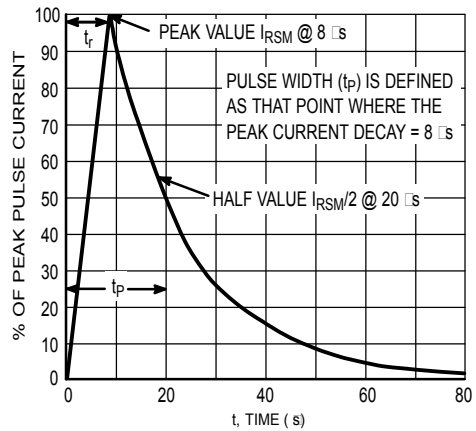


Figure 6. 8x20s Pulse Waveform

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