

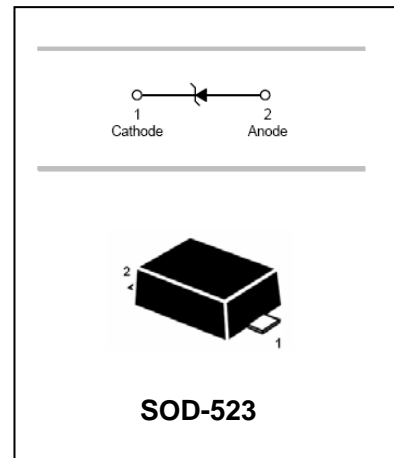


MM5Z2V4 SERIES

Zener Voltage Diodes

FEATURES

- Zener voltages: 2.4V~75V.
- Power dissipation P_D : 100mW.



APPLICATIONS

- Voltage protection.

ORDERING INFORMATION

| Type No. | Marking | Package Code |
|-----------------|---------------------|--------------|
| MM5Z2V4-MM5Z75V | see table on page 2 | SOD-523 |

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter | Symbol | Limits | Unit |
|---|-----------------------|-------------|---------------------------|
| Forward voltage @ $I_F=0.9\text{V}$ | V_F | 0.9 | V |
| Total power dissipation | P_{tot} | 200 | mW |
| Thermal resistance from junction to ambient | $R_{\theta\text{JA}}$ | 635 | $^\circ\text{C}/\text{W}$ |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -65 to +150 | $^\circ\text{C}$ |



MM5Z2V4 SERIES

Zener Voltage Diodes

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Type Number | Device Marking | Zener voltage | | | | Zener impedance | | | Leakage current | | θ _{vz} (mV/k) | | C @V _R =0 f=1MHz |
|-------------|----------------|------------------------|-------|------|------------------|----------------------------------|----------------------------------|-----|--------------------------------|------|------------------------|------|-----------------------------|
| | | V _Z (Volts) | | | @I _{ZT} | Z _{ZT} @I _{ZT} | Z _{ZK} @I _{ZK} | | I _R @V _R | | @I _{ZK} | | |
| | | Min | Nom | Max | mA | Ω | Ω | mA | μA | V | Min | Max | pF |
| MM5Z2V4 | 00 | 2.2 | 2.4 | 2.6 | 5 | 100 | 1000 | 1.0 | 50 | 1.0 | -3.5 | 0 | 450 |
| MM5Z2V7 | 01 | 2.5 | 2.7 | 2.9 | 5 | 100 | 1000 | 1.0 | 20 | 1.0 | -3.5 | 0 | 450 |
| MM5Z3V0 | 02 | 2.8 | 3.0 | 3.2 | 5 | 100 | 1000 | 1.0 | 10 | 1.0 | -3.5 | 0 | 450 |
| MM5Z3V3 | 05 | 3.1 | 3.3 | 3.5 | 5 | 95 | 1000 | 1.0 | 5 | 1.0 | -3.5 | 0 | 450 |
| MM5Z3V6 | 06 | 3.4 | 3.6 | 3.8 | 5 | 90 | 1000 | 1.0 | 5 | 1.0 | -3.5 | 0 | 450 |
| MM5Z3V9 | 07 | 3.7 | 3.9 | 4.1 | 5 | 90 | 1000 | 1.0 | 3 | 1.0 | -3.5 | -2.5 | 450 |
| MM5Z4V3 | 08 | 4.0 | 4.3 | 4.6 | 5 | 90 | 1000 | 1.0 | 3 | 1.0 | -3.5 | 0 | 450 |
| MM5Z4V7 | 09 | 4.4 | 4.7 | 5.0 | 5 | 80 | 800 | 1.0 | 3 | 2.0 | -3.5 | 0.2 | 260 |
| MM5Z5V1 | 0A | 4.8 | 5.1 | 5.4 | 5 | 60 | 500 | 1.0 | 2 | 2.0 | -2.7 | 1.2 | 225 |
| MM5Z5V6 | 0C | 5.2 | 5.6 | 6.0 | 5 | 40 | 200 | 1.0 | 1 | 2.0 | -2.0 | 2.5 | 200 |
| MM5Z6V2 | 0E | 5.8 | 6.2 | 6.6 | 5 | 10 | 100 | 1.0 | 3 | 4.0 | 0.4 | 3.7 | 185 |
| MM5Z6V8 | 0F | 6.4 | 6.8 | 7.2 | 5 | 15 | 160 | 1.0 | 2 | 4.0 | 1.2 | 4.5 | 155 |
| MM5Z7V5 | 0G | 7.0 | 7.5 | 7.9 | 5 | 15 | 160 | 1.0 | 1 | 5.0 | 2.5 | 5.3 | 140 |
| MM5Z8V2 | 0H | 7.7 | 8.2 | 8.7 | 5 | 15 | 160 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 | 135 |
| MM5Z9V1 | 0K | 8.5 | 9.1 | 9.6 | 5 | 15 | 160 | 1.0 | 0.2 | 7.0 | 3.8 | 7.0 | 130 |
| MM5Z10V | 0L | 9.4 | 10 | 10.6 | 5 | 20 | 160 | 1.0 | 0.1 | 8.0 | 4.5 | 8.0 | 130 |
| MM5Z11V | 0M | 10.4 | 11 | 11.6 | 5 | 20 | 160 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 | 130 |
| MM5Z12V | 0N | 11.4 | 12 | 12.7 | 5 | 25 | 80 | 1.0 | 0.1 | 8.0 | 6.0 | 10 | 130 |
| MM5Z13V | 0P | 12.4 | 13.25 | 14.1 | 5 | 30 | 80 | 1.0 | 0.1 | 8.0 | 7.0 | 11 | 120 |
| MM5Z15V | 0T | 14.3 | 15 | 15.8 | 5 | 30 | 80 | 1.0 | 0.05 | 10.5 | 9.2 | 13 | 110 |
| MM5Z16V | 0U | 15.3 | 16.2 | 17.1 | 2 | 40 | 80 | 1.0 | 0.05 | 11.2 | 10.4 | 14 | 105 |
| MM5Z18V | 0W | 16.8 | 18 | 19.1 | 2 | 45 | 80 | 1.0 | 0.05 | 12.6 | 12.4 | 16 | 100 |
| MM5Z20V | 0Z | 18.8 | 20 | 21.2 | 2 | 55 | 100 | 1.0 | 0.05 | 14.0 | 14.4 | 18 | 85 |
| MM5Z22V | 10 | 20.8 | 22 | 23.3 | 2 | 55 | 100 | 1.0 | 0.05 | 15.4 | 16.4 | 20 | 85 |
| MM5Z24V | 11 | 22.8 | 24.2 | 25.6 | 2 | 70 | 120 | 1.0 | 0.05 | 16.8 | 18.4 | 22 | 80 |
| MM5Z27V | 12 | 25.1 | 27 | 28.9 | 2 | 80 | 300 | 1.0 | 0.05 | 18.9 | 21.4 | 25.3 | 70 |
| MM5Z30V | 14 | 28 | 30 | 32 | 2 | 80 | 300 | 1.0 | 0.05 | 21.0 | 24.4 | 29.4 | 70 |
| MM5Z33V | 18 | 31 | 33 | 35 | 2 | 80 | 300 | 1.0 | 0.05 | 23.2 | 27.4 | 33.4 | 70 |
| MM5Z36V | 19 | 34 | 36 | 38 | 2 | 90 | 500 | 1.0 | 0.05 | 25.2 | 30.4 | 37.4 | 70 |
| MM5Z39V | 20 | 37 | 39 | 41 | 2 | 130 | 500 | 1.0 | 0.05 | 27.3 | 33.4 | 41.2 | 45 |
| MM5Z43V | 21 | 40 | 3 | 46 | 1 | 150 | 500 | 1.0 | 0.05 | 30.1 | 37.6 | 46.6 | 40 |
| MM5Z47V | 1A | 44 | 47 | 50 | 1 | 170 | 500 | 1.0 | 0.05 | 32.9 | 42.0 | 51.8 | 40 |
| MM5Z51V | 1C | 48 | 51 | 54 | 1 | 180 | 500 | 1.0 | 0.05 | 35.7 | 46.6 | 57.2 | 40 |



MM5Z2V4 SERIES

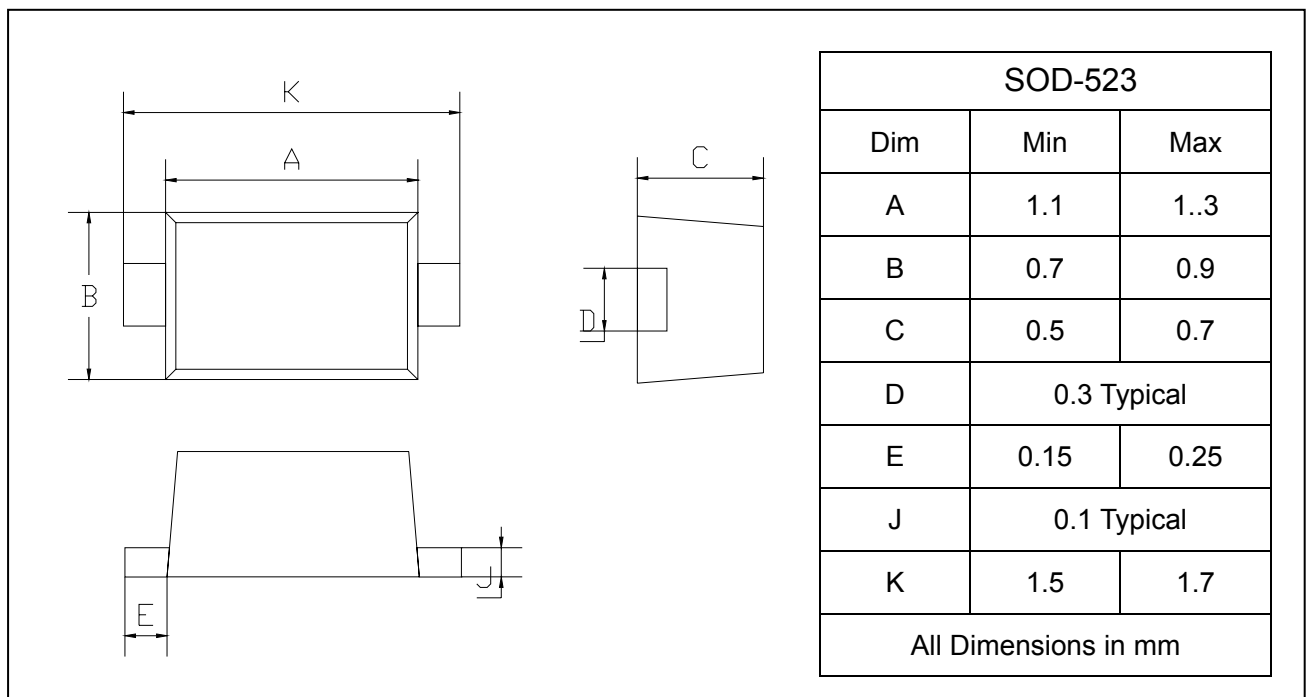
Zener Voltage Diodes

| Type Number | Device Marking | Zener voltage | | | Zener impedance | | | Leakage current | | Θ_{VZ} (mV/k) | | C @ $V_R=0$ f=1MHz | |
|-------------|----------------|---------------|-----|-----|-----------------|---------------------|-----------------|-----------------|-----------|----------------------|-----------|--------------------|-----|
| | | V_Z (Volts) | | | $@I_{ZT}$ | Z_{ZT} @ I_{ZT} | $Z_{ZK}@I_{ZK}$ | | $I_R@V_R$ | | $@I_{ZK}$ | | |
| | | Min | Nom | Max | mA | Ω | Ω | mA | μA | V | Min | | Max |
| MM5Z56V | 1D | 52 | 56 | 60 | 1 | 200 | 500 | 1.0 | 0.05 | 39.2 | 52.2 | 63.8 | 40 |
| MM5Z62V | 1E | 58 | 62 | 66 | 1 | 215 | 500 | 1.0 | 0.05 | 43.4 | 58.8 | 71.6 | 35 |
| MM5Z68V | 1F | 64 | 68 | 72 | 1 | 240 | 500 | 1.0 | 0.05 | 47.6 | 65.6 | 79.8 | 35 |
| MM5Z75V | 1G | 70 | 75 | 79 | 1 | 255 | 500 | 1.0 | 0.05 | 52.5 | 73.4 | 88.6 | 35 |

PACKAGE OUTLINE

Plastic surface mounted package

SOD-523

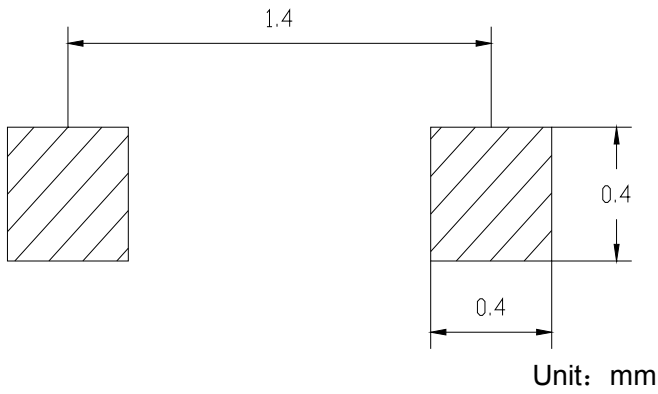




MM5Z2V4 SERIES

Zener Voltage Diodes

SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|-----------------|---------|----------------|
| MM5Z2V4-MM5Z75V | SOD-523 | 3000/Tape&Reel |