



MM1W3V3 THRU MM1W330

Zener Voltage - 3.3 to 330 Volts Peak Pulse Power - 1 W

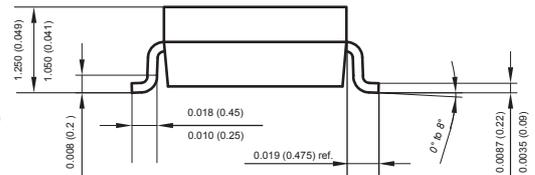
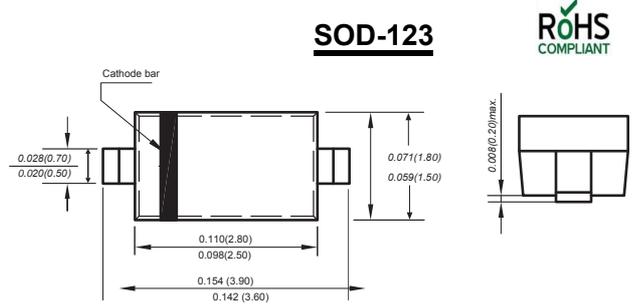
SURFACE MOUNT ZENER DIODE

Features

- ◆ Total power dissipation: Max. 1W.
- ◆ Wide zener reverse voltage range 3.3V to 330V.
- ◆ Small plastic package suitable for surface mounted design.
- ◆ Tolerance approximately $\pm 5\%$

Mechanical Data

Case : JEDEC SOD-123 Molded plastic body
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.00056 ounce, 0.016 grams



Dimensions in inches and (millimeters)

Ordering Information

| Type No. | Marking | Package Code |
|----------------------|-------------|--------------|
| MM1W3V3 THRU MM1W330 | See table 2 | SOD-123 |

MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Value | Unit |
|---|------------------|-------------|------|
| Forward Voltage @ I _F =10mA | V _F | 1.2 | V |
| Power Dissipation | P _d | 1 | W |
| Typical thermal resistance junction to ambient ⁽¹⁾ | R _{θJA} | 300 | °C/W |
| Junction temperature | T _j | -55 to +150 | °C |
| Storage temperature range | T _{stg} | -55 to +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

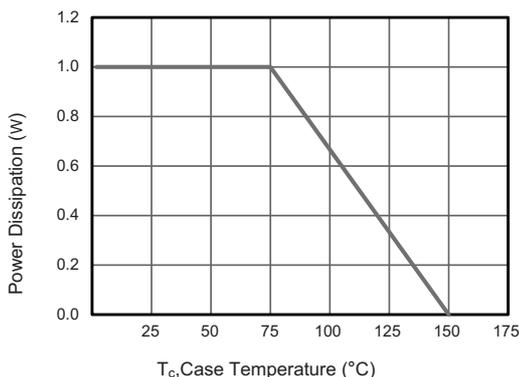
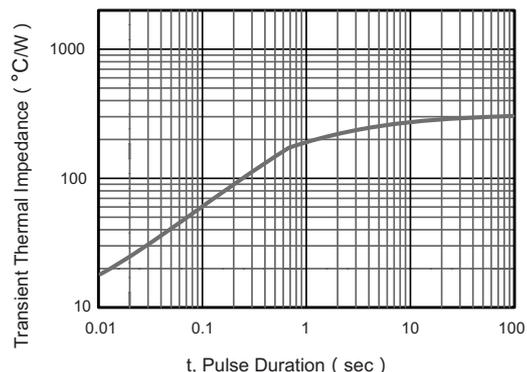


Fig.2 Typical Transient Thermal Impedance





MM1W3V3 THRU MM1W330

Zener Voltage - 3.3 to 330 Volts Peak Pulse Power - 1 W

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Type | Marking | Zener Voltage Range ⁽¹⁾ | | | I _{ZT} (mA) | Dynamic Impedance Z _{zt} (at I _{ZT}) Max (Ω) | Reverse Current | | Admissible Zener Current I _{ZM} (mA) |
|---------|---------|---------------------------------------|---------|---------|-------------------------|---|----------------------------|--------------------------|--|
| | | V _{ZT} (at I _{ZT}) | | | | | I _R Max (μA) | at V _R (V) | |
| | | Min (V) | Nom (V) | Max (V) | | | | | |
| MM1W3V3 | FHD | 3.10 | 3.3 | 3.50 | 75 | 10 | 100 | 1 | 285 |
| MM1W3V6 | FHE | 3.40 | 3.6 | 3.80 | 69 | 10 | 100 | 1 | 263 |
| MM1W3V9 | FHF | 3.70 | 3.9 | 4.10 | 64 | 9.0 | 50 | 1 | 243 |
| MM1W4V3 | FHG | 4.06 | 4.3 | 4.56 | 58 | 9.0 | 25 | 1 | 219 |
| MM1W4V7 | FHJ | 4.50 | 4.7 | 4.93 | 53 | 8.0 | 10 | 1 | 203 |
| MM1W5V1 | FHK | 4.84 | 5.1 | 5.36 | 49 | 7.0 | 10 | 1 | 186 |
| MM1W5V6 | FHL | 5.32 | 5.6 | 5.92 | 45 | 5.0 | 10 | 2 | 170 |
| MM1W6V2 | FHN | 5.86 | 6.2 | 6.51 | 41 | 2.0 | 10 | 3 | 154 |
| MM1W6V8 | FHO | 6.46 | 6.8 | 7.18 | 37 | 3.5 | 10 | 4 | 140 |
| MM1W7V5 | FHQ | 7.12 | 7.5 | 7.88 | 34 | 4.0 | 10 | 5 | 127 |
| MM1W8V2 | FHR | 7.79 | 8.2 | 8.67 | 31 | 4.5 | 10 | 6 | 116 |
| MM1W9V1 | FHT | 8.60 | 9.1 | 9.59 | 28 | 5.0 | 10 | 7 | 104 |
| MM1W10 | FHU | 9.50 | 10 | 10.5 | 25 | 7.0 | 10 | 7 | 95 |
| MM1W11 | FHV | 10.4 | 11 | 11.6 | 23 | 8.0 | 5 | 8 | 86 |
| MM1W12 | FHW | 11.4 | 12 | 12.6 | 21 | 9.0 | 5 | 9 | 79 |
| MM1W13 | FHX | 12.4 | 13 | 14.1 | 19 | 10 | 5 | 10 | 71 |
| MM1W15 | FHZ | 13.8 | 15 | 15.8 | 17 | 14 | 5 | 11 | 63 |
| MM1W16 | FJA | 15.2 | 16 | 17.1 | 16 | 16 | 5 | 12 | 58 |
| MM1W18 | FJF | 16.8 | 18 | 19.2 | 14 | 20 | 5 | 13 | 52 |
| MM1W20 | FJG | 19.0 | 20 | 21.2 | 13 | 22 | 5 | 15 | 47 |
| MM1W22 | FJK | 20.8 | 22 | 23.3 | 12 | 23 | 5 | 17 | 43 |
| MM1W24 | FJL | 22.8 | 24 | 26.0 | 11 | 25 | 5 | 18 | 38 |
| MM1W27 | FJN | 25.3 | 27 | 28.9 | 9.5 | 35 | 5 | 21 | 35 |
| MM1W30 | FJQ | 28.2 | 30 | 32.0 | 8.5 | 40 | 5 | 23 | 31 |
| MM1W33 | FJR | 31.3 | 33 | 34.9 | 7.5 | 45 | 5 | 25 | 28 |
| MM1W36 | FJS | 34.2 | 36 | 37.9 | 7.0 | 50 | 5 | 27 | 26 |
| MM1W39 | FJT | 37.2 | 39 | 41.5 | 6.5 | 60 | 5 | 30 | 24 |
| MM1W43 | FLG | 40.9 | 43 | 45.6 | 6.0 | 70 | 1 | 32 | 22 |
| MM1W47 | FLJ | 44.9 | 47 | 49.8 | 5.5 | 80 | 1 | 35 | 20 |
| MM1W51 | FLK | 48.6 | 51 | 54.0 | 5.0 | 95 | 1 | 38 | 18 |
| MM1W56 | FLL | 53.6 | 56 | 58.8 | 4.5 | 110 | 1 | 42 | 17 |
| MM1W62 | FLN | 58.9 | 62 | 65.6 | 4.0 | 125 | 1 | 47 | 15 |
| MM1W68 | FLO | 64.6 | 68 | 71.7 | 3.7 | 150 | 1 | 52 | 14 |
| MM1W75 | FLQ | 71.2 | 75 | 78.8 | 3.3 | 175 | 1 | 56 | 12 |
| MM1W82 | FLR | 77.9 | 82 | 87.0 | 3.0 | 200 | 1 | 62 | 11 |
| MM1W91 | FLT | 86.0 | 91 | 96.0 | 2.8 | 250 | 1 | 69 | 10 |
| MM1W100 | FLU | 95.0 | 100 | 105 | 2.5 | 350 | 1 | 76 | 9.5 |
| MM1W110 | FLV | 104 | 110 | 116 | 2.3 | 450 | 1 | 84 | 8.6 |
| MM1W120 | FLW | 114 | 120 | 127 | 2.0 | 550 | 1 | 91 | 7.8 |
| MM1W135 | FLX | 125 | 135 | 142 | 1.9 | 700 | 1 | 100 | 7.0 |
| MM1W150 | FLZ | 140 | 150 | 157 | 1.7 | 900 | 1 | 110 | 6.3 |
| MM1W165 | FPA | 155 | 165 | 172 | 1.6 | 1100 | 1 | 120 | 5.8 |
| MM1W180 | FPF | 170 | 180 | 191 | 1.4 | 1200 | 1 | 135 | 5.2 |
| MM1W200 | FPG | 189 | 200 | 211 | 1.2 | 1400 | 1 | 150 | 4.7 |
| MM1W220 | FPK | 209 | 220 | 231 | 1.0 | 1600 | 1 | 165 | 4.3 |
| MM1W240 | FPL | 229 | 240 | 251 | 1.0 | 1800 | 1 | 180 | 3.9 |
| MM1W260 | FPM | 249 | 260 | 271 | 1.0 | 2000 | 1 | 190 | 3.7 |
| MM1W280 | FPN | 269 | 280 | 291 | 1.0 | 2100 | 1 | 205 | 3.4 |
| MM1W300 | FPQ | 289 | 300 | 315 | 1.0 | 2300 | 1 | 230 | 3.1 |
| MM1W330 | FLR | 313 | 330 | 346 | 1.0 | 2500 | 1 | 250 | 2.8 |

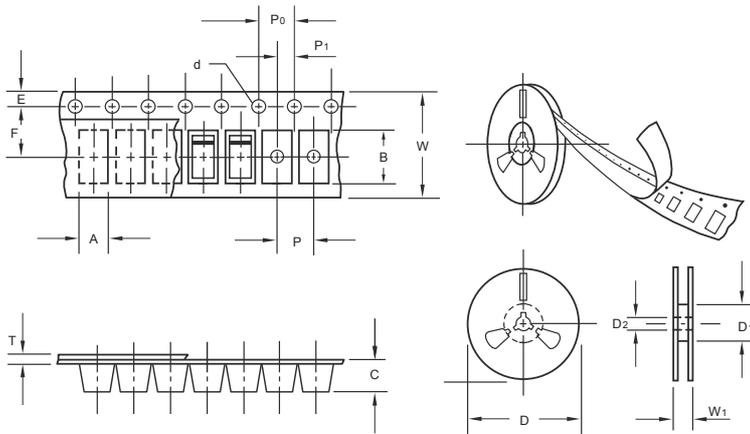
(1) V_{ZT} is tested with pulses (20 ms)



MM1W3V3 THRU MM1W330

Zener Voltage - 3.3 to 330 Volts Peak Pulse Power - 1 W

Packing information



unit:mm

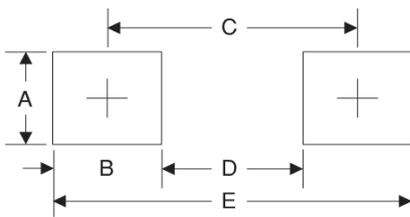
| Item | Symbol | Tolerance | SOD-123 |
|--------------------------|----------------|-----------|---------|
| Carrier width | A | 0.1 | 2.1 |
| Carrier length | B | 0.1 | 4.0 |
| Carrier depth | C | 0.1 | 1.60 |
| Sprocket hole | d | 0.05 | 1.55 |
| 7" Reel outside diameter | D | 2.0 | 178.00 |
| 7" Reel inner diameter | D ₁ | min | 50.0 |
| Feed hole diameter | D ₂ | 0.5 | 13.00 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 3.50 |
| Punch hole pitch | P | 0.1 | 4.00 |
| Sprocket hole pitch | P ₀ | 0.1 | 4.00 |
| Embossment center | P ₁ | 0.1 | 2.00 |
| Overall tape thickness | T | 0.1 | 0.25 |
| Tape width | W | 0.3 | 8.15 |
| Reel width | W ₁ | 1.0 | 10.5 |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA, (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|---------------------------|
| SOD-123 | 7" | 3,000 | 4.0 | 45,000 | 210*208*203 | 178 | 430*430*235 | 180,000 | 9.0 |

Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.2 | 0.047 |
| B | 1.2 | 0.047 |
| C | 3.2 | 0.126 |
| D | 2.0 | 0.079 |
| E | 4.4 | 0.173 |

Important Notice and Disclaimer

Microdiode Electronics (Jiangsu) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Microdiode Electronics (Jiangsu) makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Microdiode Electronics (Jiangsu) assume any liability for application assistance or customer product design. Microdiode Electronics (Jiangsu) does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Microdiode Electronics (Jiangsu).

Microdiode Electronics (Jiangsu) products are not authorized for use as critical components in life support devices or systems without express written approval of Microdiode Electronics (Jiangsu).