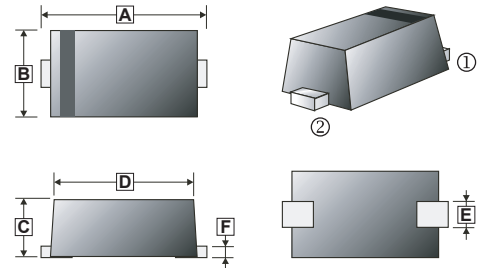


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

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

SOD-323L



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 2.30 | 2.70 | D | 1.60 | 1.80 |
| B | 1.15 | 1.35 | E | 0.25 | 0.40 |
| C | 0.80 | 1.10 | F | 0.05 | 0.25 |

PACKAGE INFORMATION

| Package | MPQ | Leader Size |
|----------|-----|-------------|
| SOD-323L | 3K | 7 inch |



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Rating | Unit |
|---|----------------|---------|------------------|
| Power Dissipation | P_D | 200 | mW |
| Operating and Storage Temperature Range | T_J, T_{STG} | -65~150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified, $V_F=1\text{V}$ Maximum @ $I_F=10\text{mA}$)

| Type Number | Marking | Zener Voltage Range | | | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | |
|-------------|---------|---------------------|--------|--------|----------|-------------------------|-----------------|----------|---------------------------------|------|
| | | $V_Z@I_{ZT}$ | | | I_{ZT} | $Z_{ZT}@I_{ZT}$ | $Z_{ZK}@I_{ZK}$ | I_{ZK} | $I_R@V_R$ | |
| | | Min(V) | Nom(V) | Max(V) | mA | Ω | Ω | mA | μA | V |
| MM3Z2V4CW | Z0 | 2.28 | 2.4 | 2.52 | 5 | 100 | 564 | 1 | 45 | 1 |
| MM3Z2V7CW | Z1 | 2.57 | 2.7 | 2.84 | 5 | 100 | 564 | 1 | 18 | 1 |
| MM3Z3V0CW | Z2 | 2.85 | 3 | 3.15 | 5 | 100 | 564 | 1 | 9 | 1 |
| MM3Z3V3CW | Z3 | 3.14 | 3.3 | 3.47 | 5 | 95 | 564 | 1 | 4.5 | 1 |
| MM3Z3V6CW | Z4 | 3.42 | 3.6 | 3.78 | 5 | 90 | 564 | 1 | 4.5 | 1 |
| MM3Z3V9CW | Z5 | 3.71 | 3.9 | 4.1 | 5 | 90 | 564 | 1 | 2.7 | 1 |
| MM3Z4V3CW | Z6 | 4.09 | 4.3 | 4.52 | 5 | 90 | 564 | 1 | 2.7 | 1 |
| MM3Z4V7CW | Z7 | 4.47 | 4.7 | 4.94 | 5 | 80 | 470 | 1 | 2.7 | 2 |
| MM3Z5V1CW | Z8 | 4.85 | 5.1 | 5.36 | 5 | 60 | 451 | 1 | 1.8 | 2 |
| MM3Z5V6CW | Z9 | 5.32 | 5.6 | 5.88 | 5 | 40 | 376 | 1 | 0.9 | 2 |
| MM3Z6V2CW | ZA | 5.89 | 6.2 | 6.51 | 5 | 10 | 141 | 1 | 2.7 | 4 |
| MM3Z6V8CW | ZB | 6.46 | 6.8 | 7.14 | 5 | 15 | 75 | 1 | 1.8 | 4 |
| MM3Z7V5CW | ZC | 7.11 | 7.5 | 7.86 | 5 | 15 | 75 | 1 | 0.9 | 5 |
| MM3Z8V2CW | ZD | 7.79 | 8.2 | 8.61 | 5 | 15 | 75 | 1 | 0.63 | 5 |
| MM3Z9V1CW | ZE | 8.65 | 9.1 | 9.56 | 5 | 15 | 94 | 1 | 0.45 | 6 |
| MM3Z10VCW | ZF | 9.5 | 10 | 10.5 | 5 | 20 | 141 | 1 | 0.18 | 7 |
| MM3Z11VCW | ZG | 10.45 | 11 | 11.55 | 5 | 20 | 141 | 1 | 0.09 | 8 |
| MM3Z12VCW | ZH | 11.4 | 12 | 12.6 | 5 | 25 | 141 | 1 | 0.09 | 8 |
| MM3Z13VCW | ZJ | 12.35 | 13 | 13.65 | 5 | 30 | 160 | 1 | 0.09 | 8 |
| MM3Z15VCW | ZK | 14.25 | 15 | 15.75 | 5 | 30 | 188 | 1 | 0.045 | 10.5 |
| MM3Z16VCW | ZL | 15.2 | 16 | 16.8 | 5 | 40 | 188 | 1 | 0.045 | 11.2 |
| MM3Z18VCW | ZM | 17.1 | 18 | 18.9 | 5 | 45 | 212 | 1 | 0.045 | 12.6 |
| MM3Z20VCW | ZN | 19 | 20 | 21 | 5 | 55 | 212 | 1 | 0.045 | 14 |
| MM3Z22VCW | ZP | 20.9 | 22 | 23.1 | 5 | 55 | 235 | 1 | 0.045 | 15.4 |
| MM3Z24VCW | ZR | 22.8 | 24 | 25.2 | 5 | 70 | 235 | 1 | 0.045 | 16.8 |
| MM3Z27VCW | ZS | 25.65 | 27 | 28.35 | 2 | 80 | 282 | 0.5 | 0.045 | 18.9 |
| MM3Z30VCW | ZT | 28.5 | 30 | 31.5 | 2 | 80 | 282 | 0.5 | 0.045 | 21 |
| MM3Z33VCW | ZU | 31.35 | 33 | 34.65 | 2 | 80 | 306 | 0.5 | 0.045 | 23 |
| MM3Z36VCW | ZV | 34.2 | 36 | 37.8 | 2 | 90 | 329 | 0.5 | 0.045 | 25.2 |
| MM3Z39VCW | ZW | 37.05 | 39 | 40.95 | 2 | 130 | 329 | 0.5 | 0.045 | 27.3 |

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified, $V_F=1\text{V}$ Maximum @ $I_F=10\text{mA}$)

| Type Number | Marking | Zener Voltage Range | | | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | |
|-------------|---------|---------------------|--------|--------|----------|-------------------------|-----------------|----------|---------------------------------|------|
| | | $V_Z@I_{ZT}$ | | | I_{ZT} | $Z_{ZT}@I_{ZT}$ | $Z_{ZK}@I_{ZK}$ | I_{ZK} | $I_R@V_R$ | |
| | | Min(V) | Nom(V) | Max(V) | mA | Ω | Ω | mA | μA | V |
| MM3Z43VCW | ZX | 40.85 | 43 | 45.15 | 2 | 150 | 353 | 0.5 | 0.045 | 30.1 |
| MM3Z47VCW | ZY | 44.65 | 47 | 49.35 | 2 | 170 | 353 | 0.5 | 0.045 | 33 |
| MM3Z51VCW | Z- | 48.45 | 51 | 53.55 | 2 | 180 | 376 | 0.5 | 0.045 | 35.7 |
| MM3Z56VCW | Z= | 53.2 | 56 | 58.8 | 2 | 200 | 400 | 0.5 | 0.045 | 39.2 |
| MM3Z62VCW | Z≡ | 58.9 | 62 | 65.1 | 2 | 215 | 423 | 0.5 | 0.045 | 43.4 |
| MM3Z68VCW | Z> | 64.6 | 68 | 71.4 | 2 | 240 | 447 | 0.5 | 0.045 | 47.6 |
| MM3Z75VCW | Z< | 71.25 | 75 | 78.75 | 2 | 255 | 470 | 0.5 | 0.045 | 52.5 |

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. 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} .

CHARACTERISTIC CURVES

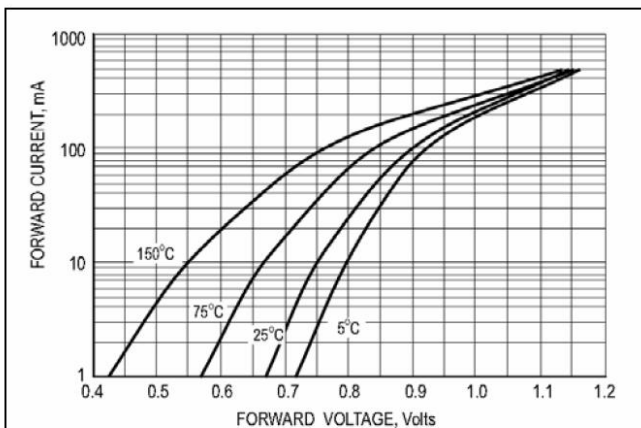


Fig.1 TYPICAL FORWARD VOLTAGE

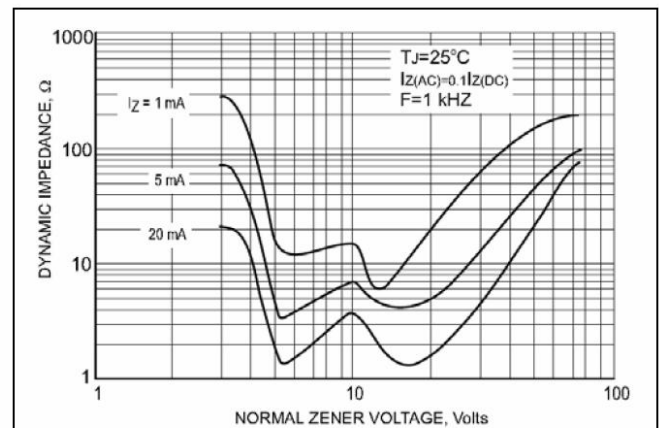


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

CHARACTERISTIC CURVES

