



# MMBZ5221B~MMBZ5262B

## SURFACE MOUNT SILICON ZENER DIODES

<b>VOLTAGE</b>	<b>2.4 to 51 Volt</b>	<b>POWER</b>	<b>410 mWatt</b>
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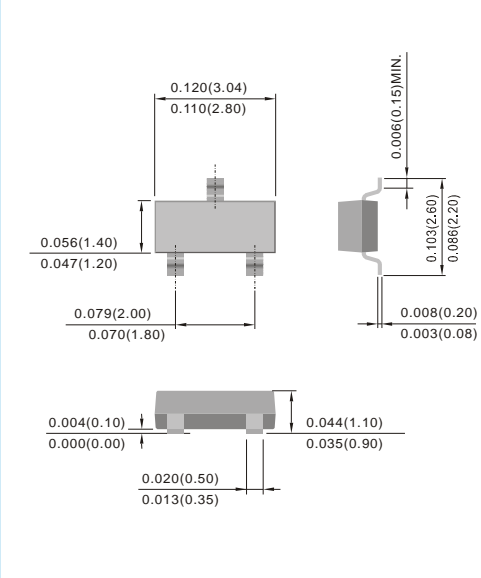
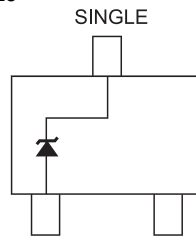
**SOT-23** Unit : inch(mm)

### FEATURES

- Planar Die construction
- 410mW Power Dissipation
- Zener Voltages from 2.4V~51V
- Ideally Suited for Automated Assembly Processes
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Apprx. Weight: 0.0003 ounce, 0.0084 gram



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Maximum Power Dissipation (Notes A) at 25°C	P <sub>D</sub>	410	mW
Operating Junction and Storage Temperature Range	T <sub>J</sub>	-55 to +150	°C

**NOTES:**

A. Mounted on 100mm<sup>2</sup>(1mm thick) copper areas.



## MMBZ5221B~MMBZ5262B

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking Code
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
410 mWatts Zener Diodes										
MMBZ5221B	2.4	2.28	2.52	30	20	1200	0.25	100	1.0	C1
MMBZ5222B	2.5	2.38	2.63	30	20	1250	0.25	100	1.0	C2
MMBZ5223B	2.7	2.57	2.84	30	20	1300	0.25	75	1.0	C3
MMBZ5224B	2.8	2.66	2.94	30	20	1400	0.25	75	1.0	C4
MMBZ5225B	3.0	2.85	3.15	30	20	1600	0.25	50	1.0	C5
MMBZ5226B	3.3	3.14	3.47	28	20	1600	0.25	25	1.0	D1
MMBZ5227B	3.6	3.42	3.78	24	20	1700	0.25	15	1.0	D2
MMBZ5228B	3.9	3.71	4.10	23	20	1900	0.25	10	1.0	D3
MMBZ5229B	4.3	4.09	4.52	22	20	2000	0.25	5.0	1.0	D4
MMBZ5230B	4.7	4.47	4.94	19	20	1900	0.25	5.0	2.0	D5
MMBZ5231B	5.1	4.85	5.36	17	20	1600	0.25	5.0	2.0	E1
MMBZ5232B	5.6	5.32	5.88	11	20	1600	0.25	5.0	3.0	E2
MMBZ5233B	6.0	5.70	6.30	7.0	20	1600	0.25	5.0	3.5	E3
MMBZ5234B	6.2	5.89	6.51	7	20	1000	0.25	5.0	4.0	E4
MMBZ5235B	6.8	6.46	7.14	5	20	750	0.25	3.0	5.0	E5
MMBZ5236B	7.5	7.13	7.88	6	20	500	0.25	3.0	6.0	F1
MMBZ5237B	8.2	7.79	8.61	8	20	500	0.25	3.0	6.0	F2
MMBZ5238B	8.7	8.27	9.14	8	20	600	0.25	3.0	6.5	F3
MMBZ5239B	9.1	8.65	9.56	10	20	600	0.25	3.0	6.5	F4
MMBZ5240B	10	9.50	10.50	17	20	600	0.25	3.0	8.0	F5
MMBZ5241B	11	10.45	11.55	22	20	600	0.25	3.0	8.4	H1
MMBZ5242B	12	11.40	12.60	30	20	600	0.25	2.0	9.1	H2
MMBZ5243B	13	12.35	13.65	13	9.5	600	0.25	1.0	9.9	H3
MMBZ5244B	14	13.30	14.70	15	9.0	600	0.25	0.1	10.5	H4
MMBZ5245B	15	14.25	15.75	16	8.5	600	0.25	0.5	11	H5
MMBZ5246B	16	15.20	16.80	17	7.8	600	0.25	0.1	12	J1
MMBZ5247B	17	16.15	17.85	19	7.5	600	0.25	0.1	13	J2
MMBZ5248B	18	17.10	18.90	21	7.0	600	0.25	0.1	14	J3
MMBZ5249B	19	18.05	19.95	23	6.6	600	0.25	0.1	14	J4
MMBZ5250B	20	19.00	21.00	25	6.2	600	0.25	0.1	15	J5
MMBZ5251B	22	20.90	23.10	29	5.6	600	0.25	0.1	17	K1
MMBZ5252B	24	22.80	25.20	33	5.2	600	0.25	0.1	18	K2
MMBZ5253B	25	23.75	26.25	35	5.0	600	0.25	0.1	19	K3
MMBZ5254B	27	25.65	28.35	41	5.0	600	0.25	0.1	21	K4
MMBZ5255B	28	26.60	29.40	44	4.5	600	0.25	0.1	21	K5
MMBZ5256B	30	28.50	31.50	49	4.2	600	0.25	0.1	23	M1
MMBZ5257B	33	31.35	34.65	58	3.8	700	0.25	0.1	25	M2
MMBZ5258B	36	34.20	37.80	70	3.4	700	0.25	0.1	27	M3
MMBZ5259B	39	37.05	40.95	80	3.2	800	0.25	0.1	30	M4
MMBZ5260B	43	40.85	45.15	93	3.0	900	0.25	0.1	33	M5
MMBZ5261B	47	44.65	49.35	105	2.7	1000	0.25	0.1	36	N1
MMBZ5262B	51	48.45	53.55	125	2.5	1100	0.25	0.1	39	N2



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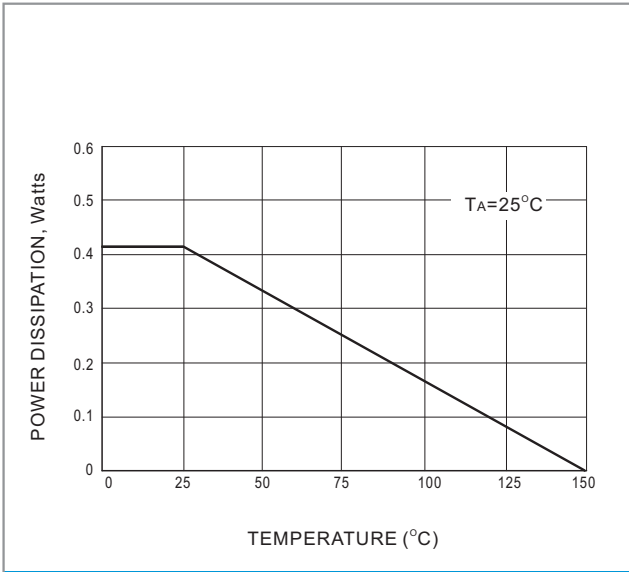


Fig.1 STEADY STATE POWER DERATING

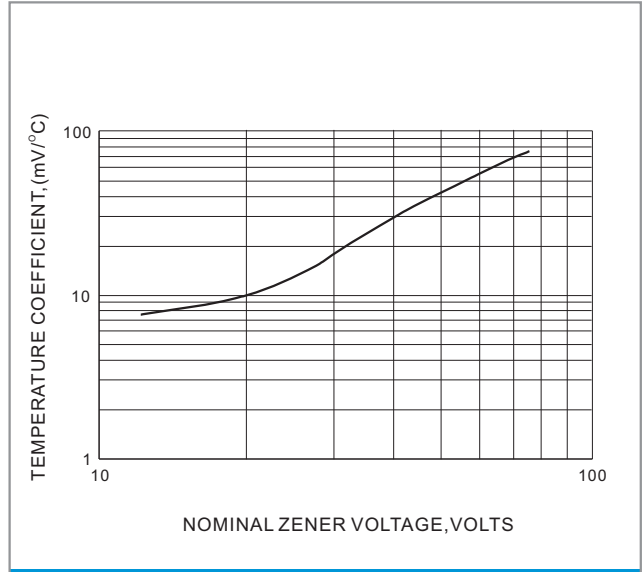


Fig.2 TEMPERATURE COEFFICIENTS

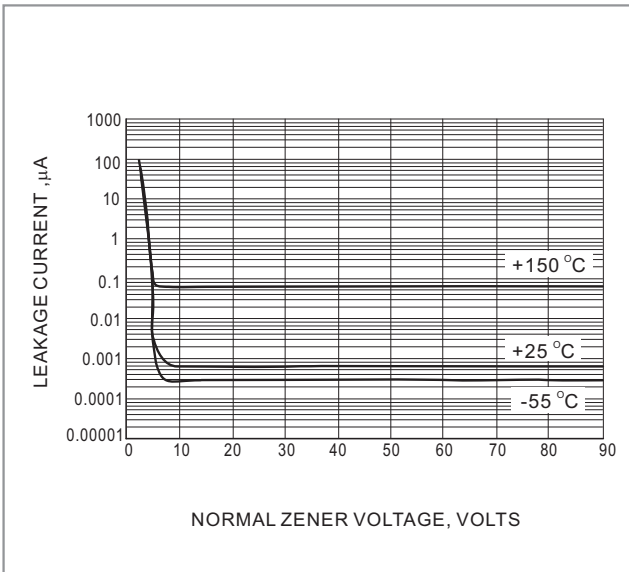


Fig.3 TYPICAL LEAKAGE CURRENT

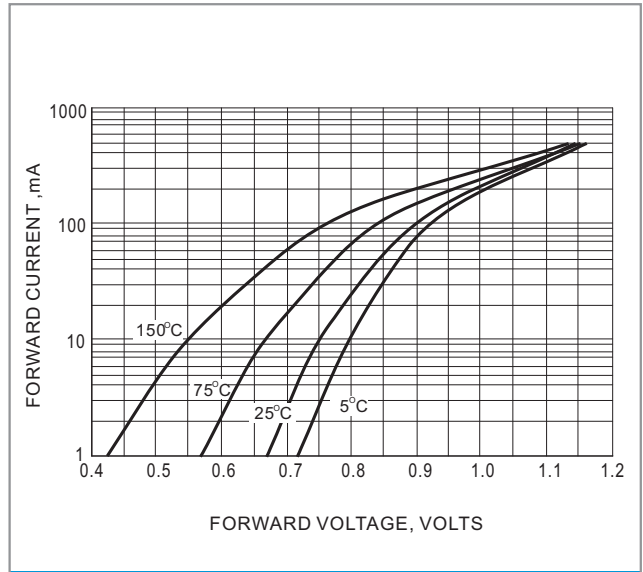


Fig.4 TYPICAL FORWARD VOLTAGE

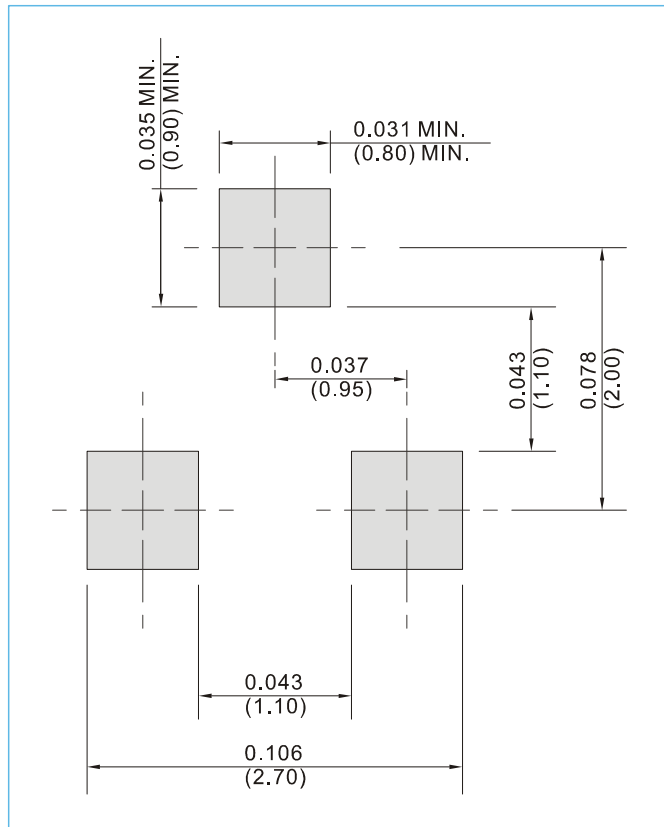


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## MOUNTING PAD LAYOUT

SOT-23

Unit : inch(mm)



## ORDER INFORMATION

- Packing information  
T/R - 12K per 13" plastic Reel  
T/R - 3K per 7" plastic Reel



## MMBZ5221B~MMBZ5262B

### Part No\_packing code\_Version

MMBZ5221B\_R1\_00001

MMBZ5221B\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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