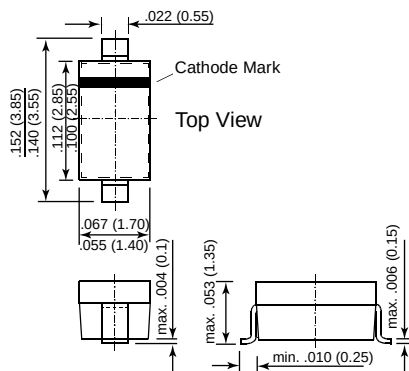


# MMSZ4681 THRU MMSZ4717

## ZENER DIODES

### SOD-123



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Silicon Planar Zener Diodes
- ◆ Standard Zener voltage tolerance is  $\pm 5\%$ . Other tolerances are available upon request.
- ◆ High temperature soldering guaranteed: 250°C/10 seconds set terminals.
- ◆ These diodes are also available in DO-35 case with type designation 1N4681 ... 1N4717 and SOT-23 case with the type designation MMBZ4681 ... MMBZ4717.



### MECHANICAL DATA

**Case:** SOD-123 Plastic Case

**Weight:** approx. 0.01 g

**Terminals:** Solderable per MIL-STD-750, method 2026.

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                               | SYMBOL           | VALUE              | UNIT |
|-----------------------------------------------|------------------|--------------------|------|
| Zener Current (see Table "Characteristics")   |                  |                    |      |
| Power Dissipation at $T_L = 75^\circ\text{C}$ | $P_{\text{tot}}$ | 500 <sup>(1)</sup> | mW   |
| Maximum Junction Temperature                  | $T_j$            | 150                | °C   |
| Storage Temperature Range                     | $T_s$            | -55 to +150        | °C   |

|                                            | SYMBOL          | MIN. | TYP. | MAX.               | UNIT  |
|--------------------------------------------|-----------------|------|------|--------------------|-------|
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | —    | —    | 340 <sup>(1)</sup> | °C/W  |
| Forward Voltage at $I_F = 10 \text{ mA}$   | $V_F$           | —    | —    | 0.9                | Volts |

#### NOTES:

(1) FR-4 or FR-5 board with minimum recommended solder pad layout.

# MMSZ4681 THRU MMSZ4717

## ELECTRICAL CHARACTERISTICS

T<sub>A</sub> = 25°C unless otherwise specified

| Type     | Marking Code | Zener Voltage <sup>(1)</sup><br>V <sub>Z</sub> @ I <sub>ZT</sub> = 50μA (Volts) |      |      | Max Reverse Current<br>I <sub>R</sub><br>(μA) | Test Voltage<br>V <sub>R</sub><br>(Volts) |
|----------|--------------|---------------------------------------------------------------------------------|------|------|-----------------------------------------------|-------------------------------------------|
|          |              | Nominal                                                                         | Min  | Max  |                                               |                                           |
| MMSZ4681 | CF           | 2.4                                                                             | 2.28 | 2.52 | 2.00                                          | 1.0                                       |
| MMSZ4682 | CH           | 2.7                                                                             | 2.57 | 2.84 | 1.00                                          | 1.0                                       |
| MMSZ4683 | CJ           | 3.0                                                                             | 2.85 | 3.15 | 0.80                                          | 1.0                                       |
| MMSZ4684 | CK           | 3.3                                                                             | 3.14 | 3.47 | 7.50                                          | 1.5                                       |
| MMSZ4685 | CM           | 3.6                                                                             | 3.42 | 3.78 | 7.50                                          | 2.0                                       |
| MMSZ4686 | CN           | 3.9                                                                             | 3.71 | 4.10 | 5.00                                          | 2.0                                       |
| MMSZ4687 | CP           | 4.3                                                                             | 4.09 | 4.52 | 4.00                                          | 2.0                                       |
| MMSZ4688 | CT           | 4.7                                                                             | 4.47 | 4.94 | 10.0                                          | 3.0                                       |
| MMSZ4689 | CU           | 5.1                                                                             | 4.85 | 5.36 | 10.0                                          | 3.0                                       |
| MMSZ4690 | CV           | 5.6                                                                             | 5.32 | 5.88 | 10.0                                          | 4.0                                       |
| MMSZ4691 | CA           | 6.2                                                                             | 5.89 | 6.51 | 10.0                                          | 5.0                                       |
| MMSZ4692 | CX           | 6.8                                                                             | 6.46 | 7.14 | 10.0                                          | 5.1                                       |
| MMSZ4693 | CY           | 7.5                                                                             | 7.13 | 7.88 | 10.0                                          | 5.7                                       |
| MMSZ4694 | CZ           | 8.2                                                                             | 7.79 | 8.61 | 1.00                                          | 6.2                                       |
| MMSZ4695 | DC           | 8.7                                                                             | 8.27 | 9.14 | 1.00                                          | 6.6                                       |
| MMSZ4696 | DD           | 9.1                                                                             | 8.65 | 9.56 | 1.00                                          | 6.9                                       |
| MMSZ4697 | DE           | 10.0                                                                            | 9.50 | 10.5 | 1.00                                          | 7.6                                       |
| MMSZ4698 | DF           | 11.0                                                                            | 10.5 | 11.6 | 0.05                                          | 8.4                                       |
| MMSZ4699 | DH           | 12.0                                                                            | 11.4 | 12.6 | 0.05                                          | 9.1                                       |
| MMSZ4700 | DJ           | 13.0                                                                            | 12.4 | 13.7 | 0.05                                          | 9.8                                       |
| MMSZ4701 | DK           | 14.0                                                                            | 13.3 | 14.7 | 0.05                                          | 10.6                                      |
| MMSZ4702 | DM           | 15.0                                                                            | 14.3 | 15.8 | 0.05                                          | 11.4                                      |
| MMSZ4703 | DN           | 16.0                                                                            | 15.2 | 16.8 | 0.05                                          | 12.1                                      |
| MMSZ4704 | DP           | 17.0                                                                            | 16.2 | 17.9 | 0.05                                          | 12.9                                      |
| MMSZ4705 | DT           | 18.0                                                                            | 17.1 | 18.9 | 0.05                                          | 13.6                                      |
| MMSZ4706 | DU           | 19.0                                                                            | 18.1 | 20.0 | 0.05                                          | 14.4                                      |
| MMSZ4707 | DV           | 20.0                                                                            | 19.0 | 21.0 | 0.01                                          | 15.2                                      |
| MMSZ4708 | DA           | 22.0                                                                            | 20.9 | 23.1 | 0.01                                          | 16.7                                      |
| MMSZ4709 | DZ           | 24.0                                                                            | 22.8 | 25.2 | 0.01                                          | 18.2                                      |
| MMSZ4710 | DY           | 25.0                                                                            | 23.8 | 26.3 | 0.01                                          | 19.0                                      |
| MMSZ4711 | EA           | 27.0                                                                            | 25.7 | 28.4 | 0.01                                          | 20.4                                      |
| MMSZ4712 | EC           | 28.0                                                                            | 26.6 | 29.4 | 0.01                                          | 21.2                                      |
| MMSZ4713 | ED           | 30.0                                                                            | 28.5 | 31.5 | 0.01                                          | 22.8                                      |
| MMSZ4714 | EE           | 33.0                                                                            | 31.4 | 34.7 | 0.01                                          | 25.0                                      |
| MMSZ4715 | EF           | 36.0                                                                            | 34.2 | 37.8 | 0.01                                          | 27.3                                      |
| MMSZ4716 | EH           | 39.0                                                                            | 37.1 | 41.0 | 0.01                                          | 29.6                                      |
| MMSZ4717 | EJ           | 43.0                                                                            | 40.9 | 45.2 | 0.01                                          | 32.6                                      |

### NOTES:

(1) Measured with device junction in thermal equilibrium