

**Description**

1SMB59xxB Series Zener Diodes are excellent voltage stabilization devices.

The Series is designed specifically for Voltage stabilization、Voltage regulation, and so on.

**Features**

- For surface mounted applications
- Low Zener impedance
- Low regulation factor
- Epoxy resin package
- RoHS Compliant

**Mechanical Characteristics**

- Package: SMB (DO-214AA) plastic package.
- Lead Finish: Matte Tin
- Case Material: Epoxy Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

**Applications**

- Voltage stabilization
- Voltage regulation


**Absolute Maximum Ratings (TA=25°C unless otherwise noted)**

| Parameter                                      | Symbol           | Value      | Units | Remarks |
|------------------------------------------------|------------------|------------|-------|---------|
| Power Dissipation @T <sub>L</sub> =75°C        | P <sub>D</sub>   | 3          | W     |         |
| Maximum Forward Voltage @I <sub>F</sub> =200mA | V <sub>F</sub>   | 1.5        | V     |         |
| Typical Thermal Resistance Junction to Lead    | R <sub>θJL</sub> | 20         | °C/W  |         |
| Typical Thermal Resistance Junction to Ambient | R <sub>θJA</sub> | 220        | °C/W  |         |
| Operating Temperature Range                    | T <sub>J</sub>   | -55 to 150 | °C    |         |
| Storage Temperature Range                      | T <sub>STG</sub> | -55 to 150 | °C    |         |

**Electrical Characteristics (TA=25°C unless otherwise)**

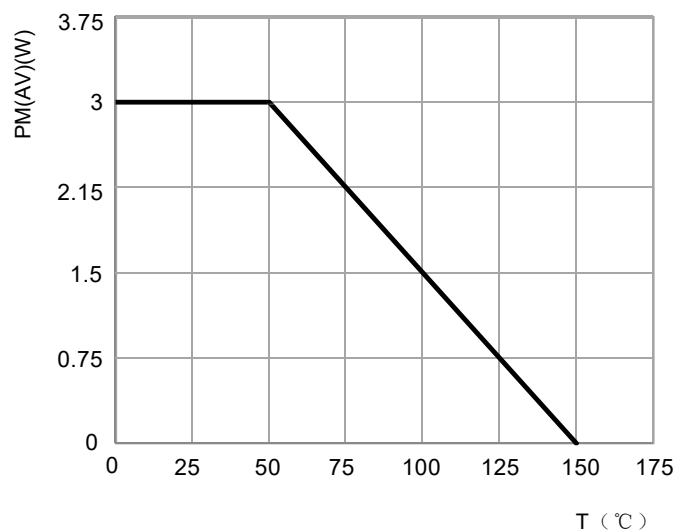
| Part Number | Marking Code | Zener Voltage                    |         |         | Test Current    | Maximum Zener Impedance           |                                   |      | Maximum Reverse Current         |      | Maximum Zener Current |
|-------------|--------------|----------------------------------|---------|---------|-----------------|-----------------------------------|-----------------------------------|------|---------------------------------|------|-----------------------|
|             |              | V <sub>Z</sub> @ I <sub>ZT</sub> |         |         | I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> |      | I <sub>R</sub> @ V <sub>R</sub> |      | I <sub>ZM</sub>       |
|             |              | Nom (V)                          | Min (V) | Max (V) | mA              | Ω                                 | Ω                                 | mA   | μA                              | V    | mA                    |
| 1SMB5913B   | 913B         | 3.3                              | 3.13    | 3.47    | 113.6           | 10                                | 500                               | 1    | 100                             | 1    | 454                   |
| 1SMB5914B   | 914B         | 3.6                              | 3.42    | 3.78    | 104.2           | 9                                 | 500                               | 1    | 75                              | 1    | 416                   |
| 1SMB5915B   | 915B         | 3.9                              | 3.70    | 4.10    | 96.1            | 7.5                               | 500                               | 1    | 25                              | 1    | 384                   |
| 1SMB5916B   | 916B         | 4.3                              | 4.08    | 4.52    | 87.2            | 6                                 | 500                               | 1    | 5                               | 1    | 348                   |
| 1SMB5917B   | 917B         | 4.7                              | 4.46    | 4.94    | 79.8            | 5                                 | 500                               | 1    | 5                               | 1.5  | 319                   |
| 1SMB5918B   | 918B         | 5.1                              | 4.84    | 5.36    | 73.5            | 4                                 | 350                               | 1    | 5                               | 2    | 294                   |
| 1SMB5919B   | 919B         | 5.6                              | 5.32    | 5.88    | 66.9            | 2                                 | 250                               | 1    | 5                               | 3    | 267                   |
| 1SMB5920B   | 920B         | 6.2                              | 5.89    | 6.51    | 60.5            | 2                                 | 200                               | 1    | 5                               | 4    | 241                   |
| 1SMB5921B   | 921B         | 6.8                              | 6.46    | 7.14    | 55.1            | 2.5                               | 200                               | 1    | 5                               | 5.2  | 220                   |
| 1SMB5922B   | 922B         | 7.5                              | 7.12    | 7.88    | 50              | 3                                 | 400                               | 0.5  | 5                               | 6    | 200                   |
| 1SMB5923B   | 923B         | 8.2                              | 7.79    | 8.61    | 45.7            | 3.5                               | 400                               | 0.5  | 5                               | 6.5  | 182                   |
| 1SMB5924B   | 924B         | 9.1                              | 8.64    | 9.56    | 41.2            | 4                                 | 500                               | 0.5  | 5                               | 7    | 164                   |
| 1SMB5925B   | 925B         | 10                               | 9.5     | 10.5    | 37.5            | 4.5                               | 500                               | 0.25 | 5                               | 8    | 150                   |
| 1SMB5926B   | 926B         | 11                               | 10.45   | 11.55   | 34.1            | 5.5                               | 550                               | 0.25 | 1                               | 8.4  | 136                   |
| 1SMB5927B   | 927B         | 12                               | 11.4    | 12.6    | 31.2            | 6.5                               | 550                               | 0.25 | 1                               | 9.1  | 125                   |
| 1SMB5928B   | 928B         | 13                               | 12.35   | 13.65   | 28.8            | 7                                 | 550                               | 0.25 | 1                               | 9.9  | 115                   |
| 1SMB5929B   | 929B         | 15                               | 14.25   | 15.75   | 25              | 9                                 | 600                               | 0.25 | 1                               | 11.4 | 100                   |
| 1SMB5930B   | 930B         | 16                               | 15.2    | 16.8    | 23.4            | 10                                | 600                               | 0.25 | 1                               | 12.2 | 93                    |
| 1SMB5931B   | 931B         | 18                               | 17.1    | 18.9    | 20.8            | 12                                | 650                               | 0.25 | 1                               | 13.7 | 83                    |
| 1SMB5932B   | 932B         | 20                               | 19      | 21      | 18.7            | 14                                | 650                               | 0.25 | 1                               | 15.2 | 75                    |
| 1SMB5933B   | 933B         | 22                               | 20.9    | 23.1    | 17              | 17.5                              | 650                               | 0.25 | 1                               | 16.7 | 68                    |
| 1SMB5934B   | 934B         | 24                               | 22.8    | 25.2    | 15.6            | 19                                | 700                               | 0.25 | 1                               | 18.2 | 62                    |
| 1SMB5935B   | 935B         | 27                               | 25.65   | 28.35   | 13.9            | 23                                | 700                               | 0.25 | 1                               | 20.6 | 55                    |
| 1SMB5936B   | 936B         | 30                               | 28.5    | 31.5    | 12.5            | 28                                | 750                               | 0.25 | 1                               | 22.8 | 50                    |
| 1SMB5937B   | 937B         | 33                               | 31.35   | 34.65   | 11.4            | 33                                | 800                               | 0.25 | 1                               | 25.1 | 45                    |
| 1SMB5938B   | 938B         | 36                               | 34.2    | 37.8    | 10.4            | 38                                | 850                               | 0.25 | 1                               | 27.4 | 41                    |
| 1SMB5939B   | 939B         | 39                               | 37.05   | 40.95   | 9.6             | 45                                | 900                               | 0.25 | 1                               | 29.7 | 38                    |
| 1SMB5940B   | 940B         | 43                               | 40.85   | 45.15   | 8.7             | 53                                | 950                               | 0.25 | 1                               | 32.7 | 34                    |
| 1SMB5941B   | 941B         | 47                               | 44.65   | 49.35   | 8               | 67                                | 1000                              | 0.25 | 1                               | 35.8 | 31                    |
| 1SMB5942B   | 942B         | 51                               | 48.45   | 53.55   | 7.3             | 70                                | 1100                              | 0.25 | 1                               | 38.8 | 29                    |
| 1SMB5943B   | 943B         | 56                               | 53.2    | 58.8    | 6.7             | 86                                | 1300                              | 0.25 | 1                               | 42.6 | 26                    |
| 1SMB5944B   | 944B         | 62                               | 58.9    | 65.1    | 6               | 100                               | 1500                              | 0.25 | 1                               | 47.1 | 24                    |

The accuracy of voltage regulator is 5%



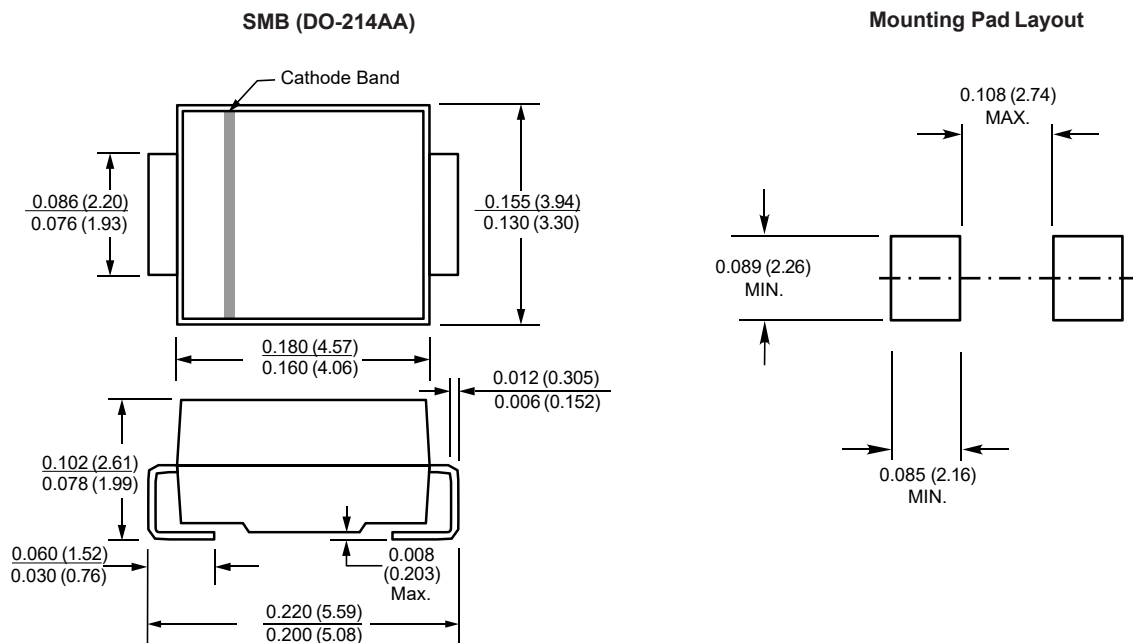
**Rating And Characteristic Curves (TA=25°C unless otherwise noted)**

FIG1: Maximum Continuous Power Dissipation

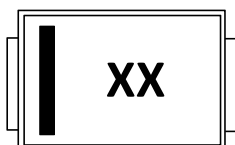


## Package Outline Dimensions in inches (millimeters)

CASE:0201



## Part Marking System



XX:Marking Code

## Summary of Packing Options

| Package | Packing Description | Packing Quantity |
|---------|---------------------|------------------|
| SMB     | Tape/Reel, 13" reel | 3000             |