



## MM3Z2V0B THRU MM3Z75B

### Silicon Planar Zener Diodes

#### FEATURES

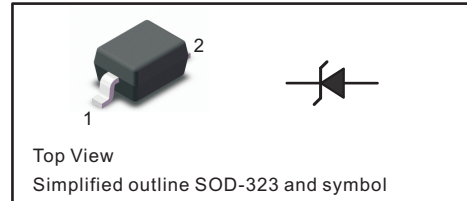
- Total power dissipation: Max. 300mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately  $\pm 2\%$

#### MECHANICAL DATA

- Case: SOD-323
- 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 $I_F = 10$ mA                              | $V_F$           | 0.9        | V    |
| Typical thermal resistance junction to ambient <sup>(1)</sup> | $R_{\theta JA}$ | 417        | °C/W |
| Operating and Storage Temperature Range                       | $T_j, T_{stg}$  | -55 ~ +150 | °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

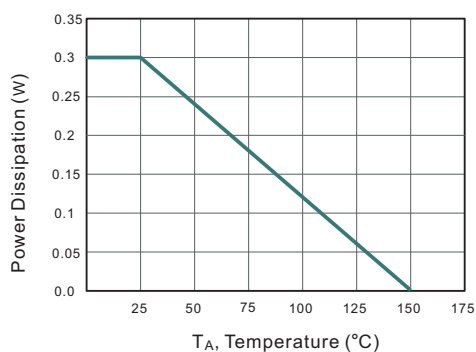
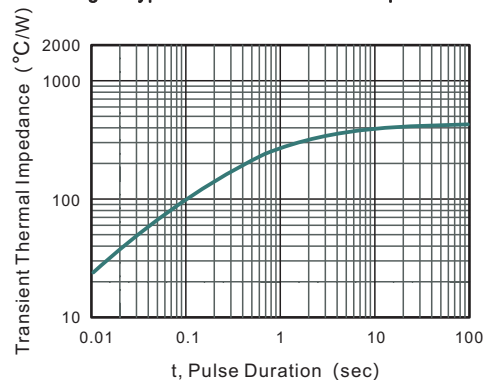


Fig.2 Typical Transient Thermal Impedance





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### Characteristics at Ta = 25°C

| Type     | Marking | Zener Voltage Range <sup>(1)</sup>    |         |         | I <sub>ZT</sub> | Dynamic Impedance                     | Reverse Current |                   |
|----------|---------|---------------------------------------|---------|---------|-----------------|---------------------------------------|-----------------|-------------------|
|          |         | V <sub>ZT</sub> (at I <sub>ZT</sub> ) |         |         |                 | Z <sub>ZT</sub> (at I <sub>ZT</sub> ) | I <sub>R</sub>  | at V <sub>R</sub> |
|          |         | Min (V)                               | Nom (V) | Max (V) | (mA)            | Max (Ω)                               | Max (μA)        | (V)               |
| MM3Z2V0B | 0B      | 1.96                                  | 2.0     | 2.04    | 5               | 100                                   | 120             | 0.5               |
| MM3Z2V2B | 0C      | 2.16                                  | 2.2     | 2.24    | 5               | 100                                   | 120             | 0.7               |
| MM3Z2V4B | C1      | 2.35                                  | 2.4     | 2.45    | 5               | 100                                   | 120             | 1                 |
| MM3Z2V7B | D1      | 2.65                                  | 2.7     | 2.75    | 5               | 110                                   | 120             | 1                 |
| MM3Z3V0B | E1      | 2.94                                  | 3.0     | 3.06    | 5               | 120                                   | 50              | 1                 |
| MM3Z3V3B | F1      | 3.23                                  | 3.3     | 3.37    | 5               | 130                                   | 20              | 1                 |
| MM3Z3V6B | H1      | 3.53                                  | 3.6     | 3.67    | 5               | 130                                   | 10              | 1                 |
| MM3Z3V9B | J1      | 3.82                                  | 3.9     | 3.98    | 5               | 130                                   | 5               | 1                 |
| MM3Z4V3B | K1      | 4.21                                  | 4.3     | 4.39    | 5               | 130                                   | 5               | 1                 |
| MM3Z4V7B | M1      | 4.61                                  | 4.7     | 4.79    | 5               | 130                                   | 2               | 1                 |
| MM3Z5V1B | N1      | 5                                     | 5.1     | 5.2     | 5               | 130                                   | 2               | 1.5               |
| MM3Z5V6B | P1      | 5.49                                  | 5.6     | 5.71    | 5               | 80                                    | 1               | 2.5               |
| MM3Z6V2B | R1      | 6.08                                  | 6.2     | 6.32    | 5               | 50                                    | 1               | 3                 |
| MM3Z6V8B | X1      | 6.66                                  | 6.8     | 6.94    | 5               | 30                                    | 0.5             | 3.5               |
| MM3Z7V5B | Y1      | 7.35                                  | 7.5     | 7.65    | 5               | 30                                    | 0.5             | 4                 |
| MM3Z8V2B | Z1      | 8.04                                  | 8.2     | 8.36    | 5               | 30                                    | 0.5             | 5                 |
| MM3Z9V1B | A2      | 8.92                                  | 9.1     | 9.28    | 5               | 30                                    | 0.5             | 6                 |
| MM3Z10B  | B2      | 9.8                                   | 10      | 10.2    | 5               | 30                                    | 0.1             | 7                 |
| MM3Z11B  | C2      | 10.78                                 | 11      | 11.22   | 5               | 30                                    | 0.1             | 8                 |
| MM3Z12B  | D2      | 11.76                                 | 12      | 12.24   | 5               | 35                                    | 0.1             | 9                 |
| MM3Z13B  | E2      | 12.74                                 | 13      | 13.26   | 5               | 35                                    | 0.1             | 10                |
| MM3Z15B  | F2      | 14.7                                  | 15      | 15.3    | 5               | 40                                    | 0.1             | 11                |
| MM3Z16B  | H2      | 15.68                                 | 16      | 16.32   | 5               | 40                                    | 0.1             | 12                |
| MM3Z18B  | J2      | 17.64                                 | 18      | 18.36   | 5               | 45                                    | 0.1             | 13                |
| MM3Z20B  | K2      | 19.6                                  | 20      | 20.4    | 5               | 50                                    | 0.1             | 15                |
| MM3Z22B  | M2      | 21.56                                 | 22      | 22.44   | 5               | 55                                    | 0.1             | 17                |
| MM3Z24B  | N2      | 23.52                                 | 24      | 24.48   | 5               | 60                                    | 0.1             | 19                |
| MM3Z27B  | P2      | 26.46                                 | 27      | 27.54   | 2               | 70                                    | 0.1             | 21                |
| MM3Z30B  | R2      | 29.4                                  | 30      | 30.60   | 2               | 80                                    | 0.1             | 23                |
| MM3Z33B  | X2      | 32.34                                 | 33      | 33.66   | 2               | 80                                    | 0.1             | 25                |
| MM3Z36B  | Y2      | 35.28                                 | 36      | 36.72   | 2               | 90                                    | 0.1             | 27                |
| MM3Z39B  | Z2      | 38.22                                 | 39      | 39.78   | 2               | 100                                   | 0.1             | 30                |
| MM3Z43B  | A3      | 42.14                                 | 43      | 43.86   | 2               | 130                                   | 0.1             | 33                |
| MM3Z47B  | B3      | 46.06                                 | 47      | 47.94   | 2               | 150                                   | 0.1             | 36                |
| MM3Z51B  | C3      | 49.98                                 | 51      | 52.02   | 2               | 180                                   | 0.1             | 39                |
| MM3Z56B  | D3      | 54.88                                 | 56      | 57.12   | 2               | 200                                   | 0.1             | 43                |
| MM3Z62B  | E3      | 60.76                                 | 62      | 63.24   | 2               | 215                                   | 0.1             | 47                |
| MM3Z68B  | F3      | 66.64                                 | 68      | 69.36   | 2               | 240                                   | 0.1             | 52                |
| MM3Z75B  | H3      | 73.5                                  | 75      | 76.5    | 2               | 265                                   | 0.1             | 56                |

(1) V<sub>ZT</sub> is tested with pulses (20 ms)

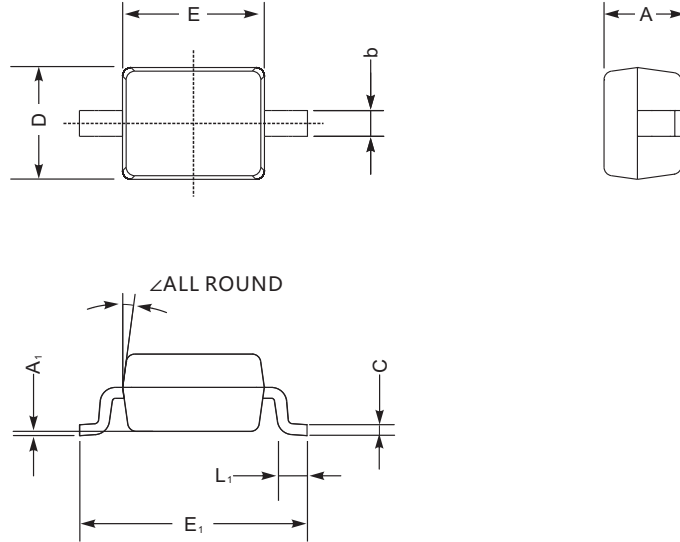


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## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



SOD-323 mechanical data

| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | b    | L <sub>1</sub> | A <sub>1</sub> | ∠  |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|----|
| 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  | 55  | 100            | 9.8  | 7.9            | —              |    |

## The recommended mounting pad size

