

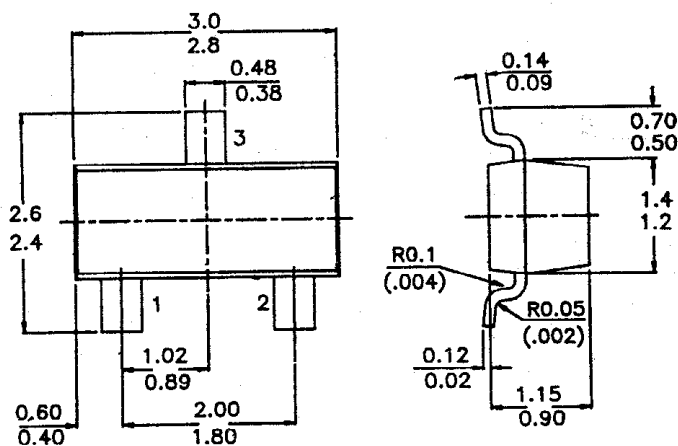
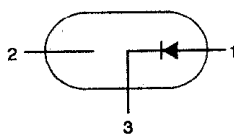
SMBZ5230 THRU SMBZ5257

SILICON PLANAR ZENER DIODES, 500mW, SOT-23 PACKAGE

PACKAGE OUTLINE DETAILS ALL DIMENSIONS IN mm

Pin configuration

- 1 = ANODE
- 2 = NC
- 3 = CATHODE



Marking

| | | | |
|----------------|----------------|----------------|-----------------|
| SMBZ5230B = 8E | SMBZ5239B = 8P | SMBZ5248B = 8Y | SMBZ5257B = 81H |
| 31B = 8F | 40B = 8Q | 49B = 8Z | |
| 32B = 8G | 41B = 8R | 50B = 81A | |
| 33B = 8H | 42B = 8S | 51B = 81B | |
| 34B = 8J | 43B = 8T | 52B = 81C | |
| 35B = 8K | 44B = 8U | 53B = 81D | |
| 36B = 8L | 45B = 8V | 54B = 81E | |
| 37B = 8M | 46B = 8W | 55B = 81F | |
| 38B = 8N | 47B = 8X | 56B = 81G | |

ABSOLUTE MAXIMUM RATINGS

| | | | |
|--|-----------|------|-------------|
| Working voltage range | V_Z | nom. | 4.7 to 33 V |
| Working voltage tolerance | | | ±5 % |
| Total power dissipation up to $T_{amb} = 25\text{ °C}$ | P_{tot} | max. | 300 mW |
| Junction temperature | T_j | max. | 150 °C |

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RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

| | |
|--|--|
| Total power dissipation up to $T_{\text{amb}} = 25^\circ\text{C}^*$ | P_{tot} max. 300 mW |
| Total power dissipation up to $T_{\text{amb}} = 25^\circ\text{C}^{**}$ | P_{tot} max. 225 mW |
| Storage temperature | T_{stg} -55 to -150°C |
| Junction temperature | T_j max. 150°C |

THERMAL RESISTANCE

| | |
|--------------------------|--|
| From junction to ambient | $R_{\text{th j-a}}$ 417 $^\circ\text{C/W}$ |
| From junction to ambient | $R_{\text{th j-a}}$ 556 $^\circ\text{C/W}$ |

CHARACTERISTICS

$T_j = 25^\circ\text{C}$ unless otherwise specified

$V_F = 0.9\text{V Max. @ } I_F = 10\text{ mA}$

| Device | Zener Voltage $V_Z (\pm 5\%)$ Nominal | Test Current I_{ZT} mA | Z_{ZK} $I_Z=0.25\text{mA}$ ohm max | Z_{ZT} $I_Z = I_{ZT}$ @10% Mod ohm max | Max I_R uA max | @ V_R (V) |
|------------|--|-----------------------------------|--|---|---------------------------|----------------|
| SMBZ-5230B | 4.7 | 20 | 1900 | 19 | 5.0 | 2.0 |
| SMBZ-5231B | 5.1 | 20 | 1600 | 17 | 5.0 | 2.0 |
| SMBZ-5232B | 5.6 | 20 | 1600 | 11 | 5.0 | 3.0 |
| SMBZ-5233B | 6.0 | 20 | 1600 | 7.0 | 5.0 | 3.5 |
| SMBZ-5234B | 6.2 | 20 | 1000 | 7.0 | 5.0 | 4.0 |
| SMBZ-5235B | 6.8 | 20 | 750 | 5.0 | 3.0 | 5.0 |
| SMBZ-5236B | 7.5 | 20 | 500 | 6.0 | 3.0 | 6.0 |
| SMBZ-5237B | 8.2 | 20 | 500 | 8.0 | 3.0 | 6.5 |
| SMBZ-5238B | 8.7 | 20 | 600 | 8.0 | 3.0 | 6.5 |
| SMBZ-5239B | 9.1 | 20 | 600 | 10 | 3.0 | 7.0 |
| SMBZ-5240B | 10 | 20 | 600 | 17 | 3.0 | 8.0 |
| SMBZ-5241B | 11 | 20 | 600 | 22 | 2.0 | 8.4 |
| SMBZ-5242B | 12 | 20 | 600 | 30 | 1.0 | 9.1 |
| SMBZ-5243B | 13 | 9.5 | 600 | 13 | 0.5 | 9.9 |
| SMBZ-5244B | 14 | 9.0 | 600 | 15 | 0.1 | 10 |
| SMBZ-5245B | 15 | 8.5 | 600 | 16 | 0.1 | 11 |
| SMBZ-5246B | 16 | 7.8 | 600 | 17 | 0.1 | 12 |
| SMBZ-5247B | 17 | 7.4 | 600 | 19 | 0.1 | 13 |
| SMBZ-5248B | 18 | 7.0 | 600 | 21 | 0.1 | 14 |
| SMBZ-5249B | 19 | 6.6 | 600 | 23 | 0.1 | 14 |
| SMBZ-5250B | 20 | 6.2 | 600 | 25 | 0.1 | 15 |
| SMBZ-5251B | 22 | 5.6 | 600 | 29 | 0.1 | 17 |

* Device mounted on a ceramic alumina of 8 mm × 10 mm × 0.7 mm

** Device mounted on an FR5 printed circuit board



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| Device | Zener Voltage $V_Z (\pm 5\%)$ Nominal | Test Current I_{ZT} mA | Z_{ZK} $I_Z=0.25\text{mA}$ ohm max | Z_{ZT} $I_Z = I_{ZT}$ @10% Mod ohm max | Max I_R μA max | @ V_R (V) |
|------------|--|-----------------------------------|--|---|--------------------------------------|----------------|
| SMBZ-5252B | 24 | 5.2 | 600 | 33 | 0.1 | 18 |
| SMBZ-5253B | 25 | 5.0 | 600 | 35 | 0.1 | 19 |
| SMBZ-5254B | 27 | 4.6 | 600 | 41 | 0.1 | 21 |
| SMBZ-5255B | 28 | 4.5 | 600 | 44 | 0.1 | 21 |
| SMBZ-5256B | 30 | 4.2 | 600 | 49 | 0.1 | 23 |
| SMBZ-5257B | 33 | 3.8 | 700 | 58 | 0.1 | 25 |