



# MMBZ5228B-AU~MMBZ5262B-AU

## SURFACE MOUNT SILICON ZENER DIODES

**VOLTAGE** 2.4 to 51 Volt **POWER** 410 mWatt

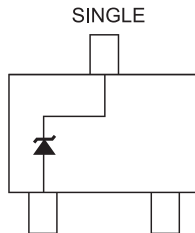
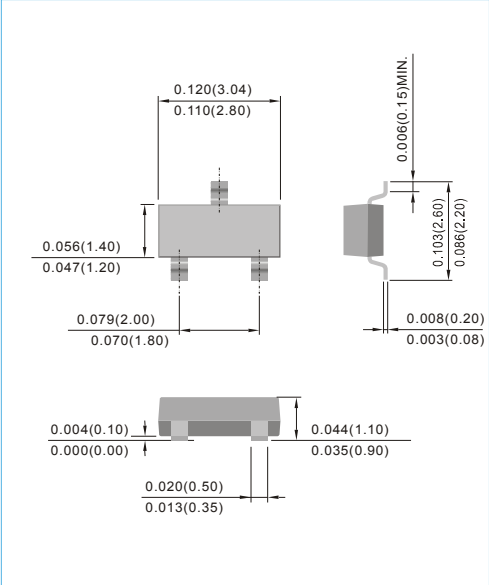
**SOT-23** Unit : inch(mm)

### FEATURES

- Planar Die construction
- 410mW Power Dissipation
- Zener Voltages from 2.4V~51V
- Ideally Suited for Automated Assembly Processes
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- 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.



## MMBZ5228B-AU~MMBZ5262B-AU

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	
MMBZ5228B-AU	3.9	3.71	4.10	23	20	1900	0.25	10	1.0	D3
MMBZ5230B-AU	4.7	4.47	4.94	19	20	1900	0.25	5.0	2.0	D5
MMBZ5231B-AU	5.1	4.85	5.36	17	20	1600	0.25	5.0	2.0	E1
MMBZ5232B-AU	5.6	5.32	5.88	11	20	1600	0.25	5.0	3.0	E2
MMBZ5233B-AU	6.0	5.70	6.30	7.0	20	1600	0.25	5.0	3.5	E3
MMBZ5234B-AU	6.2	5.89	6.51	7	20	1000	0.25	5.0	4.0	E4
MMBZ5235B-AU	6.8	6.46	7.14	5	20	750	0.25	3.0	5.0	E5
MMBZ5236B-AU	7.5	7.13	7.88	6	20	500	0.25	3.0	6.0	F1
MMBZ5237B-AU	8.2	7.79	8.61	8	20	500	0.25	3.0	6.0	F2
MMBZ5238B-AU	8.7	8.27	9.14	8	20	600	0.25	3.0	6.5	F3
MMBZ5239B-AU	9.1	8.65	9.56	10	20	600	0.25	3.0	6.5	F4
MMBZ5240B-AU	10	9.50	10.50	17	20	600	0.25	3.0	8.0	F5
MMBZ5241B-AU	11	10.45	11.55	22	20	600	0.25	3.0	8.4	H1
MMBZ5242B-AU	12	11.40	12.60	30	20	600	0.25	2.0	9.1	H2
MMBZ5243B-AU	13	12.35	13.65	13	9.5	600	0.25	1.0	9.9	H3
MMBZ5244B-AU	14	13.30	14.70	15	9.0	600	0.25	0.1	10.5	H4
MMBZ5245B-AU	15	14.25	15.75	16	8.5	600	0.25	0.5	11	H5
MMBZ5246B-AU	16	15.20	16.80	17	7.8	600	0.25	0.1	12	J1
MMBZ5247B-AU	17	16.15	17.85	19	7.5	600	0.25	0.1	13	J2
MMBZ5248B-AU	18	17.10	18.90	21	7.0	600	0.25	0.1	14	J3
MMBZ5250B-AU	20	19.00	21.00	25	6.2	600	0.25	0.1	15	J5
MMBZ5251B-AU	22	20.90	23.10	29	5.6	600	0.25	0.1	17	K1
MMBZ5252B-AU	24	22.80	25.20	33	5.2	600	0.25	0.1	18	K2
MMBZ5254B-AU	27	25.65	28.35	41	5.0	600	0.25	0.1	21	K4
MMBZ5255B-AU	28	26.60	29.40	44	4.5	600	0.25	0.1	21	K5
MMBZ5256B-AU	30	28.50	31.50	49	4.2	600	0.25	0.1	23	M1
MMBZ5257B-AU	33	31.35	34.65	58	3.8	700	0.25	0.1	25	M2
MMBZ5258B-AU	36	34.20	37.80	70	3.4	700	0.25	0.1	27	M3
MMBZ5259B-AU	39	37.05	40.95	80	3.2	800	0.25	0.1	30	M4
MMBZ5260B-AU	43	40.85	45.15	93	3.0	900	0.25	0.1	33	M5
MMBZ5261B-AU	47	44.65	49.35	105	2.7	1000	0.25	0.1	36	N1
MMBZ5262B-AU	51	48.45	53.55	125	2.5	1100	0.25	0.1	39	N2



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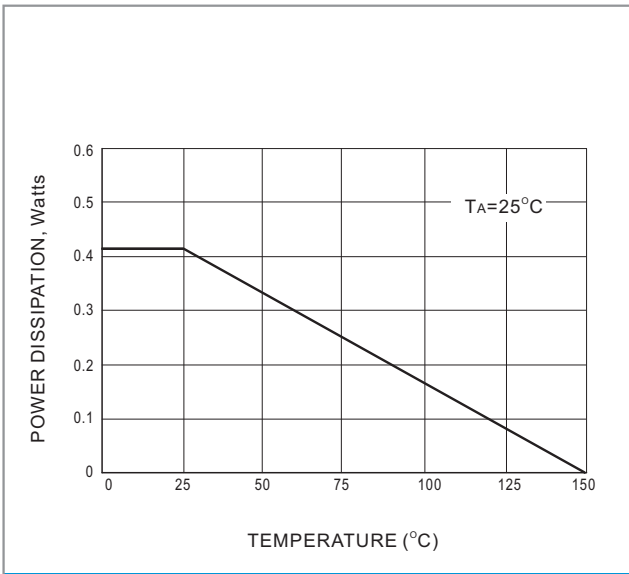


Fig.1 STEADY STATE POWER DERATING

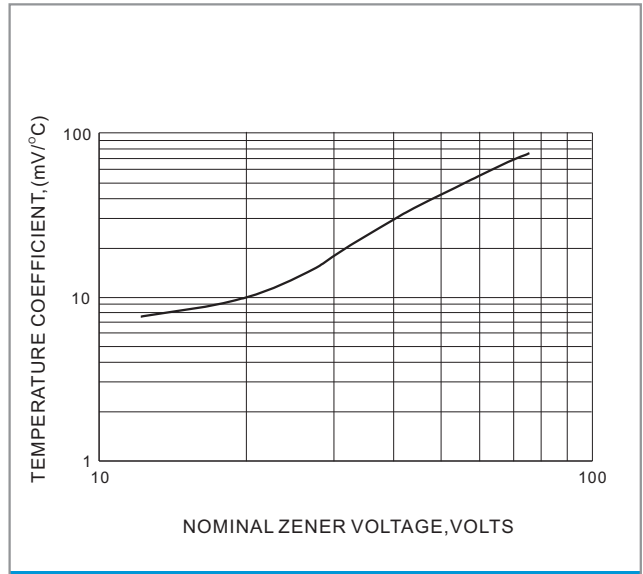


Fig.2 TEMPERATURE COEFFICIENTS

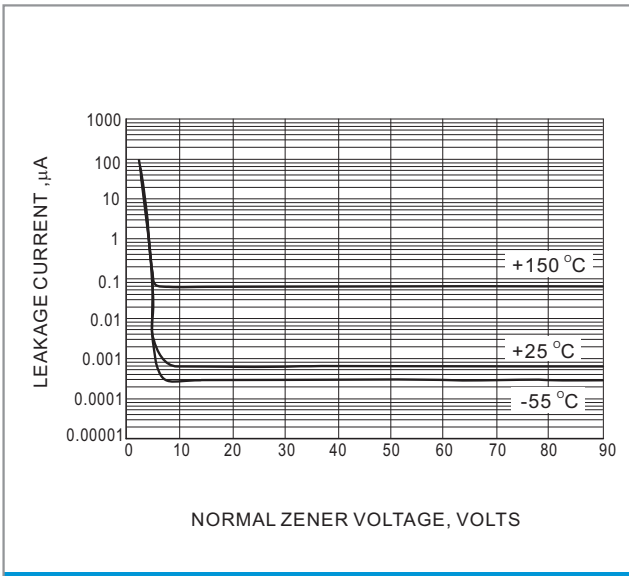


Fig.3 TYPICAL LEAKAGE CURRENT

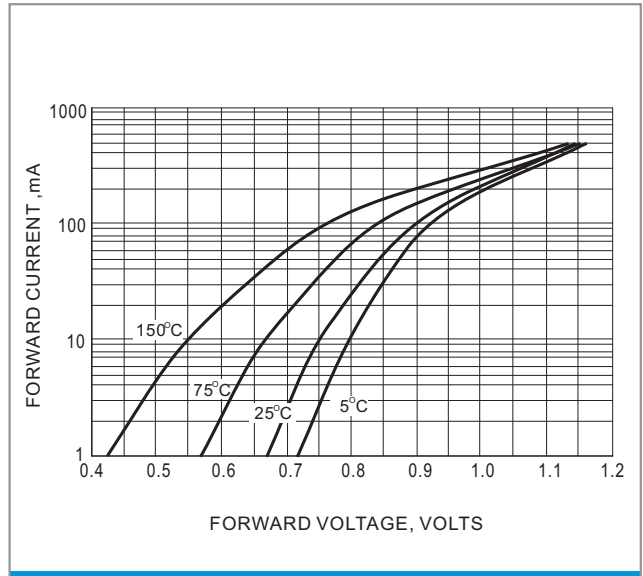
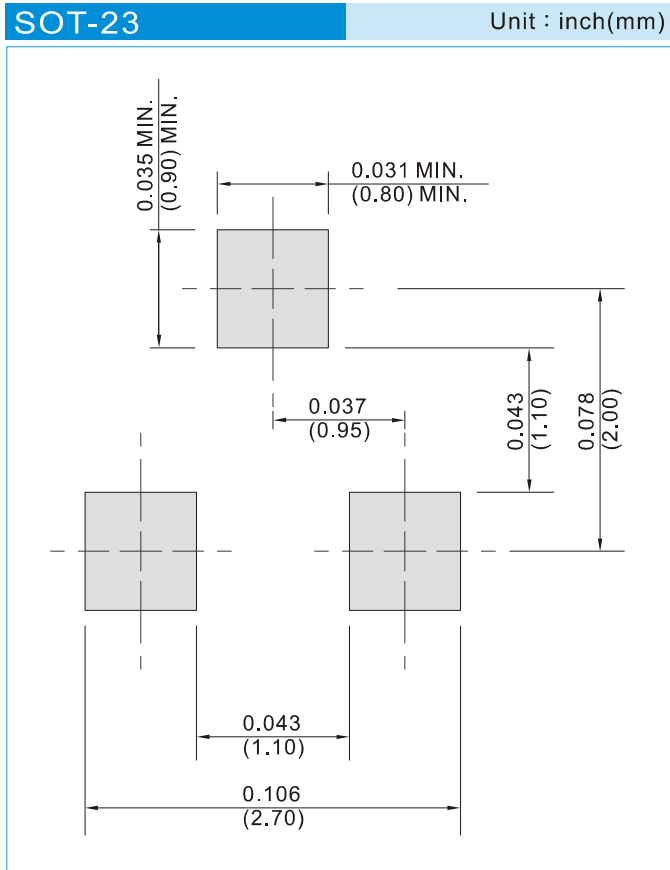


Fig.4 TYPICAL FORWARD VOLTAGE



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

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



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**Part No\_packing code\_Version**

MMBZ5228B-AU\_R1\_000A1

MMBZ5228B-AU\_R2\_000A1

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			