



# MMSZ5229A-AU SERIES

## SURFACE MOUNT SILICON ZENER DIODES

**VOLTAGE** 4.3 to 51 Volt      **POWER** 500 mWatt

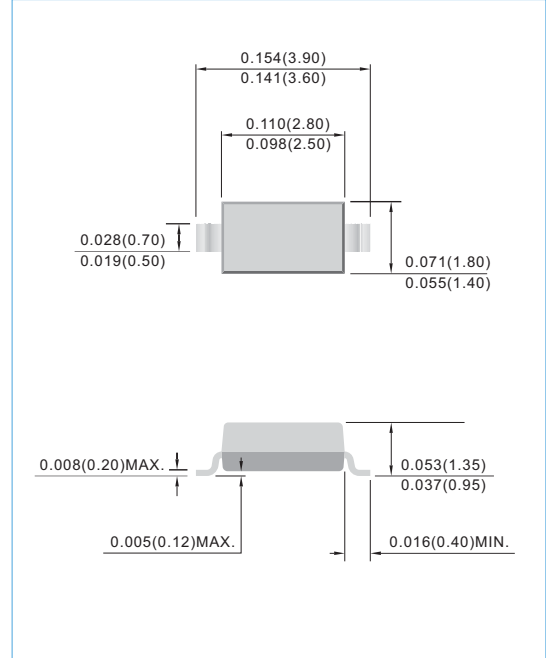
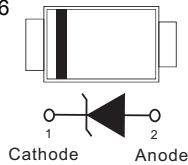
**SOD-123**      Unit : inch(mm)

### FEATURES

- Planar Die construction
- 500mW Power Dissipation
- 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)
- AEC-Q101 qualified

### MECHANICAL DATA

- Case: SOD-123, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: See Diagram Below
- Apprx. Weight: 0.0004 ounces, 0.01 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Maximum Power Dissipation@T <sub>A</sub> =25°C (Notes A)	P <sub>D</sub>	500	mW
Operating Junction and Storage Temperature Range	T <sub>J</sub>	-50 to +150	°C

### NOTES:

- A. Mounted on 5.0mm<sup>2</sup>(0.013mm thick) land areas.
- B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.



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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>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	
500 mWatts Zener Diodes										
MMSZ5229A-AU	4.3	4.21	4.39	22	20.0	2000	0.25	5.0	1.0	D4
MMSZ5230A-AU	4.7	4.61	4.79	19	20.0	1900	0.25	5.0	2.0	D5
MMSZ5231A-AU	5.1	5.00	5.20	17	20.0	1600	0.25	5.0	2.0	E1
MMSZ5232A-AU	5.6	5.49	5.71	11	20.0	1600	0.25	5.0	3.0	E2
MMSZ5234A-AU	6.2	6.08	6.32	7	20.0	1000	0.25	5.0	4.0	E4
MMSZ5235A-AU	6.8	6.66	6.94	5	20.0	750	0.25	3.0	5.0	E5
MMSZ5236A-AU	7.5	7.35	7.65	6	20.0	500	0.25	3.0	6.0	F1
MMSZ5237A-AU	8.2	8.04	8.36	8	20.0	500	0.25	3.0	6.0	F2
MMSZ5238A-AU	8.7	8.53	8.87	8	20	600	0.25	3.0	6.5	F3
MMSZ5239A-AU	9.1	8.92	9.28	10	20.0	600	0.25	3.0	6.5	F4
MMSZ5240A-AU	10	9.80	10.20	17	20.0	600	0.25	3.0	8.0	F5
MMSZ5241A-AU	11	10.78	11.22	22	20.0	600	0.25	3.0	8.4	H1
MMSZ5242A-AU	12	11.76	12.24	30	20.0	600	0.25	2.0	9.1	H2
MMSZ5243A-AU	13	12.74	13.26	13	9.5	600	0.25	1.0	9.9	H3
MMSZ5244A-AU	14	13.72	14.28	15	9.0	600	0.25	0.5	10.5	H4
MMSZ5245A-AU	15	14.70	15.30	16	8.5	600	0.25	0.5	11.0	H5
MMSZ5246A-AU	16	15.68	16.32	17	7.8	600	0.25	0.1	12.0	J1
MMSZ5247A-AU	17	16.66	17.34	19	7.5	600	0.25	0.1	13.0	J2
MMSZ5248A-AU	18	17.64	18.36	21	7.0	600	0.25	0.1	14.0	J3
MMSZ5250A-AU	20	19.60	20.40	25	6.2	600	0.25	0.1	15.0	J5
MMSZ5251A-AU	22	21.56	22.44	29	5.6	600	0.25	0.1	17.0	K1
MMSZ5252A-AU	24	23.52	24.48	33	5.2	600	0.25	0.1	18.0	K2
MMSZ5254A-AU	27	26.46	27.54	41	5.0	600	0.25	0.1	21.0	K4
MMSZ5255A-AU	28	27.44	28.56	44	4.5	600	0.25	0.1	21.0	K5
MMSZ5256A-AU	30	29.40	30.60	49	4.2	600	0.25	0.1	23.0	M1
MMSZ5257A-AU	33	32.34	33.66	58	3.8	700	0.25	0.1	25.0	M2
MMSZ5258A-AU	36	35.28	36.72	70	3.4	700	0.25	0.1	27.0	M3
MMSZ5259A-AU	39	38.22	39.78	80	3.2	800	0.25	0.1	30.0	M4
MMSZ5260A-AU	43	42.14	43.86	93	3.0	900	0.25	0.1	33.0	M5
MMSZ5261A-AU	47	46.06	47.94	105	2.7	1000	0.25	0.1	36.0	N1
MMSZ5262A-AU	51	49.98	52.02	125	2.5	1100	0.25	0.1	39.0	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 STEADY STATE POWER DERATING**



**Fig. 6 TYPICAL CAPACITANCE**



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Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

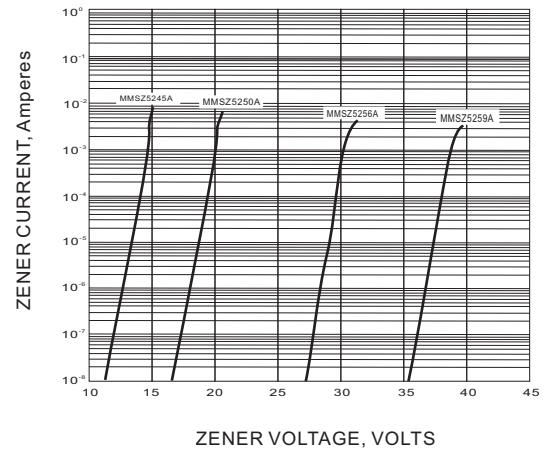
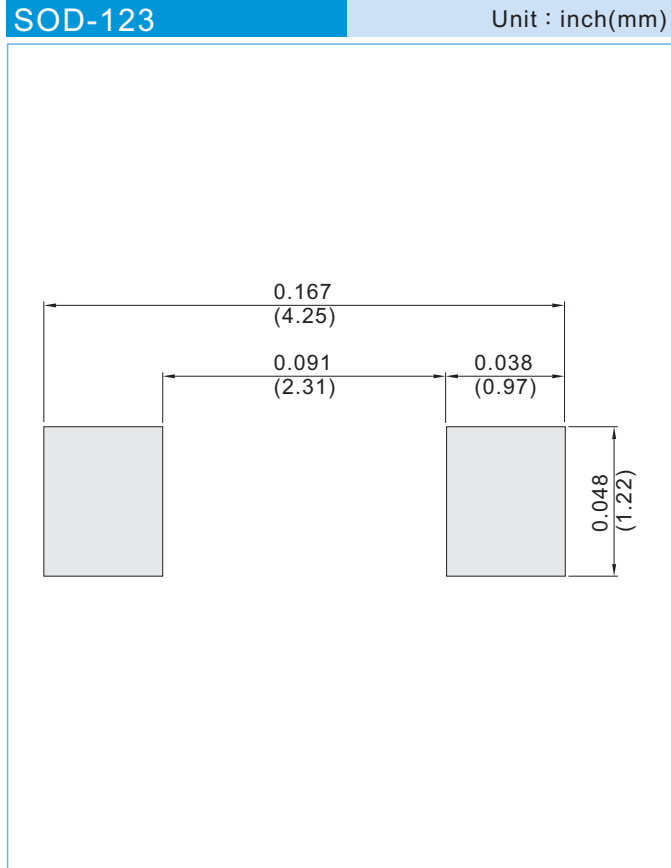


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT



## MMSZ5229A-AU SERIES

### 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

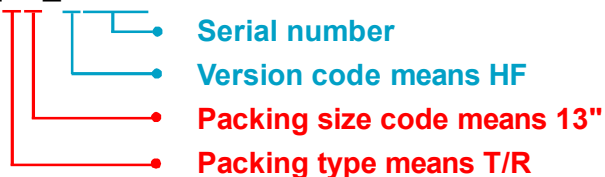
MMSZ5229A-AU\_R1\_000A1

MMSZ5229A-AU\_R2\_000A1

For example :

**RB500V-40\_R2\_00001**

Part No.



Packing Code <b>XX</b>				Version Code <b>XXXXX</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)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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