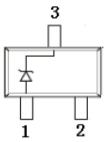
ZENER DIODES

MMBZ52XXB series

FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Zener Voltages from 2.4V - 39V
- Ideally Suited for Automated Assembly Processes



SOT-23

Parameter	Symbol	Value	Units
Power Dissipation (Notes A) at 75°C	P_D	500	mW
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Notes B)	I_{FSM}	4.0	Amps
Operating Junction and StorageTemperature Range	T_J	-55 to +150	°C

NOTES:

A. Mounted on 5.0mm2(.013mm thick) land areas.

B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

MMBZ52XXB series

ELECTRICAL CHARACTERISTICS @ Ta=25ÿ unless otherwise specified

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leaka e Current		Typical Temp. Coefficient	Max. Zener Current
	Vz @ Izt			Zzt @ Izt		Zzk @ Izk		Ir @ Vr		Tc	Izm@Ta
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	nA	V		mA
500 mWatts Zener Diodes											
MMBZ5221B	2.4	2.28	2.52	30	20	1200	0.25	100	1	-0.070	188
MMBZ5222B	2.5	2.38	2.63	30	20	1250	0.25	100	1	-0.065	180
MMBZ5223B	2.7	2.57	2.84	30	20	1300	0.25	75	1	-0.060	167
MMBZ5225B	3	2.85	3.15	30	20	1600	0.25	50	1	-0.055	150
MMBZ5226B	3.3	3.14	3.47	28	20	1600	0.25	25	1	0.030	138
MMBZ5227B	3.6	3.42	3.78	24	20	1700	0.25	15	1	0.030	126
MMBZ5228B	3.9	3.71	4.1	23	20	1900	0.25	10	1	+0.038	115
MMBZ5229B	4.3	4.09	4.52	22	20	2000	0.25	5	1	+0.038	106
MMBZ5230B	4.7	4.47	4.94	19	20	1900	0.25	5	2	+0.045	97
MMBZ5231B	5.1	4.85	5.36	17	20	1600	0.25	5	2	+0.050	89
MMBZ5232B	5.6	5.32	5.88	11	20	1600	0.25	5	3	+0.058	81
MMBZ5234B	6.2	5.89	6.51	7	20	1000	0.25	5	4	+0.062	73
MMBZ5235B	6.8	6.46	7.14	5	20	750	0.25	3	5	+0.065	67
MMBZ5236B	7.5	7.13	7.88	6	20	500	0.25	3	6	+0.068	61
MMBZ5237B	8.2	7.79	8.61	8	20	500	0.25	3	6	+0.075	55
MMBZ5239B	9.1	8.65	9.56	10	20	600	0.25	3	6.5	+0.076	50
MMBZ5240B	10	9.5	10.5	17	20	600	0.25	3	8	+0.077	45
MMBZ5241B	11	10.45	11.55	22	20	600	0.25	3	8.4	+0.079	41
MMBZ5242B	12	11.4	12.6	30	20	600	0.25	2	9.1	+0.082	38
MMBZ5243B	13	12.35	13.65	13	9.5	600	0.25	1	9.9	+0.082	35
MMBZ5245B	15	14.25	15.75	16	8.5	600	0.25	0.5	11	+0.083	30
MMBZ5246B	16	15.2	16.8	17	7.8	600	0.25	0.1	12	+0.084	28
MMBZ5248B	18	17.1	18.9	21	7	600	0.25	0.1	14	+0.085	25
MMBZ5250B	20	19	21	25	6.2	600	0.25	0.1	15	+0.086	23
MMBZ5251B	22	20.9	23.1	29	5.6	600	0.25	0.1	17	+0.086	21
MMBZ5252B	24	22.8	25.2	33	5.2	600	0.25	0.1	18	+0.087	19.1
MMBZ5254B	27	25.65	28.35	41	5	600	0.25	0.1	21	+0.087	16.8
MMBZ5255B	28	26.6	29.4	44	4.5	600	0.25	0.1	21	+0.089	16.2
MMBZ5256B	30	28.5	31.5	49	4.2	600	0.25	0.1	23	+0.090	15.1
MMBZ5257B	33	31.35	34.65	58	3.8	700	0.25	0.1	25	+0.091	13.8
MMBZ5258B	36	34.2	37.8	70	3.4	700	0.25	0.1	27	+0.091	12.6
MMBZ5259B	39	37.05	40.95	80	3.2	800	0.25	0.1	30	+0.092	11.6

NOTE:

1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
2. Specials Available Include:
   A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
   B. Matched sets.
3. Zener Voltage (V_Z) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T_L) at 30°C, from the diode body.
4. Zener Impedance (Z_Z) Derivation. 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 on I_{ZT} or I_{ZK}.
5. Surge Current (I_R) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I_{ZT}, per JEDEC registration; however, actual device capability is as described in Figure 5.

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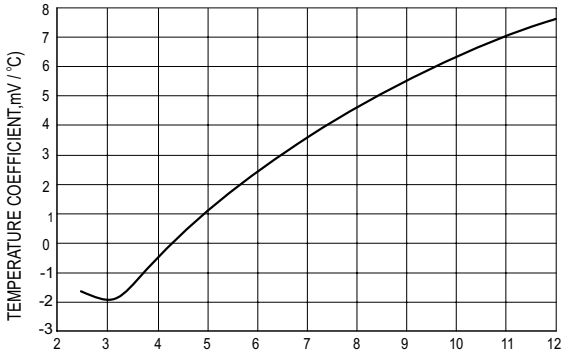
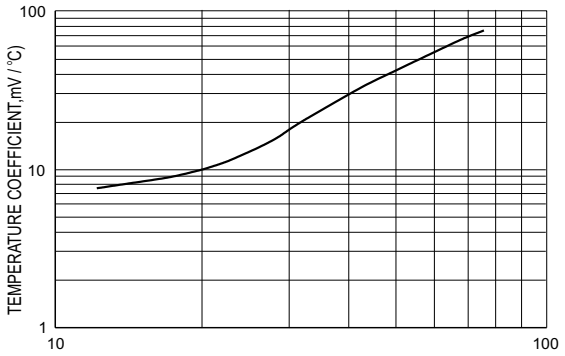
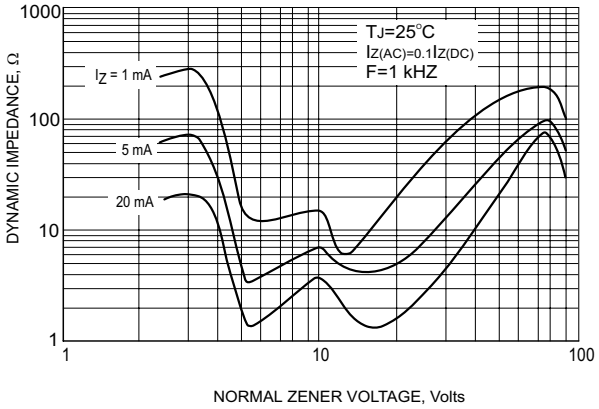


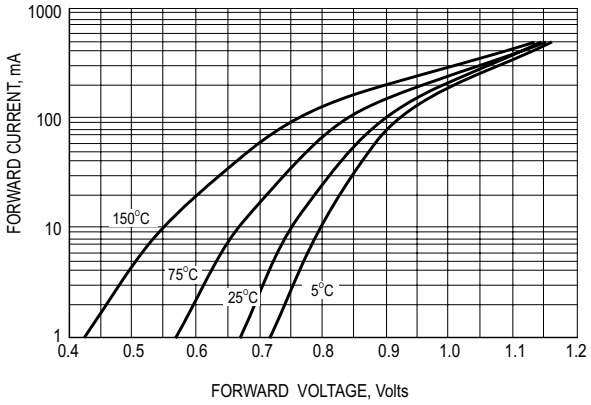
TYPICAL REVERSE CURRENT



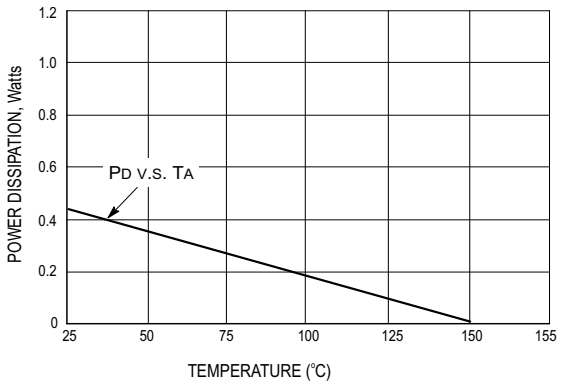
STEADY STATE POWER DERATING



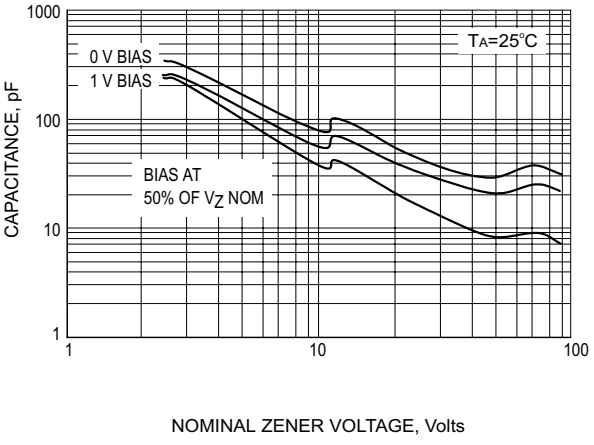
EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE



TYPICAL FORWARD VOLTAGE



STEADY STATE POWER DERATING



TYPICAL CAPACITANCE