



# MMSZ5229A-AU SERIES

## SURFACE MOUNT SILICON ZENER DIODES

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

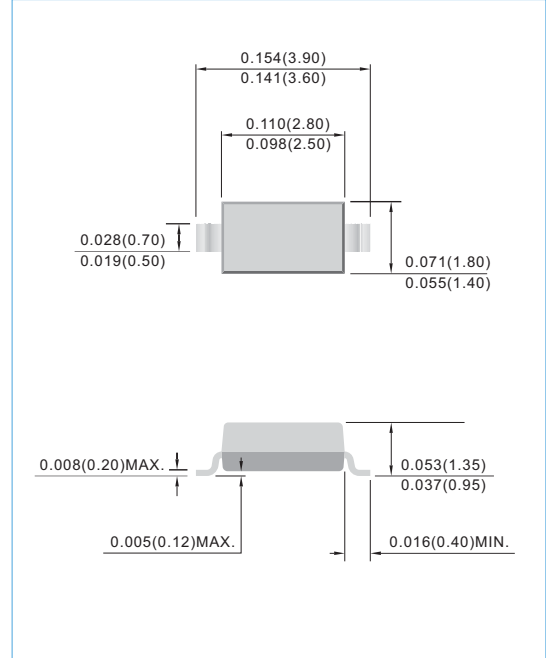
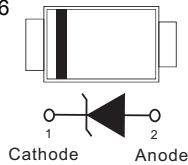
**SOD-123**      Unit : inch(mm)

### 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.



## MMSZ5229A-AU SERIES

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



# MMSZ5229A-AU SERIES



**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**



## MMSZ5229A-AU SERIES

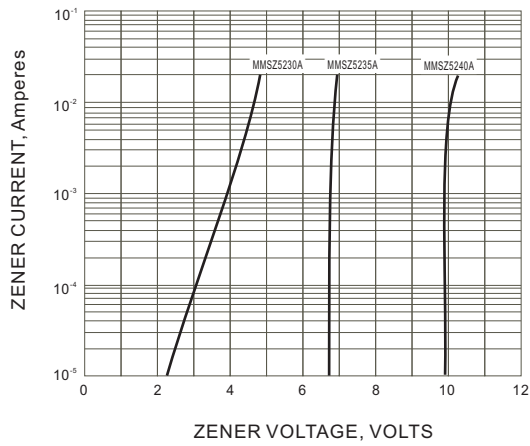


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

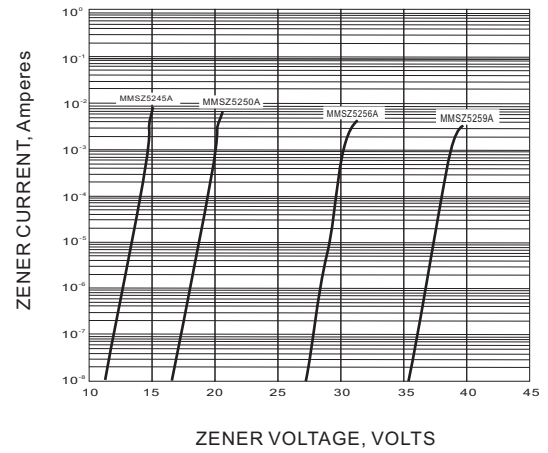
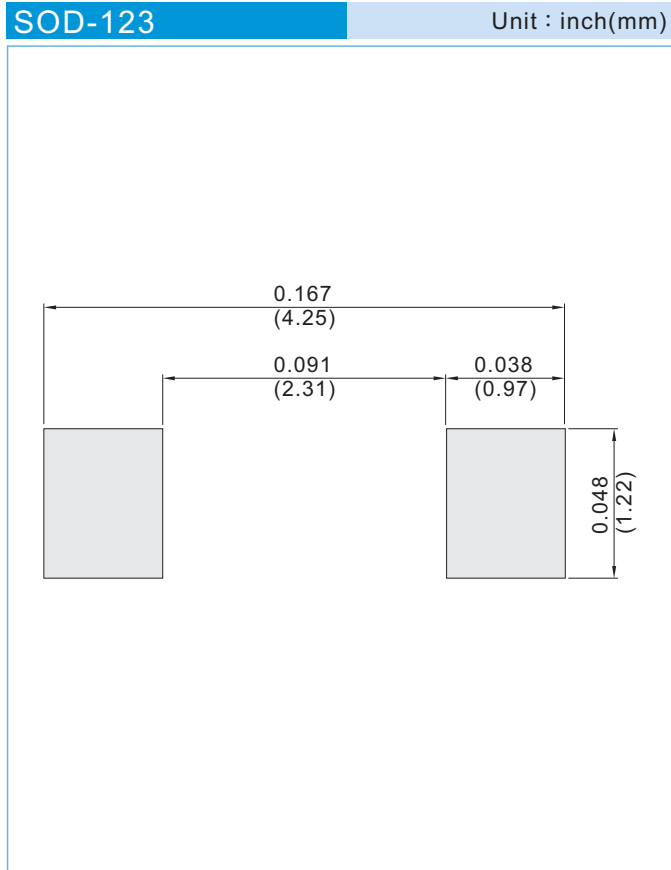


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT



## MMSZ5229A-AU SERIES

### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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



## MMSZ5229A-AU SERIES

### Part No\_packing code\_Version

MMSZ5229A-AU\_R1\_000A1

MMSZ5229A-AU\_R2\_000A1

For example :

**RB500V-40\_R2\_00001**



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>			



## MMSZ5229A-AU SERIES

---

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.