

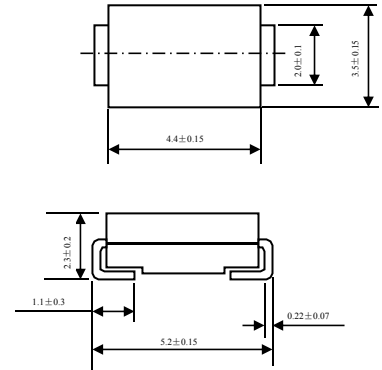
FEATURES:

- ◆ ZENER impedance at low current is small
- ◆ High reliability
- ◆ High temperature soldering guaranteed:
250°C / 10S / 9.5mm lead length at 5 lbs tension

MECHANICAL DATA:

- ◆ Case: Molded plastic
- ◆ Epoxy: UL94V-0 rate flame retardant
- ◆ Polarity: Color band denotes cathode
- ◆ Mounting position: Any

SMB / DO-214AA



1.5WATT SURFACE MOUNTSILICON ZENER DIODES
Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND CHARACTERISTICS
Rating at 25°C ambient temperature unless otherwise specified.

| Parameters | SYMBOL | VALUE | UNITS |
|---|--------------------|-----------|-------|
| ZENER Current | I _Z MAX | See table | mA |
| Power Dissipation (Note1) Ta=70°C | P _t | 3.0 | W |
| Thermal Resistances (Junction to Ambient ,Note1) | R _{θ(ja)} | 28 | °C/W |
| Operating Temperature Range | T _J | -50~+150 | °C |
| Storage Temperature Range | T _{STG} | -50~+175 | °C |

NOTES :

1. Thermal Resistance from Junction to terminal mounted on 5×5mm copper pad area.

ELECTRICAL CHARACTERISTICS (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| TYPE NUMBER (Note 2) | Nominal ZENER Voltage | Test Current | Max ZENER Impedance | | | Maximum Reverse Leakage Current | | Maximum DC ZENER Current of $V_{(BR)}$ |
|-------------------------|-----------------------|--------------|-----------------------------|-----------------------------|----------|---------------------------------|-------|--|
| | $V_{Z@I_{ZT}}$ | I_{ZT} | $Z_{ZT}@I_{ZT}$ (Note 3) | $Z_{ZK}@I_{ZK}$ (Note 4) | I_{ZK} | $I_{R@V_R}$ | V_R | $I_{ZM}@50^\circ\text{C}$ (Note 5) |
| | V | mA | Ω | Ω | mA | μA | V | mA |
| 1SMB5921B | 6.8 | 55.1 | 2.5 | 200 | 1.0 | 5.0 | 5.2 | 220 |
| 1SMB5922B | 7.5 | 50.0 | 3.0 | 400 | 0.5 | 5.0 | 6.8 | 200 |
| 1SMB5923B | 8.2 | 45.7 | 3.5 | 400 | 0.5 | 5.0 | 6.5 | 182 |
| 1SMB5924B | 9.1 | 41.2 | 4.0 | 500 | 0.5 | 5.0 | 7.0 | 164 |
| 1SMB5925B | 10 | 37.5 | 4.5 | 500 | 0.25 | 5.0 | 8.0 | 150 |
| 1SMB5926B | 11 | 34.1 | 5.5 | 550 | 0.25 | 1.0 | 8.4 | 136 |
| 1SMB5927B | 12 | 31.2 | 6.5 | 550 | 0.25 | 1.0 | 9.1 | 125 |
| 1SMB5928B | 13 | 28.8 | 7.0 | 550 | 0.25 | 1.0 | 9.9 | 115 |
| 1SMB5929B | 15 | 25.0 | 9.0 | 600 | 0.25 | 1.0 | 11.4 | 100 |
| 1SMB5930B | 16 | 23.4 | 10.0 | 600 | 0.25 | 1.0 | 12.2 | 93 |
| 1SMB5931B | 18 | 20.8 | 12.0 | 650 | 0.25 | 1.0 | 13.7 | 83 |
| 1SMB5932B | 20 | 18.7 | 14.0 | 650 | 0.25 | 1.0 | 15.2 | 75 |
| 1SMB5933B | 22 | 17.0 | 17.5 | 650 | 0.25 | 1.0 | 16.7 | 68 |
| 1SMB5934B | 24 | 15.6 | 19 | 700 | 0.25 | 1.0 | 18.2 | 62 |
| 1SMB5935B | 27 | 13.9 | 23 | 700 | 0.25 | 1.0 | 20.6 | 55 |
| 1SMB5936B | 30 | 12.5 | 26 | 750 | 0.25 | 1.0 | 22.8 | 50 |
| 1SMB5937B | 33 | 11.4 | 33 | 800 | 0.25 | 1.0 | 25.1 | 45 |
| 1SMB5938B | 36 | 10.4 | 38 | 850 | 0.25 | 1.0 | 27.4 | 41 |
| 1SMB5939B | 39 | 9.6 | 45 | 900 | 0.25 | 1.0 | 29.7 | 38 |
| 1SMB5940B | 43 | 8.7 | 53 | 950 | 0.25 | 1.0 | 32.7 | 34 |
| 1SMB5941B | 47 | 8.0 | 67 | 1000 | 0.25 | 1.0 | 35.8 | 31 |
| 1SMB5942B | 51 | 7.3 | 70 | 1100 | 0.25 | 1.0 | 38.8 | 29 |
| 1SMB5943B | 56 | 6.7 | 86 | 1300 | 0.25 | 1.0 | 42.6 | 26 |
| 1SMB5944B | 62 | 6.0 | 100 | 1500 | 0.25 | 1.0 | 47.1 | 24 |
| 1SMB5945B | 68 | 5.5 | 120 | 1700 | 0.25 | 1.0 | 51.7 | 22 |
| 1SMB5946B | 75 | 5.0 | 140 | 2000 | 0.25 | 1.0 | 56.0 | 20 |
| 1SMB5947B | 82 | 4.6 | 160 | 2500 | 0.25 | 1.0 | 62.2 | 18 |
| 1SMB5948B | 91 | 4.1 | 200 | 3000 | 0.25 | 1.0 | 69.2 | 16 |
| 1SMB5949B | 100 | 3.7 | 250 | 3100 | 0.25 | 1.0 | 76.0 | 15 |
| 1SMB5950B | 110 | 3.4 | 300 | 4000 | 0.25 | 1.0 | 83.6 | 13 |
| 1SMB5951B | 120 | 3.1 | 380 | 4500 | 0.25 | 1.0 | 91.2 | 12 |
| 1SMB5952B | 130 | 2.9 | 450 | 5000 | 0.25 | 1.0 | 98.8 | 11 |
| 1SMB5953B | 150 | 2.5 | 600 | 6000 | 0.25 | 1.0 | 114.0 | 10 |
| 1SMB5954B | 160 | 2.3 | 700 | 6500 | 0.25 | 1.0 | 121.6 | 9 |
| 1SMB5955B | 180 | 2.1 | 900 | 7000 | 0.25 | 1.0 | 136.8 | 8 |
| 1SMB5956B | 200 | 1.9 | 1200 | 8000 | 0.25 | 1.0 | 152.0 | 7 |

Note :

1. $V_F=1.5\text{V max. @ } I_F=200\text{mA}$
2. **TOLERANCE DESIGNATION** Standard tolerance on nominal ZENER voltage is $\pm 5\%$,
3. **ZENER IMPEDANCE** I (ac rms) = $10\% I_{ZT}$
4. **ZENER KNEE IMPEDANCE** I (ac rms) = $10\% I_{ZK}$
5. **MAXIMUM ZENER CURRENT** The nominal I_{ZM} currents shown are applicable for devices having regulator voltages approximately 10% above the nominal V_Z values shown. These values do not represent absolute limits. The actual steady state current-voltage product must not exceed the power rating.

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