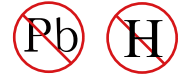




Zener Voltage Regulator Diodes 225 mW SOT-23 Surface Mount

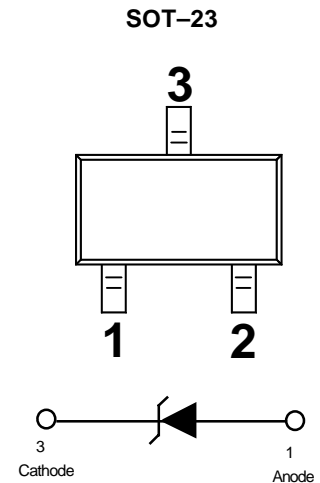


Features

- 225mW Rating on FR-4 or FR-5 Board.
- Zener Voltage Range 2.4V to 75V.
- Small Package Size for High Density Applications.
- ESD Raging of Class 3 (>8kV) per Human Body Model.

Mechanical Data

- Case: SOT-23.
- Maximum Case Temperature for soldering purposes:
260°C for 10 seconds.
- Polarity: Cathode indicated by polarity band.
- Flammability Ratings: UL94V-0.



Ordering Information

Device	Qty per Reel	Reel Size
MMBZ52xxB	3000	7Inch

Maximum Ratings

Rating	Symbol	Max	Unit
Total Power Dissipation on FR-5 Board, (Note 1) @ T _A =25°C	P _D	225	mW
Deratd above 25°C		1.8	mW/°C
Thermal Resistance	R _{θJA}	556	°C/W
Total Power Dissipation on Alumina Substrate, (Note 2) @ T _A =25°C	P _D	300	mW
Deratd above 25°C		2.4	mW/°C
Thermal Resistance	R _{θJA}	417	°C/W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Note: 1. FR-5=1x0.75x0.62 inch.

2. Alumina=0.4x0.3x0.024 inch, 99.5% alumina.

DEVICE CHARACTERISTICS

MMBZ52xxB

Electrical Characteristics (Pinout: 1-Anode, 2-NC, 3-Cathode) ($V_F = 0.9\text{ V Max @ }I_F = 10\text{ mA}$ for all types.)

Part Number	Nominal Zener Voltage (Note 3) VZ(V) @ IZT			Max. Zener Impedance				Reverse Leakage Current		Marking
	Min.	Nom.	Max.	IZT(mA)	@ ZZT(Ω)	ZZK(Ω)	@ IZK(mA)	IR(μ A)	@ VR(V)	
MMBZ5221B	2.28	2.4	2.52	20	30	1200	0.25	100	1	18A
MMBZ5222B	2.37	2.5	2.63	20	30	1250	0.25	100	1	18B
MMBZ5223B	2.56	2.7	2.84	20	30	1300	0.25	75	1	18C
MMBZ5224B	2.66	2.8	2.94	20	30	1400	0.25	75	1	18D
MMBZ5225B	2.85	3	3.15	20	29	1600	0.25	50	1	18E
MMBZ5226B	3.13	3.3	3.47	20	28	1600	0.25	25	1	8A
MMBZ5227B	3.42	3.6	3.78	20	24	1700	0.25	15	1	8B
MMBZ5228B	3.7	3.9	4.1	20	23	1900	0.25	10	1	8C
MMBZ5229B	4.08	4.3	4.52	20	22	2000	0.25	5	1	8D
MMBZ5230B	4.46	4.7	4.94	20	19	1900	0.25	5	2	8E
MMBZ5231B	4.84	5.1	5.36	20	17	1600	0.25	5	2	8F
MMBZ5232B	5.32	5.6	5.88	20	11	1600	0.25	5	3	8G
MMBZ5234B	5.89	6.2	6.51	20	7	1000	0.25	5	4	8J
MMBZ5235B	6.46	6.8	7.14	20	5	750	0.25	3	5	8K
MMBZ5236B	7.12	7.5	7.88	20	6	500	0.25	3	6	8L
MMBZ5237B	7.79	8.2	8.61	20	8	500	0.25	3	6.5	8M
MMBZ5238B	8.26	8.7	9.14	20	8	600	0.25	3	6.5	8N
MMBZ5239B	8.64	9.1	9.56	20	10	600	0.25	3	7	8P
MMBZ5240B	9.5	10	10.5	20	17	600	0.25	3	8	8Q
MMBZ5241B	10.4	11	11.55	20	22	600	0.25	2	8.4	8R
MMBZ5242B	11.4	12	12.6	20	30	600	0.25	1	9.1	8S
MMBZ5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	8T
MMBZ5244B	13.3	14	14.7	9	15	600	0.25	0.1	10	8U
MMBZ5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	8V
MMBZ5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	8X
MMBZ5248B	17.1	18	18.9	7	21	600	0.25	0.1	14	8Y
MMBZ5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	8Z
MMBZ5250B	19	20	21	6.2	25	600	0.25	0.1	15	81A
MMBZ5251B	20.9	22	23.1	5.6	29	600	0.25	0.1	17	81B
MMBZ5252B	22.8	24	25.2	5.2	33	600	0.25	0.1	18	81C
MMBZ5253B	23.75	25	26.25	5	35	600	0.25	0.1	19	81D
MMBZ5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	81E
MMBZ5255B	26.6	28	29.4	4.5	44	600	0.25	0.1	21	81F
MMBZ5256B	28.5	30	31.5	4.2	49	600	0.25	0.1	23	81G
MMBZ5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	81H
MMBZ5258B	34.2	36	37.8	3.4	70	700	0.25	0.1	27	81J
MMBZ5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	81K
MMBZ5260B	40.85	43	45.15	3	93	900	0.25	0.1	33	81L
MMBZ5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	81M
MMBZ5262B	48.45	51	53.55	2.5	125	1100	0.25	0.1	39	81N
MMBZ5263B	53.2	56	58.8	2.2	150	1300	0.25	0.1	43	81P
MMBZ5264B	57	60	63	2.1	170	1400	0.25	0.1	46	81Q
MMBZ5265B	58.9	62	65.1	2	185	1400	0.25	0.1	47	81R
MMBZ5266B	64.6	68	71.4	1.8	230	1600	0.25	0.1	52	81S
MMBZ5267B	71.25	75	78.75	1.7	270	1700	0.25	0.1	56	81T

Note: 3. Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C .

DEVICE CHARACTERISTICS

MMBZ52xxB

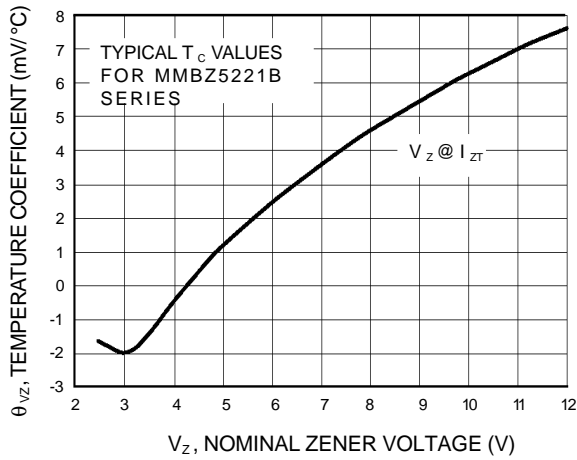


Figure 1. Temperature Coefficients
(Temperature Range -55°C to $+150^{\circ}\text{C}$)

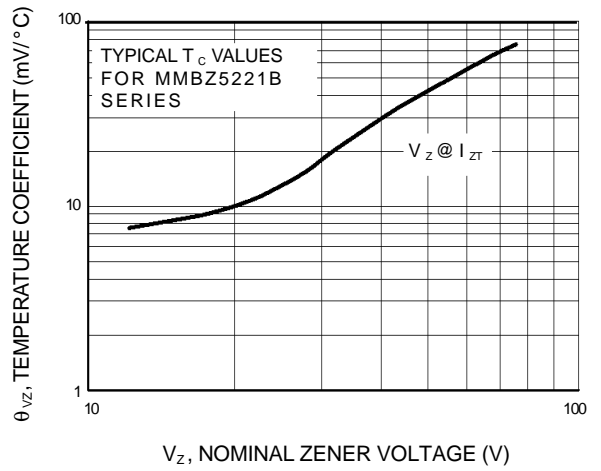


Figure 2. Temperature Coefficients
(Temperature Range -55°C to $+150^{\circ}\text{C}$)

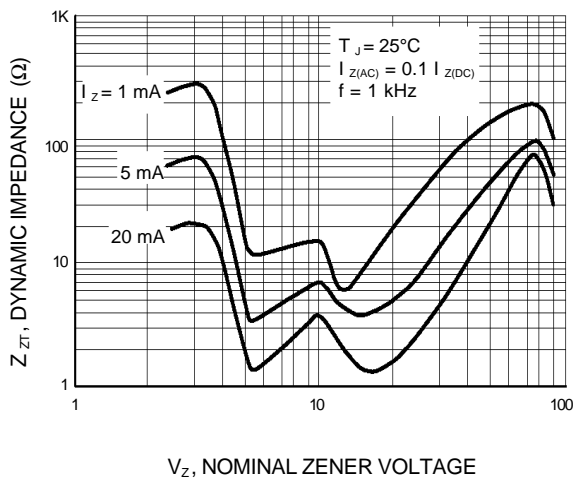


Figure 3. Effect of Zener Voltage on Zener Impedance

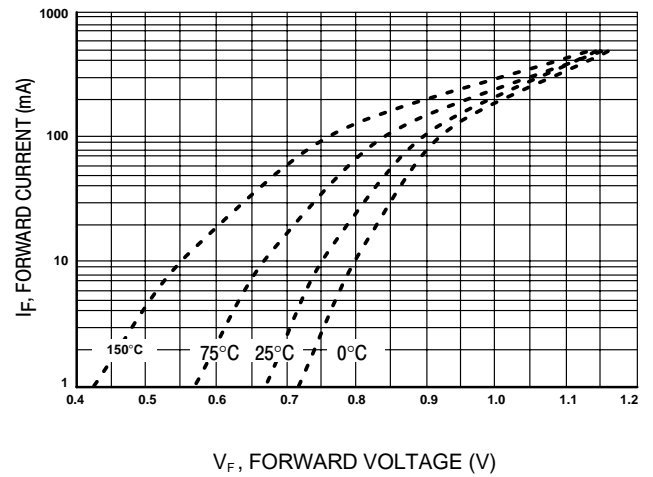


Figure 4. Typical Forward Voltage

DEVICE CHARACTERISTICS

MMBZ52xxB

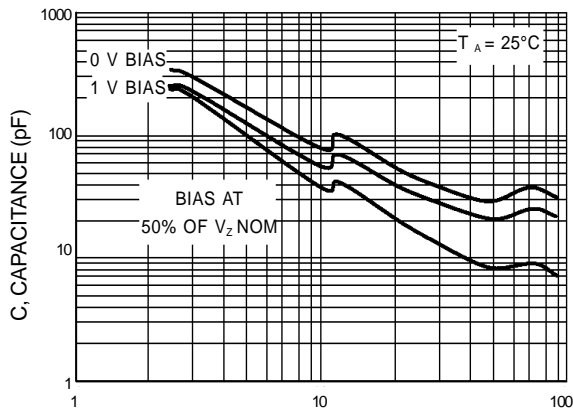


Figure 5. Typical Capacitance

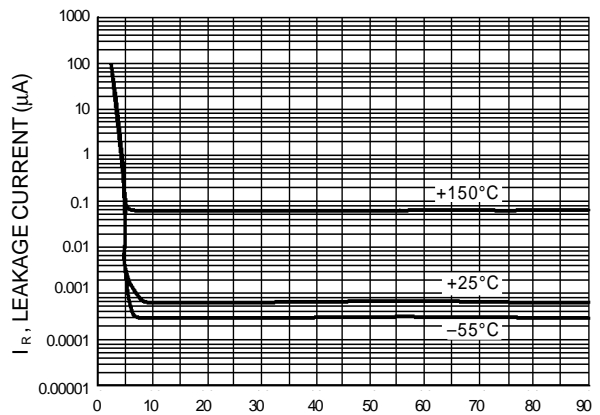


Figure 6. Typical Leakage Current

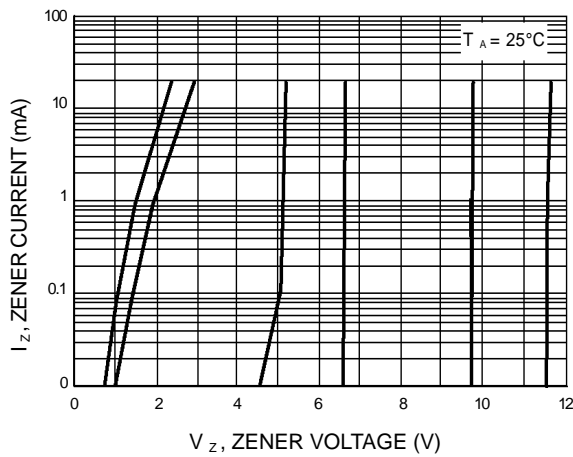


Figure 7. Zener Voltage versus Zener Current (V_z Up to 12 V)

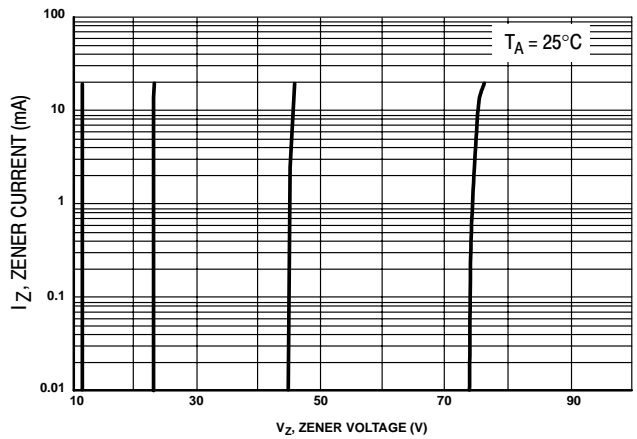
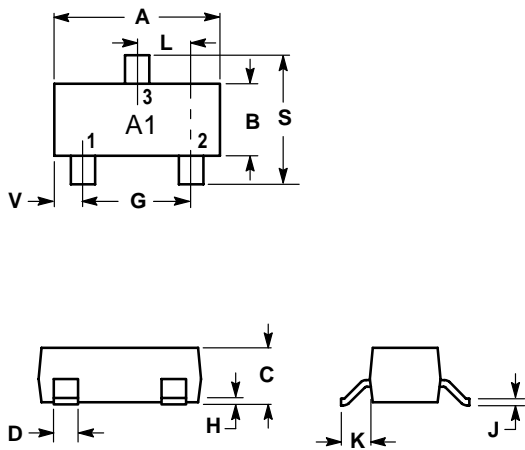


Figure 8. Zener Voltage versus Zener Current (12 V to 75 V)

PACKAGE OUTLINE & DIMENSIONS

MMBZ52xxB

SOT-23



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

