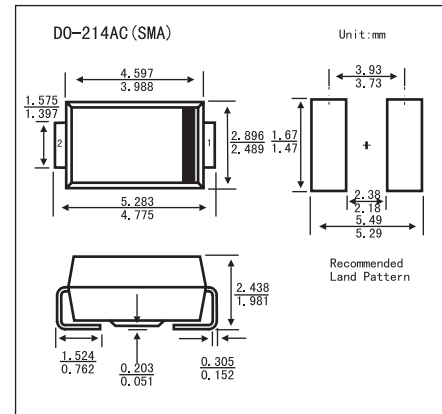


Surface Mount Zener Diodes

1SMA59-B Series

■ Features

- Flat Handling Surface for Accurate Placement
- Standard Zener Breakdown Voltage Range -3.3V to 68V
- Low Profile Package



■ Absolute Maximum Ratings (Ta = 25°C)

| Parameter | Symbol | Rating | Unit |
|---|-------------------|-------------|------|
| Power dissipation @ TL = 75°C | P | 1500 | mW |
| Thermal Resistance, Junction to Lead | R _{θ JL} | 50 | °C/W |
| Power dissipation @ TA = 25°C | P | 500 | mW |
| Thermal Resistance, Junction to Ambient | R _{θ JA} | 250 | °C/W |
| Junction temperature | T _j | 150 | °C |
| Storage temperature | T _{stg} | -65 to +150 | °C |

■ Electrical Characteristics (Ta = 25°C)

| Type | Zener voltage Vz (V) | | | | Zener Impedance | | | | Leakage Current | | I _{ZM} (mA) (dc) | Marking |
|-----------|----------------------|------|------|------------------------|---------------------------------------|---------------------|------------------------|---------------------|----------------------|-----|---------------------------|---------|
| | Min. | Mom. | Max. | @ I _{ZT} (mA) | Z _{ZT} @ I _{ZT} (Ω) | Z _{ZK} (Ω) | @ I _{ZK} (mA) | I _R (μA) | @ V _R (V) | | | |
| 1SMA5913B | 3.13 | 3.3 | 3.47 | 113.6 | 10 | 500 | 1.0 | 50 | 1.0 | 455 | 3V3 | |
| 1SMA5914B | 3.42 | 3.6 | 3.78 | 104.2 | 9.0 | 500 | 1.0 | 35.5 | 1.0 | 417 | 3V6 | |
| 1SMA5915B | 3.70 | 3.9 | 4.10 | 96.1 | 7.5 | 500 | 1.0 | 12.5 | 1.0 | 385 | 3V9 | |
| 1SMA5916B | 4.08 | 4.3 | 4.52 | 87.2 | 6.0 | 500 | 1.0 | 2.5 | 1.0 | 349 | 4V3 | |
| 1SMA5917B | 4.46 | 4.7 | 4.94 | 79.8 | 5.0 | 500 | 1.0 | 2.5 | 1.5 | 319 | 4V7 | |
| 1SMA5918B | 4.84 | 5.1 | 5.36 | 73.5 | 4.0 | 350 | 1.0 | 2.5 | 2.0 | 294 | 5V1 | |
| 1SMA5919B | 5.32 | 5.6 | 5.88 | 66.9 | 2.0 | 250 | 1.0 | 2.5 | 3.0 | 268 | 5V6 | |
| 1SMA5920B | 5.89 | 6.2 | 6.51 | 60.5 | 2.0 | 200 | 1.0 | 2.5 | 4.0 | 242 | 6V2 | |
| 1SMA5921B | 6.46 | 6.8 | 7.14 | 55.1 | 2.5 | 200 | 1.0 | 2.5 | 5.2 | 221 | 6V8 | |
| 1SMA5922B | 7.12 | 7.5 | 7.88 | 50 | 3.0 | 400 | 0.5 | 2.5 | 6.0 | 200 | 7V5 | |

1SMA59-B Series

| Type | Zener voltage V _z (V) | | | | Zener Impedance | | | Leakage Current | | I _{zM} (mA) (dc) | Marking |
|-----------|-------------------------------------|------|-------|---------------------------|--|------------------------|---------------------------|------------------------|-------------------------|---------------------------------|---------|
| | Min. | Mom. | Max. | @ I _{zT} (mA) | Z _{zT} @ I _{zT} (Ω) | Z _{zK} (Ω) | @ I _{zK} (mA) | I _R (μA) | @ V _R (V) | | |
| 1SMA5923B | 7.79 | 8.2 | 8.61 | 45.7 | 3.5 | 400 | 0.5 | 2.5 | 6.5 | 183 | 8V2 |
| 1SMA5924B | 8.64 | 9.1 | 9.56 | 41.2 | 4.0 | 500 | 0.5 | 2.5 | 7.0 | 165 | 9V1 |
| 1SMA5925B | 9.5 | 10 | 10.5 | 37.5 | 4.5 | 500 | 0.25 | 2.5 | 8.0 | 150 | 10V |
| 1SMA5926B | 10.45 | 11 | 11.55 | 34.1 | 5.5 | 550 | 0.25 | 0.5 | 8.4 | 136 | 11V |
| 1SMA5927B | 11.4 | 12 | 12.6 | 31.2 | 6.5 | 550 | 0.25 | 0.5 | 9.1 | 125 | 12V |
| 1SMA5928B | 12.35 | 13 | 13.65 | 28.8 | 7.0 | 550 | 0.25 | 0.5 | 9.9 | 115 | 13V |
| 1SMA5929B | 14.25 | 15 | 15.75 | 25 | 9.0 | 600 | 0.25 | 0.5 | 11.4 | 100 | 15V |
| 1SMA5930B | 15.2 | 16 | 16.8 | 23.4 | 10 | 600 | 0.25 | 0.5 | 12.2 | 94 | 16V |
| 1SMA5931B | 17.1 | 18 | 18.9 | 20.8 | 12 | 650 | 0.25 | 0.5 | 13.7 | 83 | 18V |
| 1SMA5932B | 19 | 20 | 21 | 18.7 | 14 | 650 | 0.25 | 0.5 | 15.2 | 75 | 20V |
| 1SMA5933B | 20.9 | 22 | 23.1 | 17 | 17.5 | 650 | 0.25 | 0.5 | 16.7 | 68 | 22V |
| 1SMA5934B | 22.8 | 24 | 25.2 | 15.6 | 19 | 700 | 0.25 | 0.5 | 18.2 | 63 | 24V |
| 1SMA5935B | 25.65 | 27 | 28.35 | 13.9 | 23 | 700 | 0.25 | 0.5 | 20.6 | 56 | 27V |
| 1SMA5936B | 28.5 | 30 | 31.5 | 12.5 | 26 | 750 | 0.25 | 0.5 | 22.8 | 50 | 30V |
| 1SMA5937B | 31.35 | 33 | 34.65 | 11.4 | 33 | 800 | 0.25 | 0.5 | 25.1 | 45 | 33V |
| 1SMA5938B | 34.2 | 36 | 37.8 | 10.4 | 38 | 850 | 0.25 | 0.5 | 27.4 | 42 | 36V |
| 1SMA5939B | 37.05 | 39 | 40.95 | 9.6 | 45 | 900 | 0.25 | 0.5 | 29.7 | 38 | 39V |
| 1SMA5940B | 40.85 | 43 | 45.15 | 8.7 | 53 | 950 | 0.25 | 0.5 | 32.7 | 35 | 43V |
| 1SMA5941B | 44.65 | 47 | 49.35 | 8.0 | 67 | 1000 | 0.25 | 0.5 | 35.8 | 32 | 47V |
| 1SMA5942B | 48.45 | 51 | 53.55 | 7.3 | 70 | 1100 | 0.25 | 0.5 | 38.8 | 29 | 51V |
| 1SMA5943B | 53.2 | 56 | 58.8 | 6.7 | 86 | 1300 | 0.25 | 0.5 | 42.6 | 27 | 56V |
| 1SMA5944B | 58.9 | 62 | 65.1 | 6.0 | 100 | 1500 | 0.25 | 0.5 | 47.1 | 24 | 62V |
| 1SMA5945B | 64.6 | 68 | 71.4 | 5.5 | 120 | 1700 | 0.25 | 0.5 | 51.7 | 22 | 68V |