



Silicon Planar Zener Diodes

FEATURES

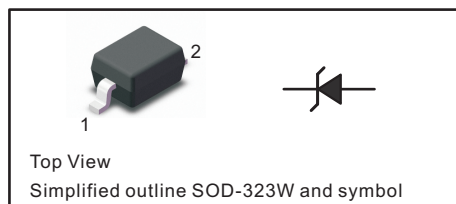
- Total power dissipation: Max. 300mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately $\pm 2\%$

MECHANICAL DATA

- Case: SOD-323W
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



Absolute Maximum Ratings And Characteristics (Ta = 25 °C)

| Parameter | Symbol | Value | Unit |
|---|-----------------|------------|-----------------------------|
| Power Dissipation | P_{tot} | 300 | mW |
| Forward Voltage at $I_F = 10 \text{ mA}$ | V_F | 0.9 | V |
| Typical thermal resistance junction to ambient ⁽¹⁾ | $R_{\theta JA}$ | 417 | $^{\circ}\text{C}/\text{W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | $^{\circ}\text{C}$ |

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

Fig.1 Maximum Continuous Power Derating

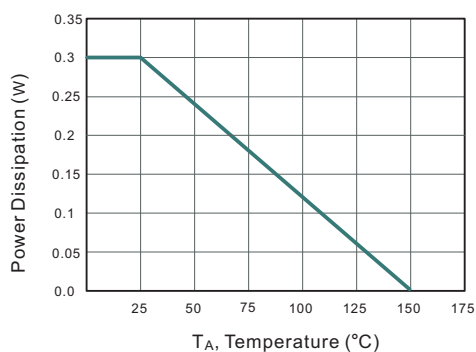
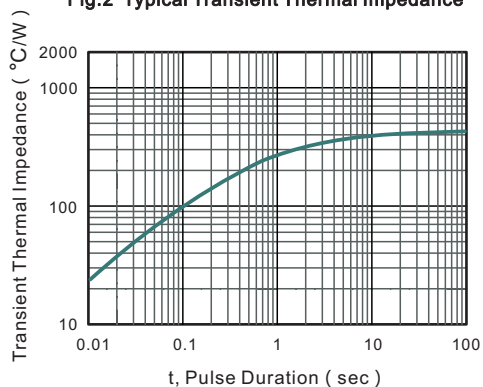


Fig.2 Typical Transient Thermal Impedance





Characteristics at Ta = 25°C

| Type | Marking | Zener Voltage Range ⁽¹⁾ | | | I _{ZT} | Dynamic Impedance | Reverse Current | |
|-----------|---------|--|-----------|-----------|-----------------|--|-----------------|-------------------|
| | | V _{ZT} (at I _{ZT}) | | | | Z _{ZT} (at I _{ZT}) | I _R | at V _R |
| | | Min (V) | Nom (V) | Max (V) | (mA) | Max (Ω) | Max (μA) | (V) |
| MM3Z2V0BW | B0 | 1.96 | 2.0 | 2.04 | 5 | 100 | 120 | 0.5 |
| MM3Z2V2BW | C0 | 2.16 | 2.2 | 2.24 | 5 | 100 | 120 | 0.7 |
| MM3Z2V4BW | 1C | 2.35 | 2.4 | 2.45 | 5 | 100 | 120 | 1 |
| MM3Z2V7BW | 1D | 2.65 | 2.7 | 2.75 | 5 | 110 | 120 | 1 |
| MM3Z3V0BW | 1E | 2.94 | 3.0 | 3.06 | 5 | 120 | 50 | 1 |
| MM3Z3V3BW | 1F | 3.23 | 3.3 | 3.37 | 5 | 130 | 20 | 1 |
| MM3Z3V6BW | 1H | 3.53 | 3.6 | 3.67 | 5 | 130 | 10 | 1 |
| MM3Z3V9BW | 1J | 3.82 | 3.9 | 3.98 | 5 | 130 | 5 | 1 |
| MM3Z4V3BW | 1K | 4.21 | 4.3 | 4.39 | 5 | 130 | 5 | 1 |
| MM3Z4V7BW | 1M | 4.61 | 4.7 | 4.79 | 5 | 130 | 2 | 1 |
| MM3Z5V1BW | 1N | 5 | 5.1 | 5.2 | 5 | 130 | 2 | 1.5 |
| MM3Z5V6BW | 1P | 5.49 | 5.6 | 5.71 | 5 | 80 | 1 | 2.5 |
| MM3Z6V2BW | 1R | 6.08 | 6.2 | 6.32 | 5 | 50 | 1 | 3 |
| MM3Z6V8BW | 1X | 6.66 | 6.8 | 6.94 | 5 | 30 | 0.5 | 3.5 |
| MM3Z7V5BW | 1Y | 7.35 | 7.5 | 7.65 | 5 | 30 | 0.5 | 4 |
| MM3Z8V2BW | 1Z | 8.04 | 8.2 | 8.36 | 5 | 30 | 0.5 | 5 |
| MM3Z9V1BW | 2A | 8.92 | 9.1 | 9.28 | 5 | 30 | 0.5 | 6 |
| MM3Z10BW | 2B | 9.8 | 10 | 10.2 | 5 | 30 | 0.1 | 7 |
| MM3Z11BW | 2C | 10.78 | 11 | 11.22 | 5 | 30 | 0.1 | 8 |
| MM3Z12BW | 2D | 11.76 | 12 | 12.24 | 5 | 35 | 0.1 | 9 |
| MM3Z13BW | 2E | 12.74 | 13 | 13.26 | 5 | 35 | 0.1 | 10 |
| MM3Z15BW | 2F | 14.7 | 15 | 15.3 | 5 | 40 | 0.1 | 11 |
| MM3Z16BW | 2H | 15.68 | 16 | 16.32 | 5 | 40 | 0.1 | 12 |
| MM3Z18BW | 2J | 17.64 | 18 | 18.36 | 5 | 45 | 0.1 | 13 |
| MM3Z20BW | 2K | 19.6 | 20 | 20.4 | 5 | 50 | 0.1 | 15 |
| MM3Z22BW | 2M | 21.56 | 22 | 22.44 | 5 | 55 | 0.1 | 17 |
| MM3Z24BW | 2N | 23.52 | 24 | 24.48 | 5 | 60 | 0.1 | 19 |
| MM3Z27BW | 2P | 26.46 | 27 | 27.54 | 2 | 70 | 0.1 | 21 |
| MM3Z30BW | 2R | 29.4 | 30 | 30.60 | 2 | 80 | 0.1 | 23 |
| MM3Z33BW | 2X | 32.34 | 33 | 33.66 | 2 | 80 | 0.1 | 25 |
| MM3Z36BW | 2Y | 35.28 | 36 | 36.72 | 2 | 90 | 0.1 | 27 |
| MM3Z39BW | 2Z | 38.22 | 39 | 39.78 | 2 | 100 | 0.1 | 30 |
| MM3Z43BW | 3A | 42.14 | 43 | 43.86 | 2 | 130 | 0.1 | 33 |
| MM3Z47BW | 3B | 46.06 | 47 | 47.94 | 2 | 150 | 0.1 | 36 |
| MM3Z51BW | 3C | 49.98 | 51 | 52.02 | 2 | 180 | 0.1 | 39 |
| MM3Z56BW | 3D | 54.88 | 56 | 57.12 | 2 | 200 | 0.1 | 43 |
| MM3Z62BW | 3E | 60.76 | 62 | 63.24 | 2 | 215 | 0.1 | 47 |
| MM3Z68BW | 3F | 66.64 | 68 | 69.36 | 2 | 240 | 0.1 | 52 |
| MM3Z75BW | 3H | 73.5 | 75 | 76.5 | 2 | 265 | 0.1 | 56 |

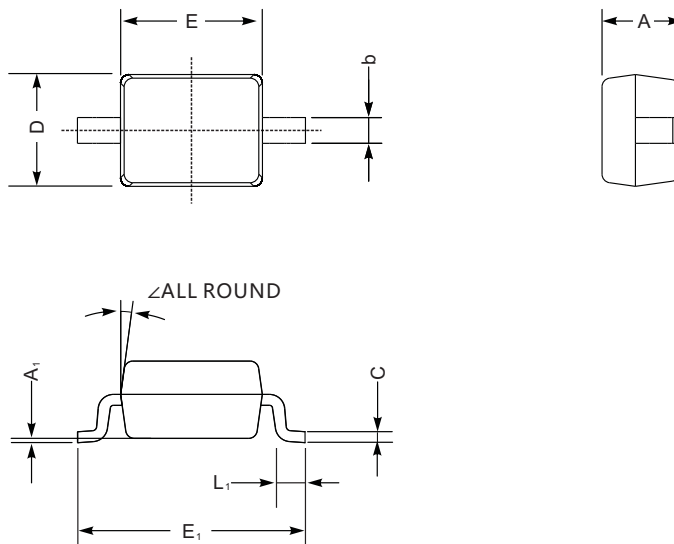
(1) V_{ZT} is tested with pulses (20 ms)



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323W



SOD-323W mechanical data

| UNIT | | A | C | D | E | E ₁ | b | L ₁ | A ₁ | ∠ |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|----|
| mm | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75 | 0.4 | 0.45 | 0.2 | 9° |
| | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55 | 0.25 | 0.2 | — | |
| mil | max | 43 | 5.9 | 55 | 70 | 108 | 16 | 16 | 8 | |
| | min | 32 | 3.1 | 47 | 63 | 100 | 9.8 | 7.9 | — | |

The recommended mounting pad size

