



# MMSZ5221B-AU~MMSZ5262B-AU

## SURFACE MOUNT SILICON ZENER DIODES

**VOLTAGE** 2.4 to 51 Volt    **POWER** 500 mWatt

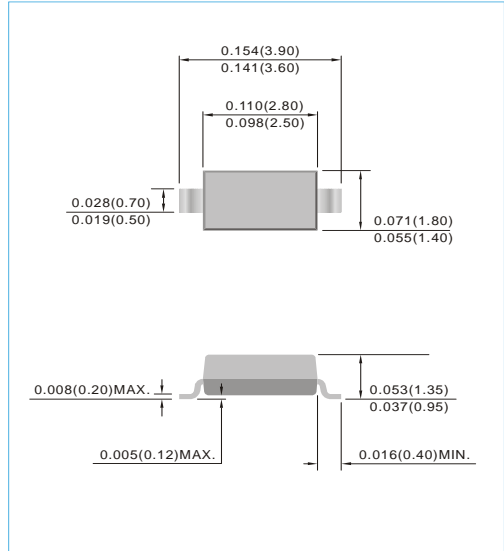
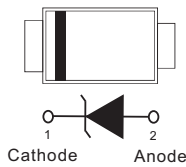
**SOD-123**    Unit : inch(mm)

### FEATURES

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: SOD-123, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.0103 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Total Power Dissipation (Notes A)	P <sub>D</sub>	500	mW
Typical Thermal Resistance (Notes B) (Notes A)	R <sub>θJA</sub>	430 325	°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub>	-55 to +150	°C

NOTES : A. Mounted on 100cm<sup>2</sup>(1mm thick) copper areas.  
B. Mounted on a FR4 PCB, single-sided copper, mini pad.

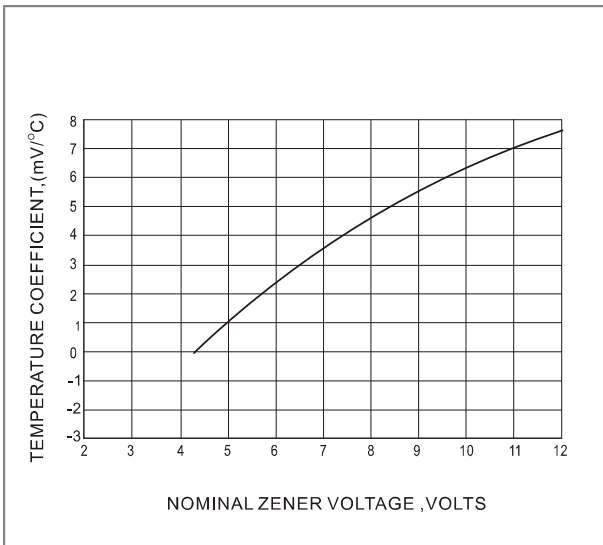


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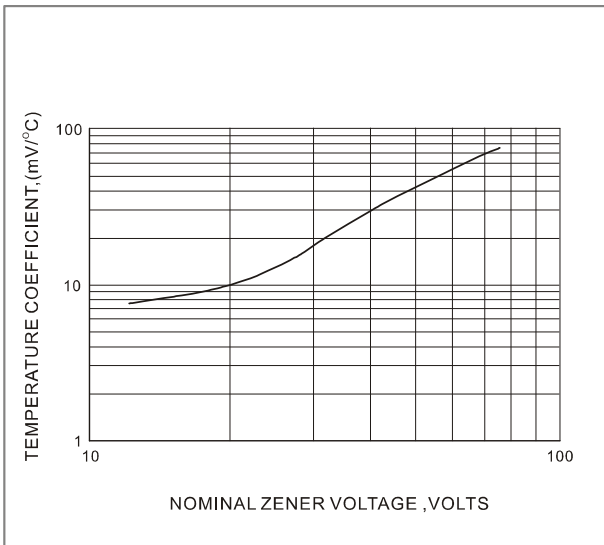
Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking Code
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>TT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
500 mW Zener Diodes										
MMSZ5221B-AU	2.4	2.28	2.52	30	20	1200	0.25	100	1	C1
MMSZ5222B-AU	2.5	2.38	2.63	30	20	1250	0.25	100	1	C2
MMSZ5223B-AU	2.7	2.57	2.84	30	20	1300	0.25	75	1	C3
MMSZ5224B-AU	2.8	2.66	2.94	30	20	1400	0.25	75	1	C4
MMSZ5225B-AU	3	2.85	3.15	30	20	1600	0.25	50	1	C5
MMSZ5226B-AU	3.3	3.14	3.47	28	20	1600	0.25	25	1	D1
MMSZ5227B-AU	3.6	3.42	3.78	24	20	1700	0.25	15	1	D2
MMSZ5228B-AU	3.9	3.71	4.1	23	20	1900	0.25	10	1	D3
MMSZ5229B-AU	4.3	4.09	4.52	22	20	2000	0.25	5	1	D4
MMSZ5230B-AU	4.7	4.47	4.94	19	20	1900	0.25	5	2	D5
MMSZ5231B-AU	5.1	4.85	5.36	17	20	1600	0.25	5	2	E1
MMSZ5232B-AU	5.6	5.32	5.88	11	20	1600	0.25	5	3	E2
MMSZ5233B-AU	6.0	5.70	6.30	7	20	1600	0.25	5	3.5	E3
MMSZ5234B-AU	6.2	5.89	6.51	7	20	1000	0.25	5	4	E4
MMSZ5235B-AU	6.8	6.46	7.14	5	20	750	0.25	3	5	E5
MMSZ5236B-AU	7.5	7.13	7.88	6	20	500	0.25	3	6	F1
MMSZ5237B-AU	8.2	7.79	8.61	8	20	500	0.25	3	6	F2
MMSZ5238B-AU	8.7	8.27	9.14	8	20	600	0.25	3	6.5	F3
MMSZ5239B-AU	9.1	8.65	9.56	10	20	600	0.25	3	6.5	F4
MMSZ5240B-AU	10	9.5	10.5	17	20	600	0.25	3	8	F5
MMSZ5241B-AU	11	10.45	11.55	22	20	600	0.25	2	8.4	H1
MMSZ5242B-AU	12	11.4	12.6	30	20	600	0.25	1	9.1	H2
MMSZ5243B-AU	13	12.35	13.65	13	9.5	600	0.25	0.5	9.9	H3
MMSZ5244B-AU	14	13.3	14.7	15	9	600	0.25	0.1	10.5	H4
MMSZ5245B-AU	15	14.25	15.75	16	8.5	600	0.25	0.1	11	H5
MMSZ5246B-AU	16	15.2	16.8	17	7.8	600	0.25	0.1	12	J1
MMSZ5247B-AU	17	16.15	17.85	19	7.5	600	0.25	0.1	13	J2
MMSZ5248B-AU	18	17.1	18.9	21	7	600	0.25	0.1	14	J3
MMSZ5249B-AU	19	18.05	19.95	23	6.6	600	0.25	0.1	14	J4
MMSZ5250B-AU	20	19	21	25	6.2	600	0.25	0.1	15	J5
MMSZ5251B-AU	22	20.9	23.1	29	5.6	600	0.25	0.1	17	K1
MMSZ5252B-AU	24	22.8	25.2	33	5.2	600	0.25	0.1	18	K2
MMSZ5253B-AU	25	23.75	26.25	35	5.0	600	0.25	0.1	19	K3
MMSZ5254B-AU	27	25.65	28.35	41	5	600	0.25	0.1	21	K4
MMSZ5255B-AU	28	26.6	29.4	44	4.5	600	0.25	0.1	21	K5
MMSZ5256B-AU	30	28.5	31.5	49	4.2	600	0.25	0.1	23	M1
MMSZ5257B-AU	33	31.35	34.65	58	3.8	700	0.25	0.1	25	M2
MMSZ5258B-AU	36	34.2	37.8	70	3.4	700	0.25	0.1	27	M3
MMSZ5259B-AU	39	37.05	40.95	80	3.2	800	0.25	0.1	30	M4
MMSZ5260B-AU	43	40.85	45.15	93	3	900	0.25	0.1	33	M5
MMSZ5261B-AU	47	44.65	49.35	105	2.7	1000	0.25	0.1	36	N1
MMSZ5262B-AU	51	48.45	53.55	125	2.5	1100	0.25	0.1	39	N2



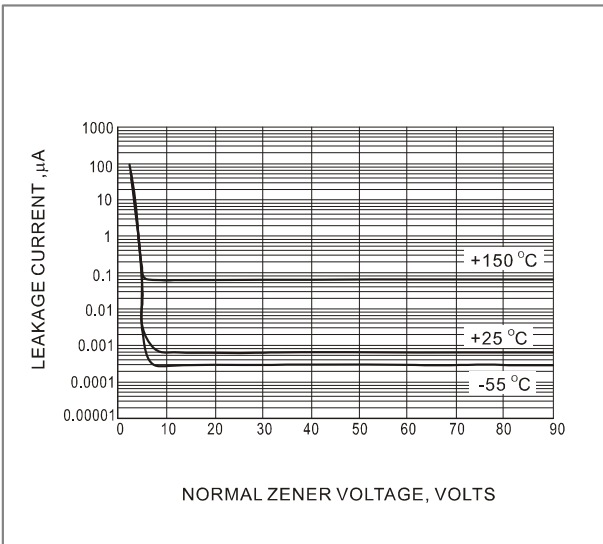
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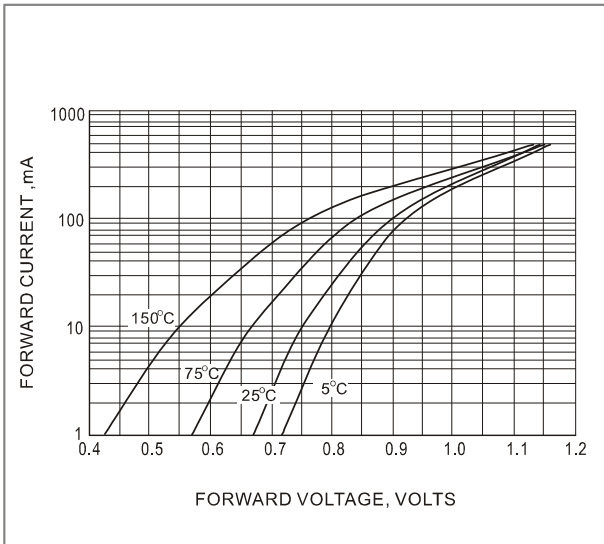
**Fig.1 TEMPERATURE COEFFICIENTS**



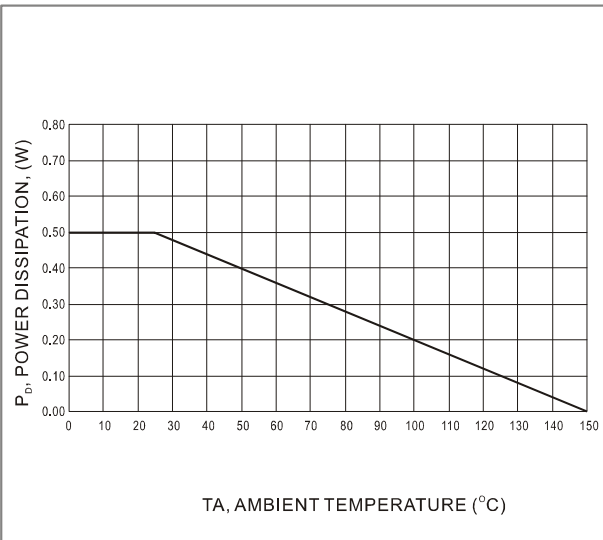
**Fig.2 TEMPERATURE COEFFICIENTS**



**Fig.3 TYPICAL LEAKAGE CURRENT**



**Fig.4 TYPICAL FORWARD VOLTAGE**

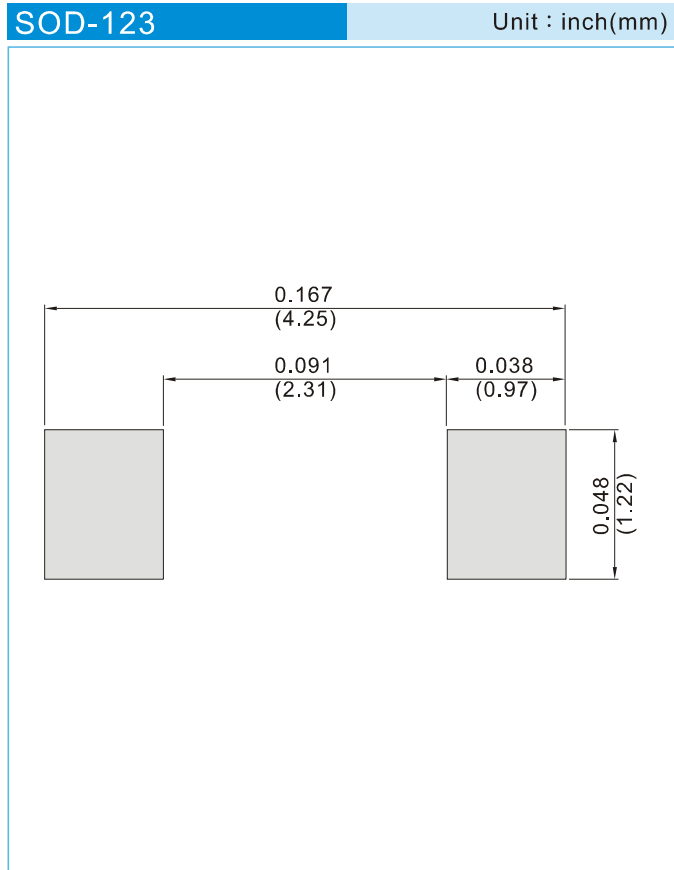


**Fig.5 POWER DERATING CURVE**



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### MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information  
T/R - 10K per 13" plastic Reel  
T/R - 3K per 7" plastic Reel



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### Part No\_packing code\_Version

MMSZ5221B-AU\_R1\_000A1

MMSZ5221B-AU\_R2\_000A1

For example :

RB500V-40\_R2\_00001



Packing type	Packing Code XX			Version Code XXXXX		
	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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