



Silicon Planar Zener Diodes

FEATURES

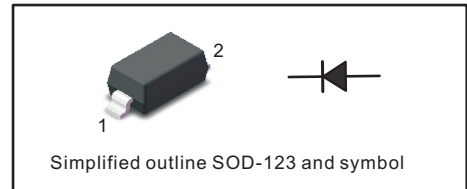
- Total power dissipation: Max. 500mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately $\pm 2\%$

MECHANICAL DATA

- Case: SOD-123
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 16mg/0.00056oz

PINNING

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



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

| Parameter | Symbol | Value | Unit |
|---|-----------------|------------|-----------------------------|
| Power Dissipation | P_{tot} | 500 | mW |
| Forward Voltage at $I_F = 10 \text{ mA}$ | V_F | 0.9 | V |
| Typical thermal resistance junction to ambient ⁽¹⁾ | $R_{\theta JA}$ | 340 | $^{\circ}\text{C}/\text{W}$ |
| 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

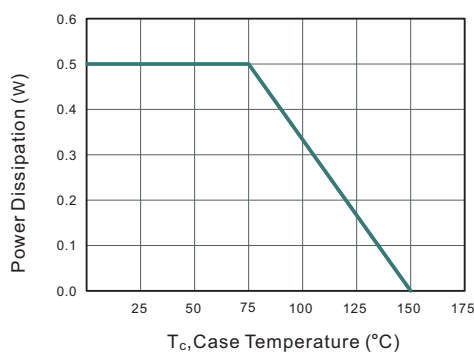
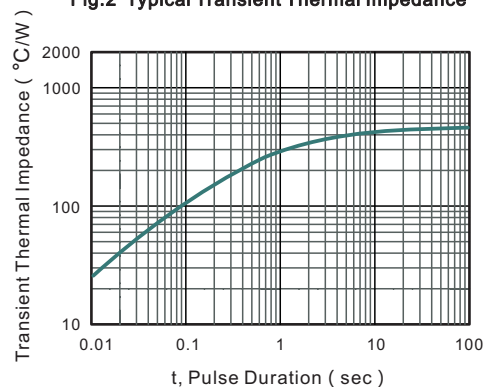


Fig.2 Typical Transient Thermal Impedance





Characteristics at Ta = 25°C

| Type | Marking | Zener Voltage Range ⁽¹⁾ | | | I _{ZT} (mA) | Dynamic Impedance Z _{ZT} (at I _{ZT}) Max (Ω) | Reverse Current | |
|----------|---------|--|-----------|-----------|-------------------------|--|------------------------------|----------------------------|
| | | V _{ZT} (at I _{ZT}) | | | | | I _R Max (μA) | at V _R (V) |
| | | Min (V) | Nom (V) | Max (V) | | | | |
| MM1Z2V0B | 4A | 1.96 | 2 | 2.04 | 5 | 100 | 120 | 0.5 |
| MM1Z2V2B | 4B | 2.16 | 2.2 | 2.24 | 5 | 100 | 120 | 0.7 |
| MM1Z2V4B | 4C | 2.35 | 2.4 | 2.45 | 5 | 100 | 120 | 1 |
| MM1Z2V7B | 4D | 2.65 | 2.7 | 2.75 | 5 | 110 | 120 | 1 |
| MM1Z3V0B | 4E | 2.94 | 3 | 3.06 | 5 | 120 | 50 | 1 |
| MM1Z3V3B | 4F | 3.23 | 3.3 | 3.37 | 5 | 130 | 20 | 1 |
| MM1Z3V6B | 4H | 3.53 | 3.6 | 3.67 | 5 | 130 | 10 | 1 |
| MM1Z3V9B | 4J | 3.82 | 3.9 | 3.98 | 5 | 130 | 5 | 1 |
| MM1Z4V3B | 4K | 4.21 | 4.3 | 4.39 | 5 | 130 | 5 | 1 |
| MM1Z4V7B | 4M | 4.61 | 4.7 | 4.79 | 5 | 130 | 2 | 1 |
| MM1Z5V1B | 4N | 5 | 5.1 | 5.20 | 5 | 130 | 2 | 1.5 |
| MM1Z5V6B | 4P | 5.49 | 5.6 | 5.71 | 5 | 80 | 1 | 2.5 |
| MM1Z6V2B | 4R | 6.08 | 6.2 | 6.32 | 5 | 50 | 1 | 3 |
| MM1Z6V8B | 4X | 6.66 | 6.8 | 6.94 | 5 | 30 | 0.5 | 3.5 |
| MM1Z7V5B | 4Y | 7.35 | 7.5 | 7.65 | 5 | 30 | 0.5 | 4 |
| MM1Z8V2B | 4Z | 8.04 | 8.2 | 8.36 | 5 | 30 | 0.5 | 5 |
| MM1Z9V1B | 5A | 8.92 | 9.1 | 9.28 | 5 | 30 | 0.5 | 6 |
| MM1Z10B | 5B | 9.8 | 10 | 10.2 | 5 | 30 | 0.1 | 7 |
| MM1Z11B | 5C | 10.78 | 11 | 11.22 | 5 | 30 | 0.1 | 8 |
| MM1Z12B | 5D | 11.76 | 12 | 12.24 | 5 | 35 | 0.1 | 9 |
| MM1Z13B | 5E | 12.74 | 13 | 13.26 | 5 | 35 | 0.1 | 10 |
| MM1Z15B | 5F | 14.7 | 15 | 15.3 | 5 | 40 | 0.1 | 11 |
| MM1Z16B | 5H | 15.68 | 16 | 16.32 | 5 | 40 | 0.1 | 12 |
| MM1Z18B | 5J | 17.64 | 18 | 18.36 | 5 | 45 | 0.1 | 13 |
| MM1Z20B | 5K | 19.6 | 20 | 20.4 | 5 | 50 | 0.1 | 15 |
| MM1Z22B | 5M | 21.56 | 22 | 22.44 | 5 | 55 | 0.1 | 17 |
| MM1Z24B | 5N | 23.52 | 24 | 24.48 | 5 | 60 | 0.1 | 19 |
| MM1Z27B | 5P | 26.46 | 27 | 27.54 | 5 | 70 | 0.1 | 21 |
| MM1Z30B | 5R | 29.4 | 30 | 30.6 | 5 | 80 | 0.1 | 23 |
| MM1Z33B | 5X | 32.34 | 33 | 33.66 | 5 | 80 | 0.1 | 25 |
| MM1Z36B | 5Y | 35.28 | 36 | 36.72 | 5 | 90 | 0.1 | 27 |
| MM1Z39B | 5Z | 38.22 | 39 | 39.78 | 2.5 | 100 | 2 | 30 |
| MM1Z43B | 6A | 42.14 | 43 | 43.86 | 2.5 | 130 | 2 | 33 |
| MM1Z47B | 6B | 46.06 | 47 | 47.94 | 2.5 | 150 | 2 | 36 |
| MM1Z51B | 6C | 49.98 | 51 | 52.02 | 2.5 | 180 | 1 | 39 |
| MM1Z56B | 6D | 54.88 | 56 | 57.12 | 2.5 | 180 | 1 | 43 |
| MM1Z62B | 6E | 60.76 | 62 | 63.24 | 2.5 | 200 | 0.2 | 47 |
| MM1Z68B | 6F | 66.64 | 68 | 69.36 | 2.5 | 250 | 0.2 | 52 |
| MM1Z75B | 6H | 73.5 | 75 | 76.5 | 2.5 | 300 | 0.2 | 57 |

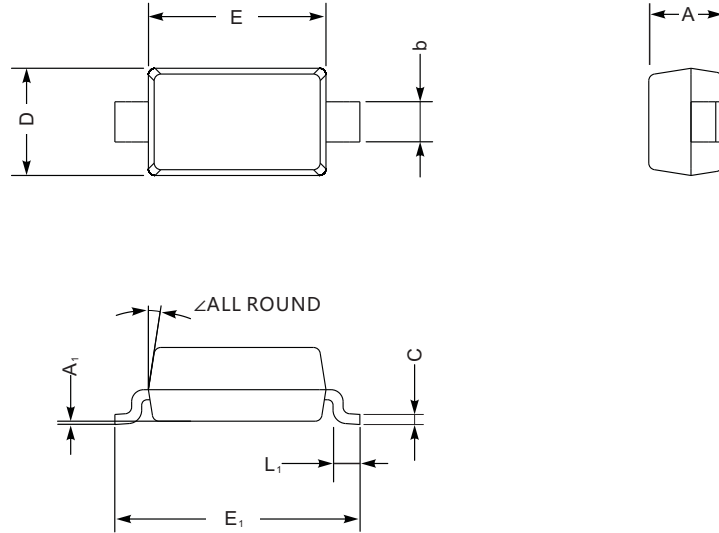
(1) V_{ZT} is tested with pulses (20 ms)



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123



SOD-123 mechanical data

| UNIT | | A | C | D | E | E ₁ | L ₁ | b | A ₁ | ∠ |
|------|-----|-----|------|-----|-----|----------------|----------------|-----|----------------|----|
| mm | max | 1.3 | 0.22 | 1.8 | 2.8 | 3.9 | 0.45 | 0.7 | 0.2 | 9° |
| | min | 0.9 | 0.09 | 1.5 | 2.5 | 3.6 | 0.25 | 0.5 | — | |
| mil | max | 51 | 8.7 | 71 | 110 | 154 | 18 | 28 | 8 | |
| | min | 35 | 3.5 | 59 | 98 | 142 | 10 | 20 | — | |

The recommended mounting pad size



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