

SURFACE MOUNT ZENER DIODE

VOLTAGE RANGE 2.4 to 47 Volts POWER RATING 500 mWatts

FEATURES

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

MECHANICAL DATA

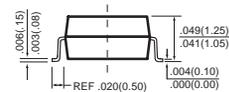
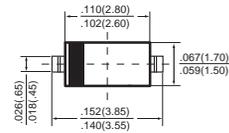
- * Case: Molded plastic
- * Epoxy: UL 94V-O rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.01 gram

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		MK
	Nom	Min	Max		ZZT at IZT (Ω)	ZZK (Ω)	at IZK (mA)	IR (uA)	at VR (V)	
	Volts	Volts	Volts							
MM1 Z5221B	2.4	2.28	2.52	20	30	1200	0.25	100	1.0	A4
MM1 Z5223B	2.7	2.57	2.84	20	30	1300	0.25	75	1.0	B4
MM1 Z5225B	3.0	2.85	3.15	20	30	1600	0.25	50	1.0	C4
MM1 Z5226B	3.3	3.14	3.47	20	28	1600	0.25	25	1.0	D4
MM1 Z5227B	3.6	3.42	3.78	20	24	1700	0.25	15	1.0	E4
MM1 Z5228B	3.9	3.71	4.10	20	23	1900	0.25	10	1.0	F4
MM1 Z5229B	4.3	4.09	4.52	20	22	2000	0.25	5.0	1.0	H4
MM1 Z5230B	4.7	4.47	4.94	20	19	1900	0.25	5.0	2.0	J4
MM1 Z5231B	5.1	4.85	5.36	20	17	1600	0.25	5.0	2.0	K4
MM1 Z5232B	5.6	5.32	5.88	20	11	1600	0.25	5.0	3.0	M4
MM1 Z5234B	6.2	5.89	6.51	20	7	1000	0.25	5.0	4.0	N4
MM1 Z5235B	6.8	6.46	7.14	20	5	750	0.25	3.0	5.0	P4
MM1 Z5236B	7.5	7.13	7.88	20	6	500	0.25	3.0	6.0	R4
MM1 Z5237B	8.2	7.79	8.61	20	8	500	0.25	3.0	6.5	X4
MM1 Z5239B	9.1	8.65	9.56	20	10	600	0.25	3.0	7.0	Y4
MM1 Z5240B	10	9.50	10.50	20	17	600	0.25	3.0	8.0	Z4
MM1 Z5241B	11	10.45	11.55	20	22	600	0.25	2.0	8.4	A5
MM1 Z5242B	12	11.40	12.60	20	30	600	0.25	1.0	9.1	B5
MM1 Z5243B	13	12.35	13.65	9.5	13	600	0.25	0.5	9.9	C5
MM1 Z5245B	15	14.25	15.75	8.5	16	600	0.25	0.1	11	D5
MM1 Z5246B	16	15.20	16.80	7.8	17	600	0.25	0.1	12	E5
MM1 Z5248B	18	17.10	18.90	7.0	21	600	0.25	0.1	14	F5
MM1 Z5249B	19	18.05	19.95	6.6	23	600	0.25	0.1	14	K9
MM1 Z5250B	20	19.00	21.00	6.2	25	600	0.25	0.1	15	H5
MM1 Z5251B	22	20.90	23.10	5.6	29	600	0.25	0.1	17	J5
MM1 Z5252B	24	22.80	25.20	5.2	33	600	0.25	0.1	18	K5
MM1 Z5253B	25	23.75	26.25	5.0	35	600	0.25	0.1	19	M9
MM1 Z5254B	27	25.65	28.35	5.0	41	600	0.25	0.1	21	M5
MM1 Z5256B	30	28.50	31.50	4.2	49	600	0.25	0.1	23	N5
MM1 Z5257B	33	31.35	34.65	3.8	58	700	0.25	0.1	25	P5
MM1 Z5258B	36	34.20	37.80	3.4	70	700	0.25	0.1	27	R5
MM1 Z5259B	39	37.05	40.95	3.2	80	800	0.25	0.1	30	X5
MM1 Z5260B	43	40.85	45.15	3.0	93	900	0.25	0.1	33	Y5
MM1 Z5261B	47	44.65	49.35	2.7	105	1000	0.25	0.1	36	Z5

Note 1. Tested with pulses, $T_p \leq 1.0\text{ms}$.

RATING AND CHARACTERISTICS CURVES (MM1Z5221B-MM1Z5261B)

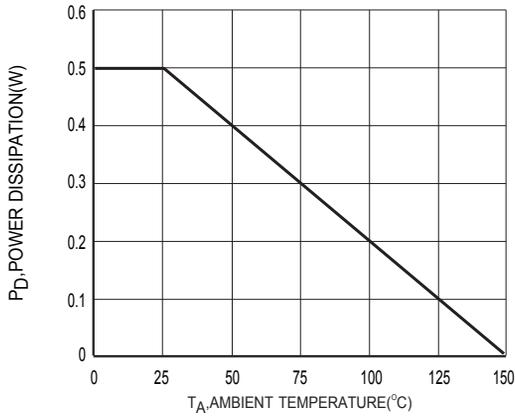


Figure 1 Power Dissipation vs Ambient Temperature

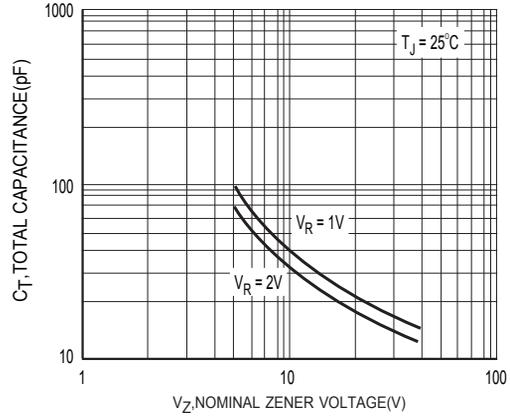


Figure 2 Typical Capacitance

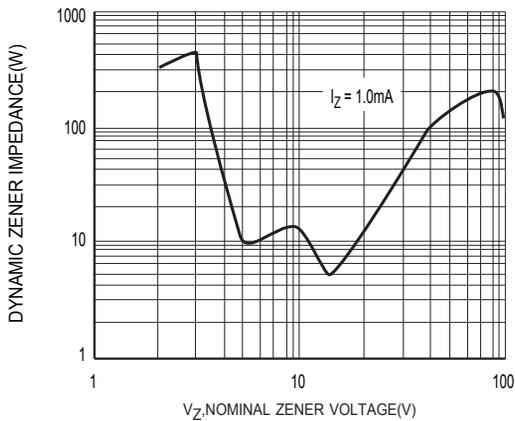


Figure 3 Zener Voltage vs Zener Impedance

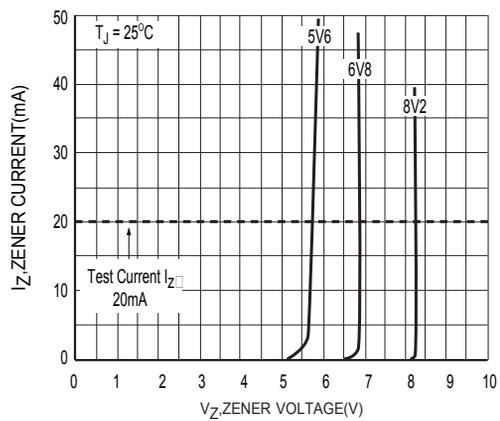


Figure 4 Zener Breakdown Characteristics

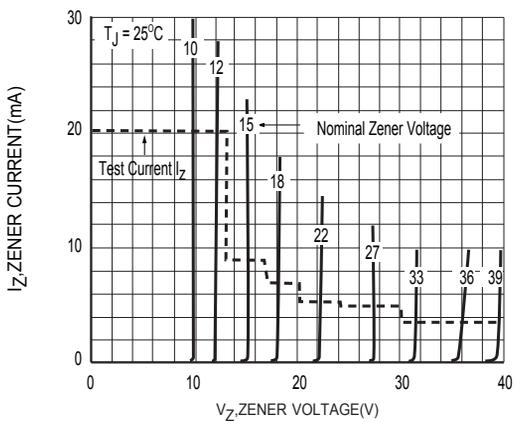


Figure 5 Zener Breakdown Characteristics

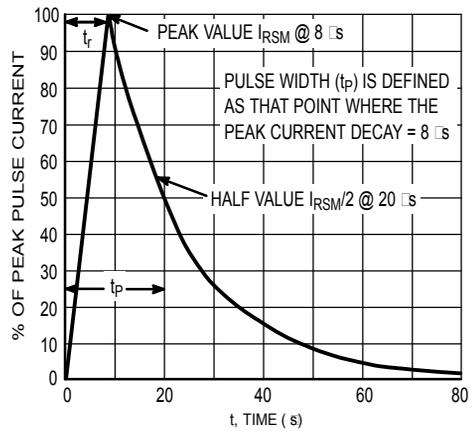


Figure 6. 8x20s Pulse Waveform

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