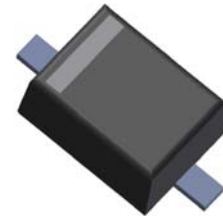


200mW SOD-323 SURFACE MOUNT Small Outline Flat Lead Plastic Package Zener Voltage Regulators

Green Product



SOD-323 Flat Lead

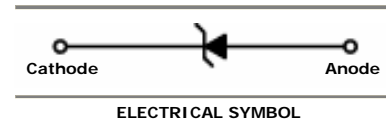
Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|-----------------------------|-------------|------------------|
| P_D | Power Dissipation | 200 | 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.

Specification Features:

- Wide Zener Voltage Range Selection, 2.4V to 75V
- VZ Tolerance Selection of $\pm 5\%$ (C Series)
- Flat Lead SOD-323 Small Outline Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode



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 | I_{ZK} (mA) | $Z_{ZK} @ I_{ZK}$ (Ω) Max | $I_R @ V_R$ (μA) Max | V_R (Volts) |
|-------------|----------------|------------------------|-----|-------|---------------|------------------------------------|---------------|------------------------------------|-----------------------------------|---------------|
| | | Min | Nom | Max | | | | | | |
| MM3Z2V4CW | Z0 | 2.28 | 2.4 | 2.52 | 5 | 100 | 1 | 564 | 45 | 1 |
| MM3Z2V7CW | Z1 | 2.57 | 2.7 | 2.84 | 5 | 100 | 1 | 564 | 18 | 1 |
| MM3Z3V0CW | Z2 | 2.85 | 3.0 | 3.15 | 5 | 100 | 1 | 564 | 9 | 1 |
| MM3Z3V3CW | Z3 | 3.14 | 3.3 | 3.47 | 5 | 95 | 1 | 564 | 4.5 | 1 |
| MM3Z3V6CW | Z4 | 3.42 | 3.6 | 3.78 | 5 | 90 | 1 | 564 | 4.5 | 1 |
| MM3Z3V9CW | Z5 | 3.71 | 3.9 | 4.10 | 5 | 90 | 1 | 564 | 2.7 | 1 |
| MM3Z4V3CW | Z6 | 4.09 | 4.3 | 4.52 | 5 | 90 | 1 | 564 | 2.7 | 1 |
| MM3Z4V7CW | Z7 | 4.47 | 4.7 | 4.94 | 5 | 80 | 1 | 470 | 2.7 | 2 |
| MM3Z5V1CW | Z8 | 4.85 | 5.1 | 5.36 | 5 | 60 | 1 | 451 | 1.8 | 2 |
| MM3Z5V6CW | Z9 | 5.32 | 5.6 | 5.88 | 5 | 40 | 1 | 376 | 0.9 | 2 |
| MM3Z6V2CW | ZA | 5.89 | 6.2 | 6.51 | 5 | 10 | 1 | 141 | 2.7 | 4 |
| MM3Z6V8CW | ZB | 6.46 | 6.8 | 7.14 | 5 | 15 | 1 | 75 | 1.8 | 4 |
| MM3Z7V5CW | ZC | 7.11 | 7.5 | 7.86 | 5 | 15 | 1 | 75 | 0.9 | 5 |
| MM3Z8V2CW | ZD | 7.79 | 8.2 | 8.61 | 5 | 15 | 1 | 75 | 0.63 | 5 |
| MM3Z9V1CW | ZE | 8.65 | 9.1 | 9.56 | 5 | 15 | 1 | 94 | 0.45 | 6 |
| MM3Z10VCW | ZF | 9.50 | 10 | 10.50 | 5 | 20 | 1 | 141 | 0.18 | 7 |
| MM3Z11VCW | ZG | 10.45 | 11 | 11.55 | 5 | 20 | 1 | 141 | 0.09 | 8 |
| MM3Z12VCW | ZH | 11.40 | 12 | 12.60 | 5 | 25 | 1 | 141 | 0.09 | 8 |
| MM3Z13VCW | ZJ | 12.35 | 13 | 13.65 | 5 | 30 | 1 | 160 | 0.09 | 8 |
| MM3Z15VCW | ZK | 14.25 | 15 | 15.75 | 5 | 30 | 1 | 188 | 0.045 | 10.5 |

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

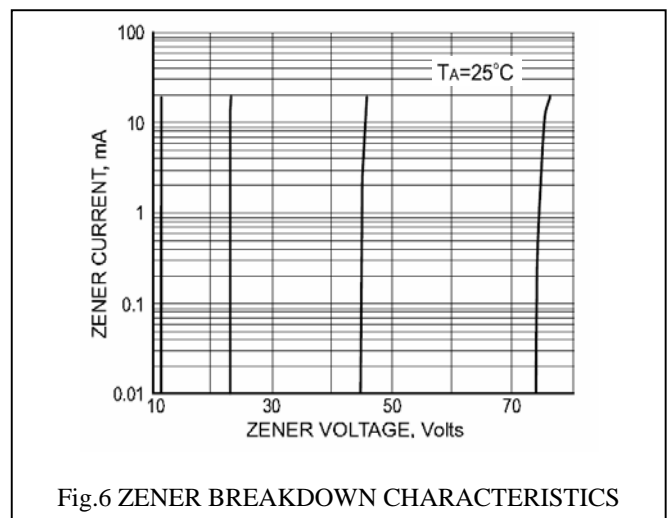
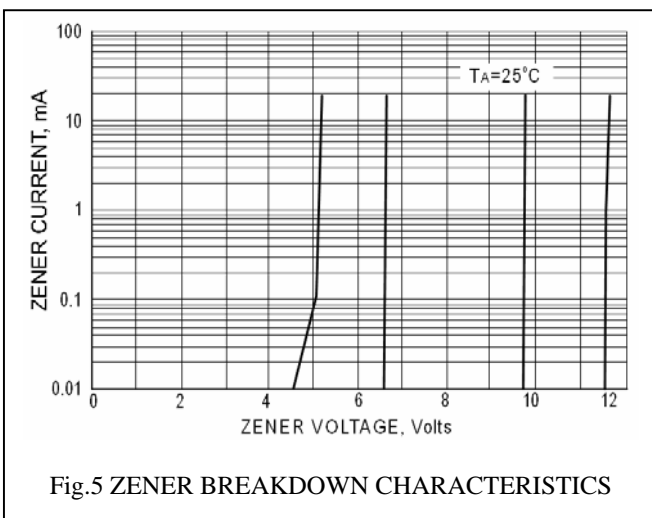
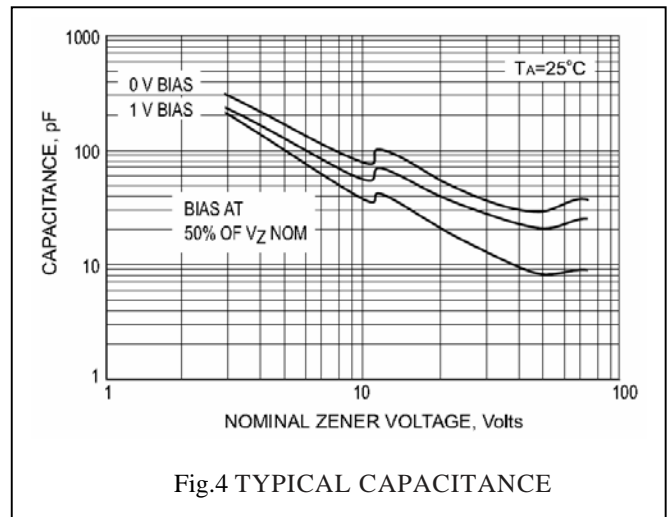
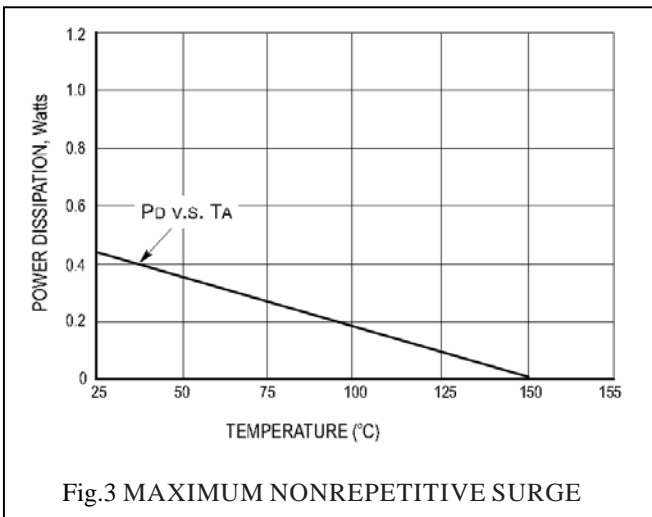
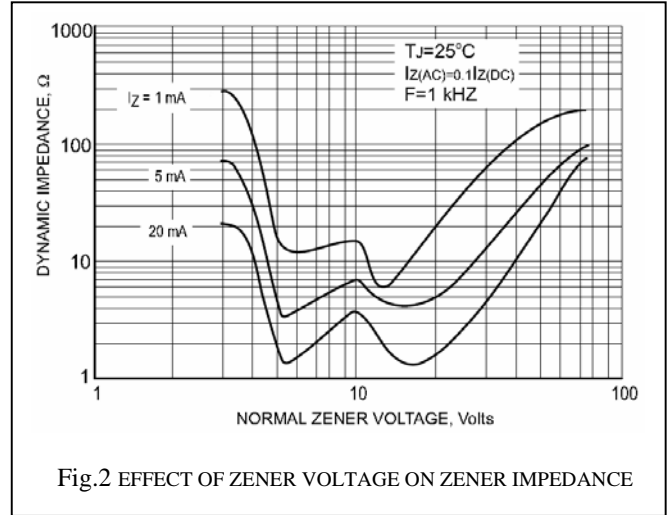
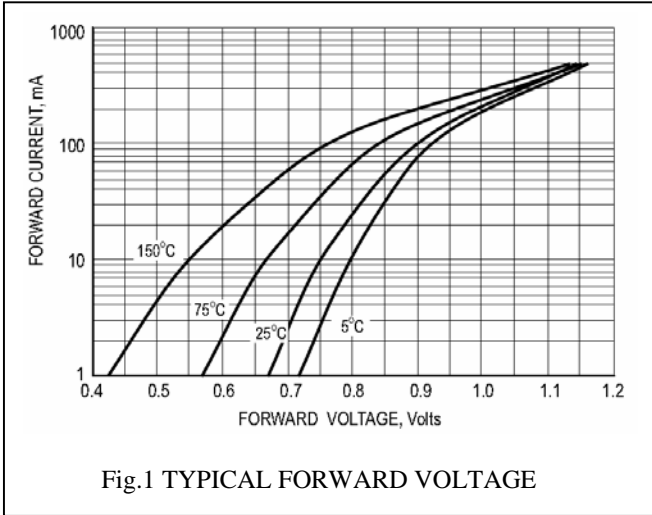
| Device Type | Device Marking | $V_Z @ I_{ZT}$ (Volts) | | | I_{ZT} (mA) | $Z_{ZT} @ I_{ZT}$ (Ω) Max | I_{ZK} (mA) | $Z_{ZK} @ I_{ZK}$ (Ω) Max | $I_R @ V_R$ (μA) Max | V_R (Volts) |
|-------------|----------------|------------------------|-----|-------|---------------|------------------------------------|---------------|------------------------------------|-----------------------------------|---------------|
| | | Min | Nom | Max | | | | | | |
| MM3Z16VCW | ZL | 15.20 | 16 | 16.80 | 5 | 40 | 1 | 188 | 0.045 | 11.2 |
| MM3Z18VCW | ZM | 17.10 | 18 | 18.90 | 5 | 45 | 1 | 212 | 0.045 | 12.6 |
| MM3Z20VCW | ZN | 19.00 | 20 | 21.00 | 5 | 55 | 1 | 212 | 0.045 | 14.0 |
| MM3Z22VCW | ZP | 20.90 | 22 | 23.10 | 5 | 55 | 1 | 235 | 0.045 | 15.4 |
| MM3Z24VCW | ZR | 22.80 | 24 | 25.20 | 5 | 70 | 1 | 235 | 0.045 | 16.8 |
| MM3Z27VCW | ZS | 25.65 | 27 | 28.35 | 5 | 80 | 0.5 | 282 | 0.045 | 18.9 |
| MM3Z30VCW | ZT | 28.50 | 30 | 31.50 | 5 | 80 | 0.5 | 282 | 0.045 | 21.0 |
| MM3Z33VCW | ZU | 31.35 | 33 | 34.65 | 5 | 80 | 0.5 | 306 | 0.045 | 23.0 |
| MM3Z36VCW | ZV | 34.20 | 36 | 37.80 | 5 | 90 | 0.5 | 329 | 0.045 | 25.2 |
| MM3Z39VCW | ZW | 37.05 | 39 | 40.95 | 5 | 130 | 0.5 | 329 | 0.045 | 27.3 |
| MM3Z43VCW | ZX | 40.85 | 43 | 45.15 | 5 | 150 | 0.5 | 353 | 0.045 | 30.1 |
| MM3Z47VCW | ZY | 44.65 | 47 | 49.35 | 5 | 170 | 0.5 | 353 | 0.045 | 33.0 |
| MM3Z51VCW | Z- | 48.45 | 51 | 53.55 | 5 | 180 | 0.5 | 376 | 0.045 | 35.7 |
| MM3Z56VCW | Z= | 53.20 | 56 | 58.80 | 5 | 200 | 0.5 | 400 | 0.045 | 39.2 |
| MM3Z62VCW | Z≡ | 58.90 | 62 | 65.10 | 5 | 215 | 0.5 | 423 | 0.045 | 43.4 |
| MM3Z68VCW | Z> | 64.60 | 68 | 71.40 | 5 | 240 | 0.5 | 447 | 0.045 | 47.6 |
| MM3Z75VCW | Z< | 71.25 | 75 | 78.75 | 5 | 255 | 0.5 | 470 | 0.045 | 52.5 |

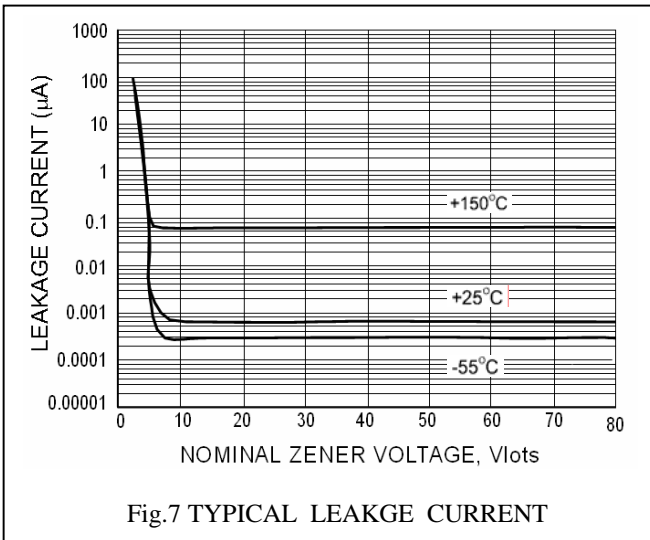
V_F Forward Voltage = 1 V Maximum @ $I_F = 10$ mA for all types

Notes:

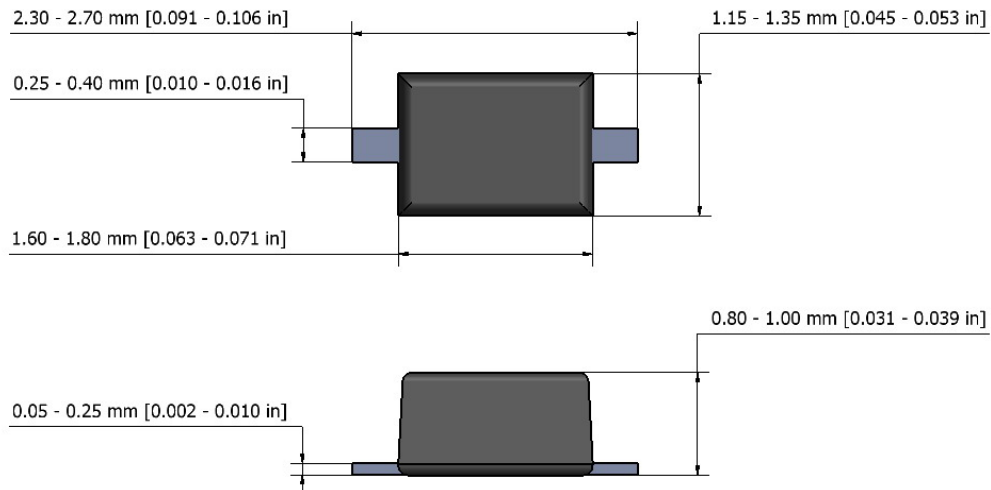
1. The Zener Voltage (V_Z) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage 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





SOD-323 Package Outline



NOTE: The above package outline is similar to JEITA SC-90.

This datasheet presents technical data of Tak Cheong's Zener Diodes. Complete specifications for the individual devices are provided in the form of datasheets. A comprehensive Selector Guide is included to simplify the task of choosing the best set of components required for a specific application. For additional information, please visit our website <http://www.takcheong.com>.

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