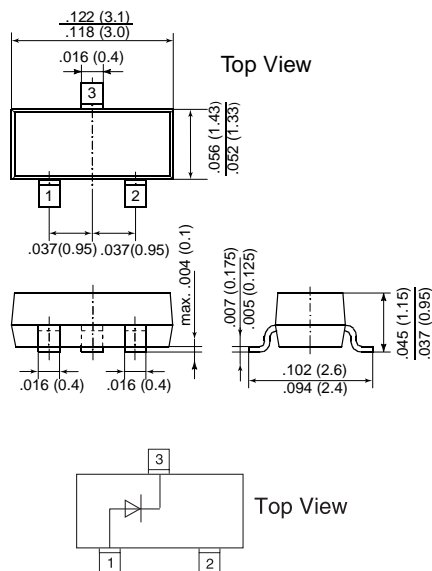


ADVANCED INFORMATION

MMBZ4681 THRU MMBZ4717

ZENER DIODES

SOT-23



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 at terminals.
- ◆ These diodes are also available in DO-35 case with the type designation 1N4681 ... 1N4717 and SOD-123 case with the type designation MMSZ4681 ... MMSZ4717.



MECHANICAL DATA

Case: SOT-23 Plastic Package

Weight: approx. 0.008 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 $T_A = 25^\circ\text{C}$ | P_{tot} | 350 ⁽¹⁾ | 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 | $R_{\theta JA}$ | — | — | 420 ⁽¹⁾ | °C/W |
| Forward Voltage at $I_F = 10 \text{ mA}$ | V_F | — | — | 0.9 | Volts |

NOTES:

(1) On FR-5 board using recommended solder pad layout.

MMBZ4681 THRU MMBZ4717

ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted)

| Type | Marking Code | Zener Voltage ⁽¹⁾ V _Z @ I _{ZT} = 50μA (Volts) | | | Max Reverse Current I _R (μA) | Test Voltage V _R (Volts) |
|----------|--------------|---|-------|------|--|--|
| | | Norm ⁽¹⁾ | Min | Max | | |
| MMBZ4681 | CF | 2.4 | 2.28 | 2.52 | 2.0 | 1.0 |
| MMBZ4682 | CH | 2.7 | 2.57 | 2.84 | 1.0 | 1.0 |
| MMBZ4683 | CJ | 3.0 | 2.85 | 3.15 | 0.8 | 1.0 |
| MMBZ4684 | CK | 3.3 | 3.14 | 3.47 | 7.5 | 1.5 |
| MMBZ4685 | CM | 3.6 | 3.42 | 3.78 | 7.5 | 2.0 |
| MMBZ4686 | CN | 3.9 | 3.71 | 4.10 | 5.0 | 2.0 |
| MMBZ4687 | CP | 4.3 | 4.09 | 4.52 | 4.0 | 2.0 |
| MMBZ4688 | CT | 4.7 | 4.47 | 4.94 | 10.0 | 3.0 |
| MMBZ4689 | CU | 5.1 | 4.85 | 5.36 | 10.0 | 3.0 |
| MMBZ4690 | CV | 5.6 | 5.32 | 5.88 | 10.0 | 4.0 |
| MMBZ4691 | CA | 6.2 | 5.89 | 6.51 | 10.0 | 5.0 |
| MMBZ4692 | CX | 6.8 | 6.46 | 7.14 | 10.0 | 5.1 |
| MMBZ4693 | CY | 7.5 | 7.13 | 7.88 | 10.0 | 5.7 |
| MMBZ4694 | CZ | 8.2 | 7.79 | 8.61 | 1.0 | 6.2 |
| MMBZ4695 | DC | 8.7 | 8.27 | 9.14 | 1.0 | 6.6 |
| MMBZ4696 | DD | 9.1 | 8.65 | 9.56 | 1.0 | 6.9 |
| MMBZ4697 | DE | 10.0 | 9.50 | 10.5 | 1.0 | 7.6 |
| MMBZ4698 | DF | 11.0 | 10.50 | 11.6 | 0.05 | 8.4 |
| MMBZ4699 | DH | 12.0 | 11.40 | 12.6 | 0.05 | 9.1 |
| MMBZ4700 | DJ | 13.0 | 12.40 | 13.7 | 0.05 | 9.8 |
| MMBZ4701 | DK | 14.0 | 13.30 | 14.7 | 0.05 | 10.6 |
| MMBZ4702 | DM | 15.0 | 14.30 | 15.8 | 0.05 | 11.4 |
| MMBZ4703 | DN | 16.0 | 15.20 | 16.8 | 0.05 | 12.1 |
| MMBZ4704 | DP | 17.0 | 16.20 | 17.9 | 0.05 | 12.9 |
| MMBZ4705 | DT | 18.0 | 17.10 | 18.9 | 0.05 | 13.6 |
| MMBZ4706 | DU | 19.0 | 18.10 | 20.0 | 0.05 | 14.4 |
| MMBZ4707 | DV | 20.0 | 19.00 | 21.0 | 0.01 | 15.2 |
| MMBZ4708 | DA | 22.0 | 20.90 | 23.1 | 0.01 | 16.7 |
| MMBZ4709 | DZ | 24.0 | 22.80 | 25.2 | 0.01 | 18.2 |
| MMBZ4710 | DY | 25.0 | 23.80 | 26.3 | 0.01 | 19.0 |
| MMBZ4711 | EA | 27.0 | 25.70 | 28.4 | 0.01 | 20.4 |
| MMBZ4712 | EC | 28.0 | 26.60 | 29.4 | 0.01 | 21.2 |
| MMBZ4713 | ED | 30.0 | 28.50 | 31.5 | 0.01 | 22.8 |
| MMBZ4714 | EE | 33.0 | 31.40 | 34.7 | 0.01 | 25.0 |
| MMBZ4715 | EF | 36.0 | 34.20 | 37.8 | 0.01 | 27.3 |
| MMBZ4716 | EH | 39.0 | 37.10 | 41.0 | 0.01 | 29.6 |
| MMBZ4717 | EJ | 43.0 | 40.90 | 45.2 | 0.01 | 32.6 |

NOTES:

(1) Tested with pulse test current