



MMSZ5229AS-AU SERIES

SURFACE MOUNT SILICON ZENER DIODES

VOLTAGE 4.3 to 51 Volt

POWER 200 mWatt

SOD-323

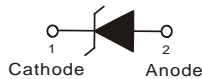
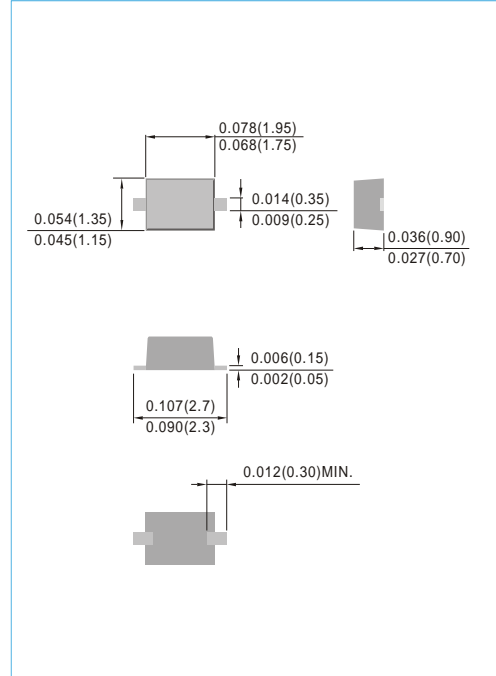
Unit : inch(mm)

FEATURES

- Planar Die construction
- 200mW 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-323, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band cathode
- Approx Weight: 0.00014 ounces, 0.0041 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Parameter | Symbol | Value | Units |
|---|--------|-------------|--------------------|
| Power Dissipation @ $T_A=25^{\circ}\text{C}$ (Note A) | P_D | 200 | mW |
| Operating Junction and Storage Temperature Range | T_J | -55 to +150 | $^{\circ}\text{C}$ |

NOTES:

A. Mounted on 5.0mm²(.013mm thick) land areas.



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| Part Number | Nominal Zener Voltage | | | Max. Zener Impedance | | | | Max Reverse Leakage Current | | Marking Code |
|-------------------------|----------------------------------|--------|--------|-----------------------------------|-----|-----------------------------------|------|---------------------------------|------|--------------|
| | V _Z @ I _{ZT} | | | Z _{KT} @ I _{ZT} | | Z _{KK} @ I _{ZK} | | I _R @ V _R | | |
| | Nom. V | Min. V | Max. V | Ω | mA | Ω | mA | μA | V | |
| 200 mWatts Zener Diodes | | | | | | | | | | |
| MMSZ5229AS-AU | 4.3 | 4.21 | 4.39 | 22 | 20 | 2000 | 0.25 | 5 | 1 | D4 |
| MMSZ5230AS-AU | 4.7 | 4.61 | 4.79 | 19 | 20 | 1900 | 0.25 | 5 | 2 | D5 |
| MMSZ5231AS-AU | 5.1 | 5 | 5.2 | 17 | 20 | 1600 | 0.25 | 5 | 2 | E1 |
| MMSZ5232AS-AU | 5.6 | 5.49 | 5.71 | 11 | 20 | 1600 | 0.25 | 5 | 3 | E2 |
| MMSZ5234AS-AU | 6.2 | 6.08 | 6.32 | 7 | 20 | 1000 | 0.25 | 5 | 4 | E4 |
| MMSZ5235AS-AU | 6.8 | 6.66 | 6.94 | 5 | 20 | 750 | 0.25 | 3 | 5 | E5 |
| MMSZ5236AS-AU | 7.5 | 7.35 | 7.65 | 6 | 20 | 500 | 0.25 | 3 | 6 | F1 |
| MMSZ5237AS-AU | 8.2 | 8.04 | 8.36 | 8 | 20 | 500 | 0.25 | 3 | 6 | F2 |
| MMSZ5238AS-AU | 8.7 | 8.53 | 8.87 | 8 | 20 | 600 | 0.25 | 3 | 6.5 | F3 |
| MMSZ5239AS-AU | 9.1 | 8.92 | 9.28 | 10 | 20 | 600 | 0.25 | 3 | 6.5 | F4 |
| MMSZ5240AS-AU | 10 | 9.8 | 10.2 | 17 | 20 | 600 | 0.25 | 3 | 8 | F5 |
| MMSZ5241AS-AU | 11 | 10.78 | 11.22 | 22 | 20 | 600 | 0.25 | 2 | 8.4 | H1 |
| MMSZ5242AS-AU | 12 | 11.76 | 12.24 | 30 | 20 | 600 | 0.25 | 1 | 9.1 | H2 |
| MMSZ5243AS-AU | 13 | 12.74 | 13.26 | 13 | 9.5 | 600 | 0.25 | 0.5 | 9.9 | H3 |
| MMSZ5244AS-AU | 14 | 13.72 | 14.28 | 15 | 9 | 600 | 0.25 | 0.1 | 10.5 | H4 |
| MMSZ5245AS-AU | 15 | 14.7 | 15.3 | 16 | 8.5 | 600 | 0.25 | 0.1 | 11 | H5 |
| MMSZ5246AS-AU | 16 | 15.68 | 16.32 | 17 | 7.8 | 600 | 0.25 | 0.1 | 12 | J1 |
| MMSZ5247AS-AU | 17 | 16.66 | 17.34 | 19 | 7.5 | 600 | 0.25 | 0.1 | 13 | J2 |
| MMSZ5248AS-AU | 18 | 17.64 | 18.36 | 21 | 7 | 600 | 0.25 | 0.1 | 14 | J3 |
| MMSZ5250AS-AU | 20 | 19.6 | 20.4 | 25 | 6.2 | 600 | 0.25 | 0.1 | 15 | J5 |
| MMSZ5251AS-AU | 22 | 21.56 | 22.44 | 29 | 5.6 | 600 | 0.25 | 0.1 | 17 | K1 |
| MMSZ5252AS-AU | 24 | 23.52 | 24.48 | 33 | 5.2 | 600 | 0.25 | 0.1 | 18 | K2 |
| MMSZ5254AS-AU | 27 | 26.46 | 27.54 | 41 | 5 | 600 | 0.25 | 0.1 | 21 | K4 |
| MMSZ5255AS-AU | 28 | 27.44 | 28.56 | 44 | 4.5 | 600 | 0.25 | 0.1 | 21 | K5 |
| MMSZ5256AS-AU | 30 | 29.4 | 30.6 | 49 | 4.2 | 600 | 0.25 | 0.1 | 23 | M1 |
| MMSZ5257AS-AU | 33 | 32.34 | 33.66 | 58 | 3.8 | 700 | 0.25 | 0.1 | 25 | M2 |
| MMSZ5258AS-AU | 36 | 35.28 | 36.72 | 70 | 3.4 | 700 | 0.25 | 0.1 | 27 | M3 |
| MMSZ5259AS-AU | 39 | 38.22 | 39.78 | 80 | 3.2 | 800 | 0.25 | 0.1 | 30 | M4 |
| MMSZ5260AS-AU | 43 | 42.14 | 43.86 | 93 | 3 | 900 | 0.25 | 0.1 | 33 | M5 |
| MMSZ5261AS-AU | 47 | 46.06 | 47.94 | 105 | 2.7 | 1000 | 0.25 | 0.1 | 36 | N1 |
| MMSZ5262AS-AU | 51 | 49.98 | 52.02 | 125 | 2.5 | 1100 | 0.25 | 0.1 | 39 | N2 |



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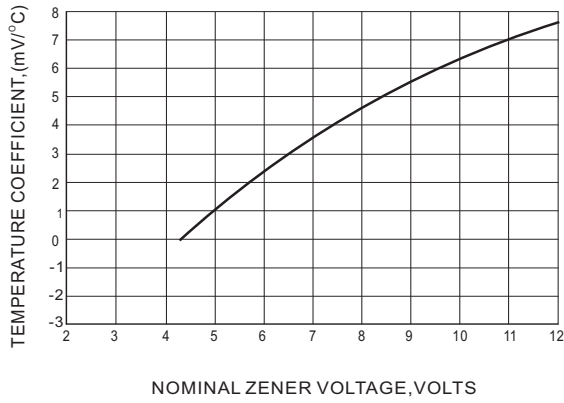


Fig.1 TEMPERATURE COEFFICIENTS

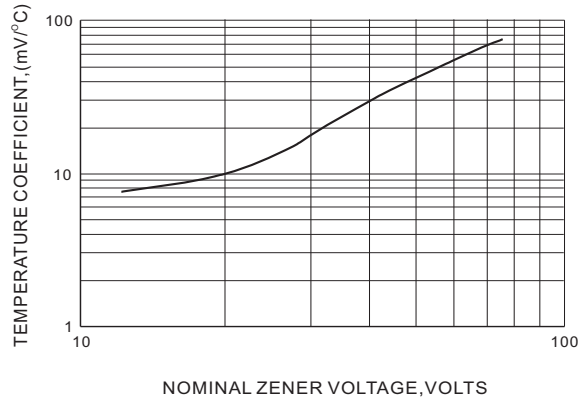


Fig.2 TEMPERATURE COEFFICIENTS

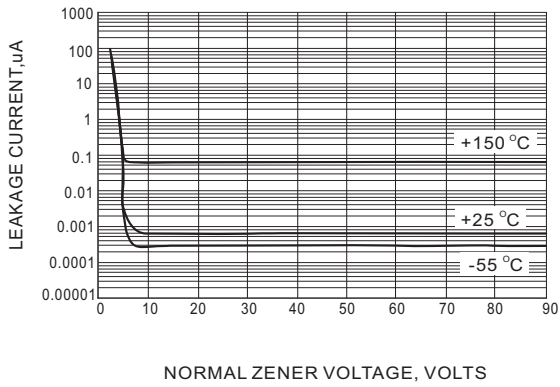


Fig. TYPICAL LEAKAGE CURRENT

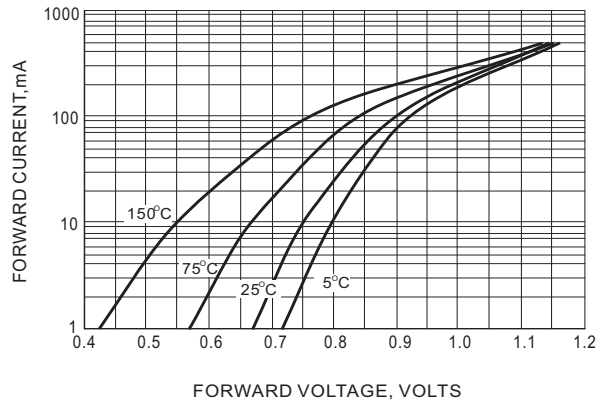


Fig.4 TYPICAL FORWARD VOLTAGE

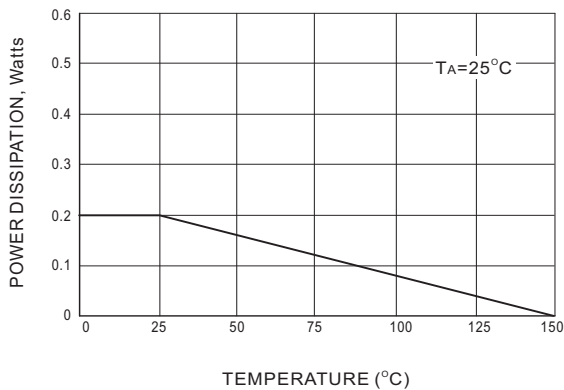
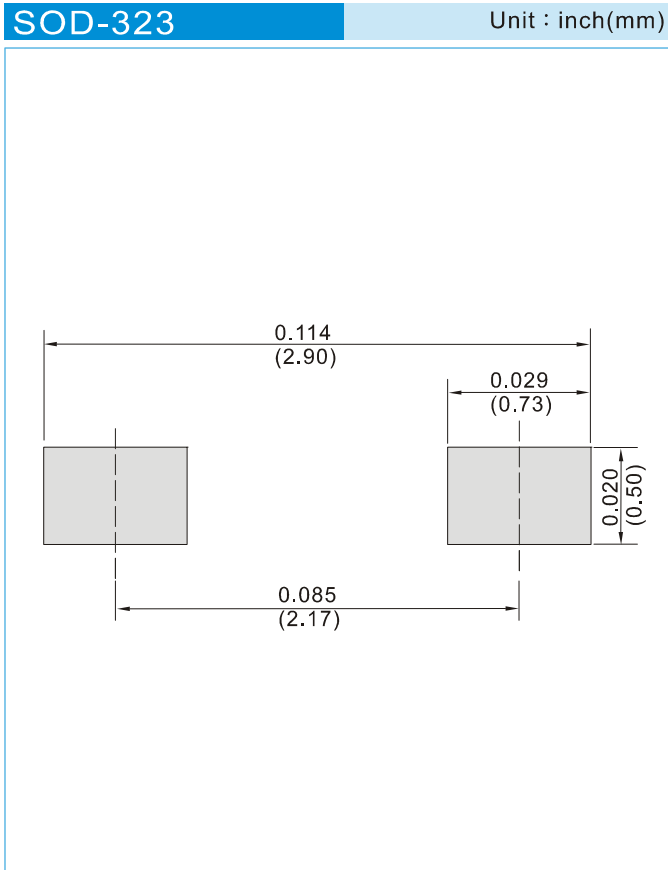


Fig.5 STEADY STATE POWER DERATING



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R - 12K per 13" plastic Reel
T/R - 5K per 7" plastic Reel



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Part No_packing code_Version

MMSZ5229AS-AU_R1_000A1

MMSZ5229AS-AU_R2_000A1

For example :

RB500V-40 **R2** **00001**



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th 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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