

500mW SOD-123 SURFACE MOUNT Gull Wing Lead Surface Mount Plastic Package Zener Voltage Regulators

Green Product

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|-----------------------------|-------------|------------------|
| P_D | Power Dissipation | 500 | mW |
| T_{STG} | Storage Temperature Range | -65 to +150 | $^\circ\text{C}$ |
| T_{OPR} | Operating Temperature Range | -65 to +150 | $^\circ\text{C}$ |

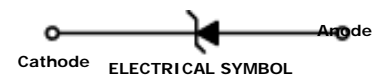
These ratings are limiting values above which the serviceability of the diode may be impaired.



SOD-123 Gull Wing Lead

Specification Features:

- Wide Zener Voltage Range Selection, 4.3V to 75V
- VZ Tolerance Selection of $\pm 2\%$
- Gull Wing Lead SOD-123 Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode
- Weight: approx. 0.01g



Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Device Type | Device Marking | $V_Z @ I_{ZT}$ (Volts) | | | I_{ZT} (mA) | $Z_{ZT} @ I_{ZT}$ (Ω) Max | $Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ (Ω) Max | $I_R @ V_R$ (μA) Max | V_R (Volts) |
|-------------|----------------|---------------------------|-----|-------|------------------|--|--|---|------------------|
| | | Min | Nom | Max | | | | | |
| MMSZ5229CWG | 229C | 4.214 | 4.3 | 4.386 | 20 | 22 | 2000 | 5 | 1 |
| MMSZ5230CWG | 230C | 4.606 | 4.7 | 4.794 | 20 | 19 | 1900 | 5 | 2 |
| MMSZ5231CWG | 231C | 4.998 | 5.1 | 5.202 | 20 | 17 | 1600 | 5 | 2 |
| MMSZ5232CWG | 232C | 5.488 | 5.6 | 5.712 | 20 | 11 | 1600 | 5 | 3 |
| MMSZ5233CWG | 233C | 5.88 | 6.0 | 6.12 | 20 | 7 | 1600 | 5 | 3.5 |
| MMSZ5234CWG | 234C | 6.076 | 6.2 | 6.324 | 20 | 7 | 1000 | 5 | 4 |
| MMSZ5235CWG | 235C | 6.664 | 6.8 | 6.936 | 20 | 5 | 750 | 3 | 5 |
| MMSZ5236CWG | 236C | 7.35 | 7.5 | 7.65 | 20 | 6 | 500 | 3 | 6 |
| MMSZ5237CWG | 237C | 8.036 | 8.2 | 8.364 | 20 | 8 | 500 | 3 | 6.5 |
| MMSZ5238CWG | 238C | 8.526 | 8.7 | 8.874 | 20 | 8 | 600 | 3 | 6.5 |
| MMSZ5239CWG | 239C | 8.918 | 9.1 | 9.282 | 20 | 10 | 600 | 3 | 7 |
| MMSZ5240CWG | 240C | 9.8 | 10 | 10.2 | 20 | 17 | 600 | 3 | 8 |
| MMSZ5241CWG | 241C | 10.78 | 11 | 11.22 | 20 | 22 | 600 | 2 | 8.4 |
| MMSZ5242CWG | 242C | 11.76 | 12 | 12.24 | 20 | 30 | 600 | 1 | 9.1 |
| MMSZ5243CWG | 243C | 12.74 | 13 | 13.26 | 9.5 | 13 | 600 | 0.5 | 9.9 |
| MMSZ5244CWG | 244C | 13.72 | 14 | 14.28 | 9 | 15 | 600 | 0.1 | 10 |
| MMSZ5245CWG | 245C | 14.7 | 15 | 15.3 | 8.5 | 16 | 600 | 0.1 | 11 |
| MMSZ5246CWG | 246C | 15.68 | 16 | 16.32 | 7.8 | 17 | 600 | 0.1 | 12 |
| MMSZ5247CWG | 247C | 16.66 | 17 | 17.34 | 7.4 | 19 | 600 | 0.1 | 13 |
| MMSZ5248CWG | 248C | 17.64 | 18 | 18.36 | 7 | 21 | 600 | 0.1 | 14 |
| MMSZ5249CWG | 249C | 18.62 | 19 | 19.38 | 6.6 | 23 | 600 | 0.1 | 14 |
| MMSZ5250CWG | 250C | 19.6 | 20 | 20.4 | 6.2 | 25 | 600 | 0.1 | 15 |

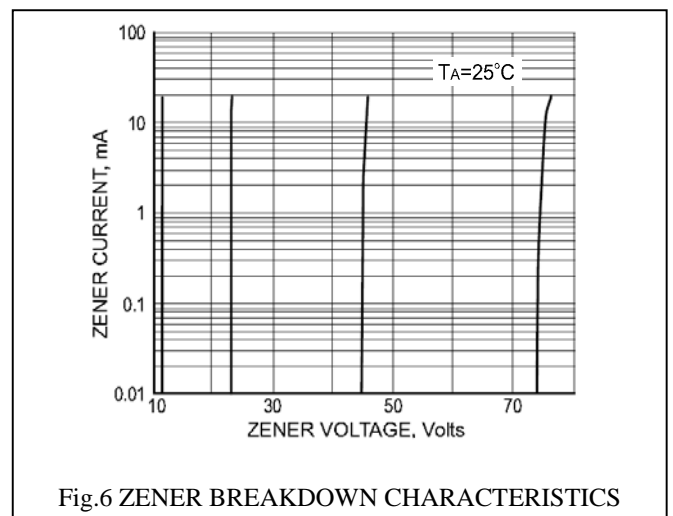
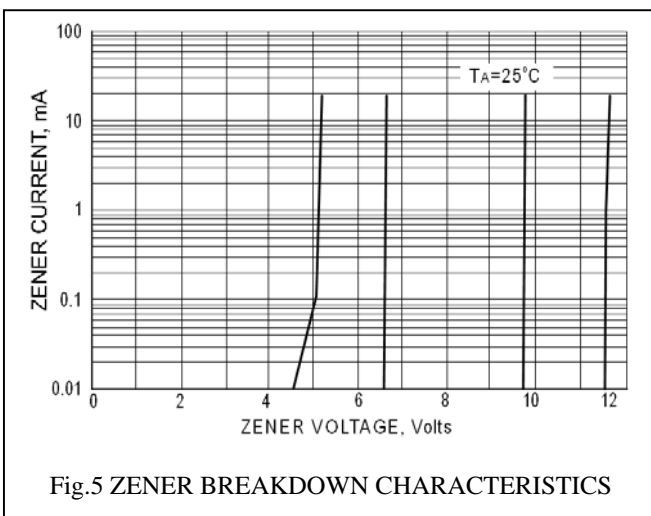
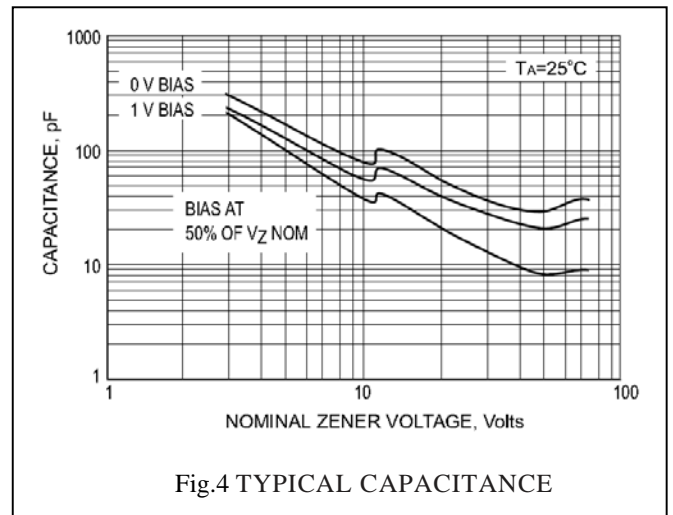
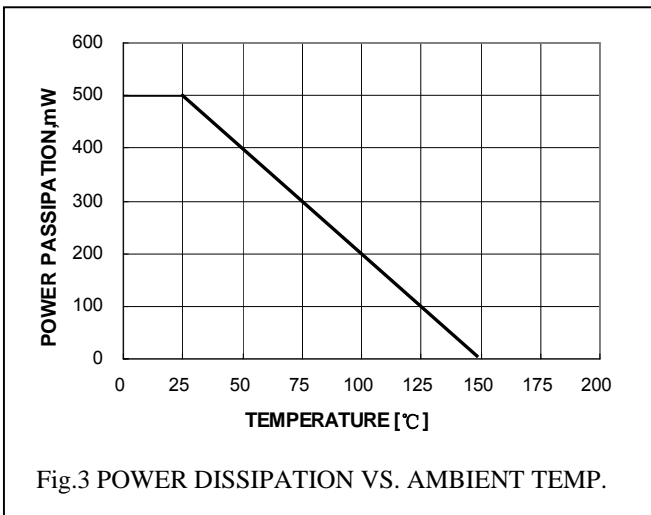
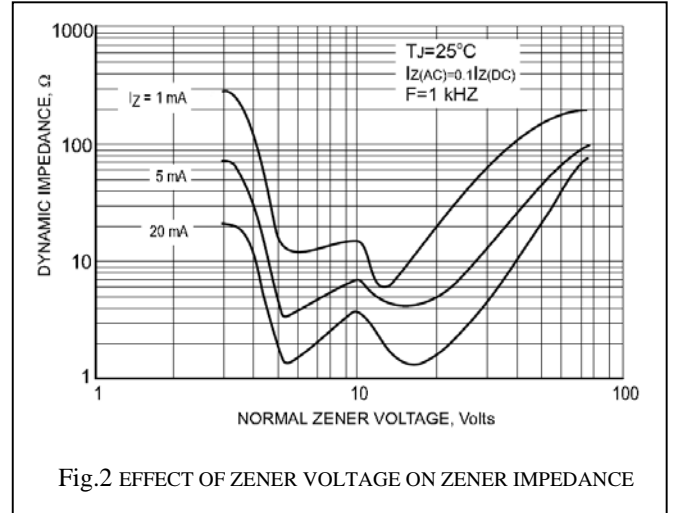
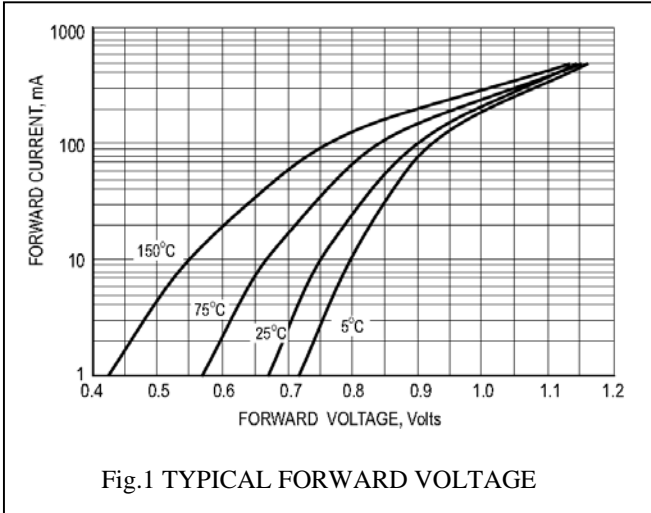
Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

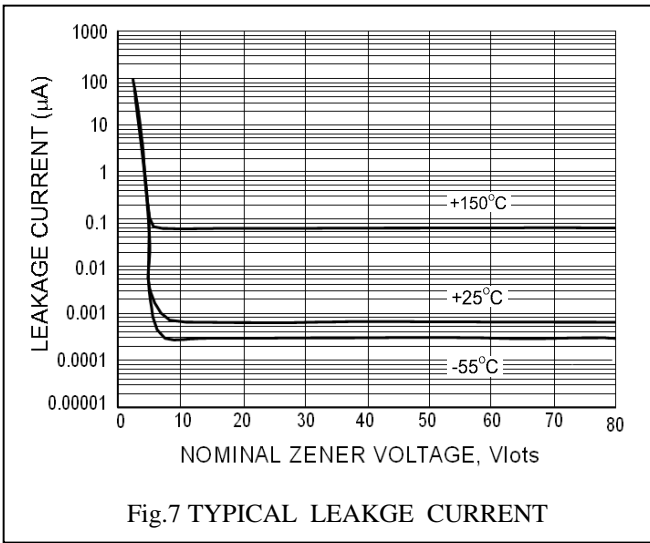
| Device Type | Device Marking | $V_Z @ I_{ZT}$ (Volts) | | | I_{ZT} (mA) | $Z_{ZT} @ I_{ZT}$ (Ω) Max | $Z_{ZK} @ I_{ZK} = 0.25\text{mA}$ (Ω) Max | $I_R @ V_R$ (μA) Max | V_R (Volts) |
|-------------|----------------|------------------------|-----|-------|---------------|------------------------------------|--|-----------------------------------|---------------|
| | | Min | Nom | Max | | | | | |
| MMSZ5251CWG | 251C | 21.56 | 22 | 22.44 | 5.6 | 29 | 600 | 0.1 | 17 |
| MMSZ5252CWG | 252C | 23.52 | 24 | 24.48 | 5.2 | 33 | 600 | 0.1 | 18 |
| MMSZ5253CWG | 253C | 24.5 | 25 | 25.5 | 5 | 35 | 600 | 0.1 | 19 |
| MMSZ5254CWG | 254C | 26.46 | 27 | 27.54 | 4.6 | 41 | 600 | 0.1 | 21 |
| MMSZ5255CWG | 255C | 27.44 | 28 | 28.56 | 4.5 | 44 | 600 | 0.1 | 21 |
| MMSZ5256CWG | 256C | 29.4 | 30 | 30.6 | 4.2 | 49 | 600 | 0.1 | 23 |
| MMSZ5257CWG | 257C | 32.34 | 33 | 33.66 | 3.8 | 58 | 700 | 0.1 | 25 |
| MMSZ5258CWG | 258C | 35.28 | 36 | 36.72 | 3.4 | 70 | 700 | 0.1 | 27 |
| MMSZ5259CWG | 259C | 38.22 | 39 | 39.78 | 3.2 | 80 | 800 | 0.1 | 30 |
| MMSZ5260CWG | 260C | 42.14 | 43 | 43.86 | 3 | 93 | 900 | 0.1 | 33 |
| MMSZ5261CWG | 261C | 46.06 | 47 | 47.94 | 2.7 | 105 | 1000 | 0.1 | 36 |
| MMSZ5262CWG | 262C | 49.98 | 51 | 52.02 | 2.5 | 125 | 1100 | 0.1 | 39 |
| MMSZ5263CWG | 263C | 54.88 | 56 | 57.12 | 2.2 | 150 | 1300 | 0.1 | 43 |
| MMSZ5264CWG | 264C | 58.8 | 60 | 61.2 | 2.1 | 170 | 1400 | 0.1 | 46 |
| MMSZ5265CWG | 265C | 60.76 | 62 | 63.24 | 2.0 | 185 | 1400 | 0.1 | 47 |
| MMSZ5266CWG | 266C | 66.64 | 68 | 69.36 | 1.8 | 230 | 1600 | 0.1 | 52 |
| MMSZ5267CWG | 267C | 73.5 | 75 | 76.5 | 1.7 | 270 | 1700 | 0.1 | 56 |

V_F Forward Voltage = 900mV Maximum @ $I_F = 10$ mA for all types

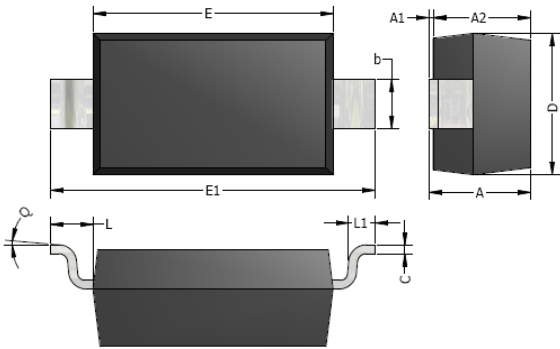
Notes:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of $\pm 2\%$.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong Electronics representative.
4. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK} .

RATING AND CHARACTERISTIC CURVES


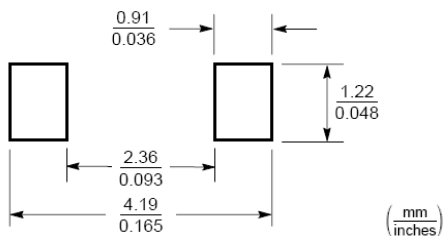


SOD123 Gull Wing Lead Package Outline



| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 1.05 | 1.25 | 0.041 | 0.049 |
| A1 | 0.00 | 0.10 | 0.000 | 0.004 |
| A2 | 1.05 | 1.15 | 0.041 | 0.045 |
| b | 0.50 | 0.70 | 0.020 | 0.028 |
| c | 0.08 | 0.15 | 0.003 | 0.006 |
| D | 1.50 | 1.70 | 0.059 | 0.067 |
| E | 2.60 | 2.80 | 0.102 | 0.110 |
| E1 | 3.55 | 3.85 | 0.140 | 0.152 |
| L | 0.50 REF. | | 0.020 REF. | |
| L1 | 0.25 | 0.45 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

Typical Soldering Pattern:



Note:
Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

NOTICE

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