

SURFACE MOUNT ZENER DIODE

VOLTAGE RANGE 2.4 to 39 Volts POWER RATING 200 mWatts

FEATURES

- * Planar Die Construction
- * 200mW Power Dissipation on FR-4 PCB
- * General purpose, Medium Current
- * Ideally Suited for Automated Assembly

MECHANICAL DATA

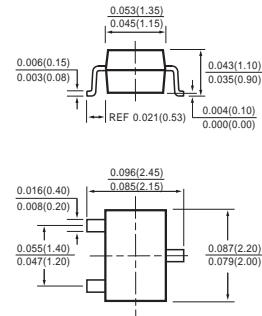
- * Case: Molded plastic
- * Epoxy: UL 94V-O rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.006 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



SOT-323



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	200	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}	-	-	625	°C/W
Max. Instantaneous Forward Voltage at I _F = 10mA	V _F	-	-	0.9	Volts

Note 1. Valid provided that device terminals are kept at ambient temperature.

2006-3

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 (uA)	at VR (V)
	Volts	Volts	Volts						
MMBZ5221BW	2.4	2.28	2.52	20	30	1200	0.25	100	1.0
MMBZ5223BW	2.7	2.57	2.84	20	30	1300	0.25	75	1.0
MMBZ5225BW	3.0	2.85	3.15	20	30	1600	0.25	50	1.0
MMBZ5226BW	3.3	3.14	3.47	20	28	1600	0.25	25	1.0
MMBZ5227BW	3.6	3.42	3.78	20	24	1700	0.25	15	1.0
MMBZ5228BW	3.9	3.71	4.10	20	23	1900	0.25	10	1.0
MMBZ5229BW	4.3	4.09	4.52	20	22	2000	0.25	5.0	1.0
MMBZ5230BW	4.7	4.47	4.94	20	19	1900	0.25	5.0	2.0
MMBZ5231BW	5.1	4.85	5.36	20	17	1600	0.25	5.0	2.0
MMBZ5232BW	5.6	5.32	5.88	20	11	1600	0.25	5.0	3.0
MMBZ5234BW	6.2	5.89	6.51	20	7	1000	0.25	5.0	4.0
MMBZ5235BW	6.8	5.89	7.14	20	5	750	0.25	3.0	5.0
MMBZ5236BW	7.5	6.46	7.88	20	6	500	0.25	3.0	6.0
MMBZ5237BW	8.2	7.13	8.61	20	8	500	0.25	3.0	6.5
MMBZ5239BW	9.1	7.79	9.56	20	10	600	0.25	3.0	7.0
MMBZ5240BW	10	8.65	10.50	20	17	600	0.25	3.0	8.0
MMBZ5241BW	11	9.50	11.55	20	22	600	0.25	2.0	8.4
MMBZ5242BW	12	10.45	12.60	20	30	600	0.25	1.0	9.1
MMBZ5243BW	13	11.40	13.65	9.5	13	600	0.25	0.5	9.9
MMBZ5245BW	15	12.35	15.75	8.5	16	600	0.25	0.1	11
MMBZ5246BW	16	14.25	16.80	7.8	17	600	0.25	0.1	12
MMBZ5248BW	18	15.20	18.90	7.0	21	600	0.25	0.1	14
MMBZ5250BW	20	17.10	21.00	6.2	25	600	0.25	0.1	15
MMBZ5251BW	22	19.00	23.10	5.6	29	600	0.25	0.1	17
MMBZ5252BW	24	20.90	25.20	5.2	33	600	0.25	0.1	18
MMBZ5254BW	27	22.80	28.35	5.0	41	600	0.25	0.1	21
MMBZ5255BW	28	25.65	29.40	4.5	44	600	0.25	0.1	21
MMBZ5256BW	30	28.50	31.50	4.2	49	600	0.25	0.1	23
MMBZ5257BW	33	31.35	34.65	3.8	58	700	0.25	0.1	25
MMBZ5258BW	36	34.20	37.80	3.4	70	700	0.25	0.1	27
MMBZ5259BW	39	37.05	40.95	3.2	80	800	0.25	0.1	30

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

RATING AND CHARACTERISTICS CURVES (MMBZ5221BW-MMBZ5259BW)

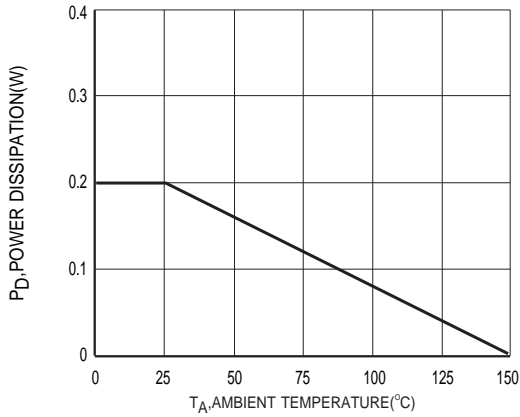


Figure 1 Power Dissipation vs Ambient Temperature

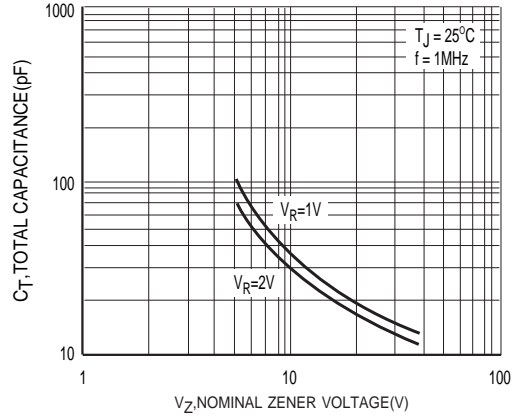


Figure 2 Total Capacitance vs Nominal Zener Voltage

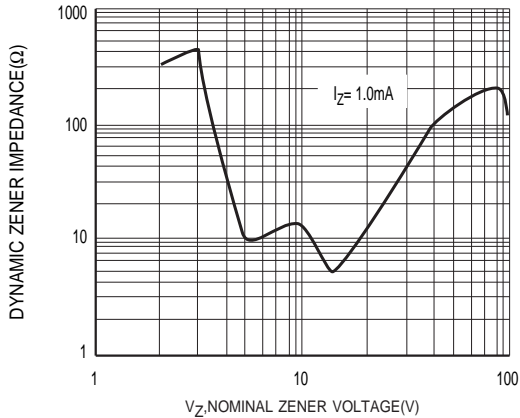


Figure 3 Zener Voltage vs Zener Impedance

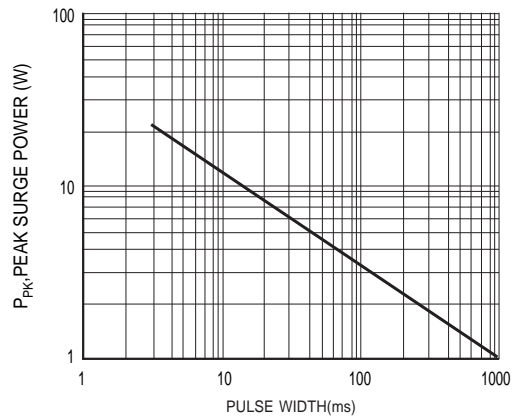


Figure 4 Maximum Non-repetitive Surge Power

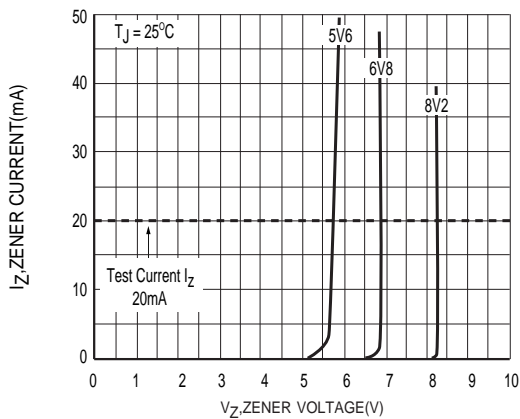


Figure 5 Zener Breakdown Characteristics

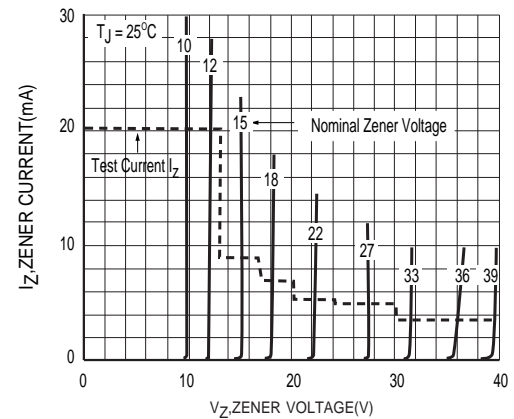


Figure 6 Zener Breakdown Characteristics

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