



1N5333B - 1N5388B

$V_Z$ :3.3 to 200 V  
 $P_D$ : 5 W

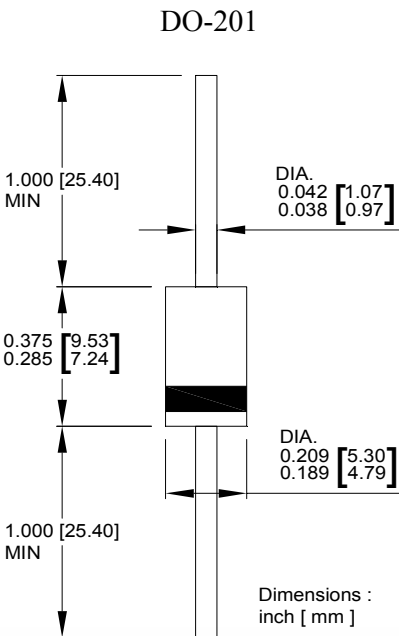
Axial Lead  
Zener Diodes

Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating
- RoHS compliant

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any



Maximum Ratings( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| Parameter                                                | Symbol    | Value         | UNIT               |
|----------------------------------------------------------|-----------|---------------|--------------------|
| DC power dissipation at $T_L = 75^{\circ}\text{C}^{(1)}$ | $P_D$     | 5             | W                  |
| Maximum forward voltage at $I_F = 1\text{A}$             | $V_F$     | 1.2           | V                  |
| Junction temperature range                               | $T_J$     | - 55 to + 150 | $^{\circ}\text{C}$ |
| Storage temperature range                                | $T_{STG}$ | - 55 to + 150 | $^{\circ}\text{C}$ |

Note:

(1)  $T_L$  = Lead temperature at 3/8 " (9.5mm) from body

Ratings and Characteristics Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

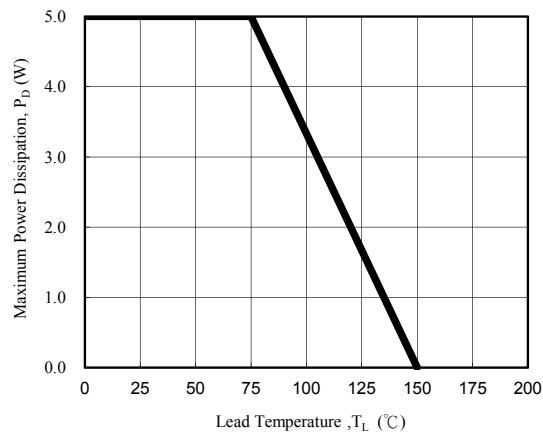


Fig. 1 - Power Temperature Derating Curve

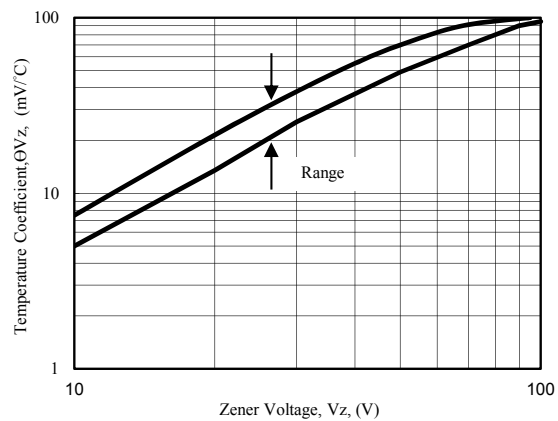


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

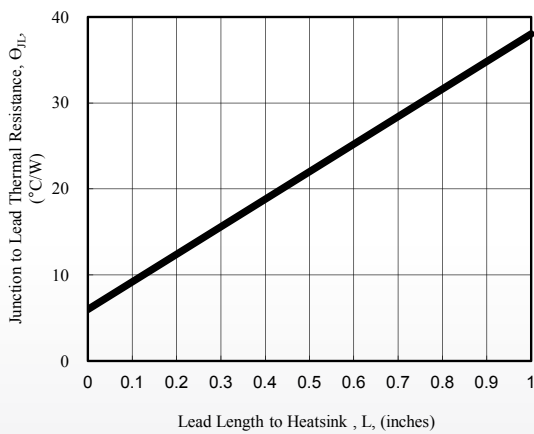


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

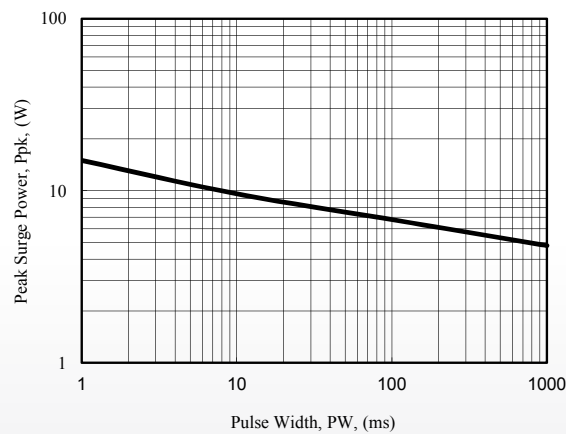


Fig. 4 - Maximum Surge Power

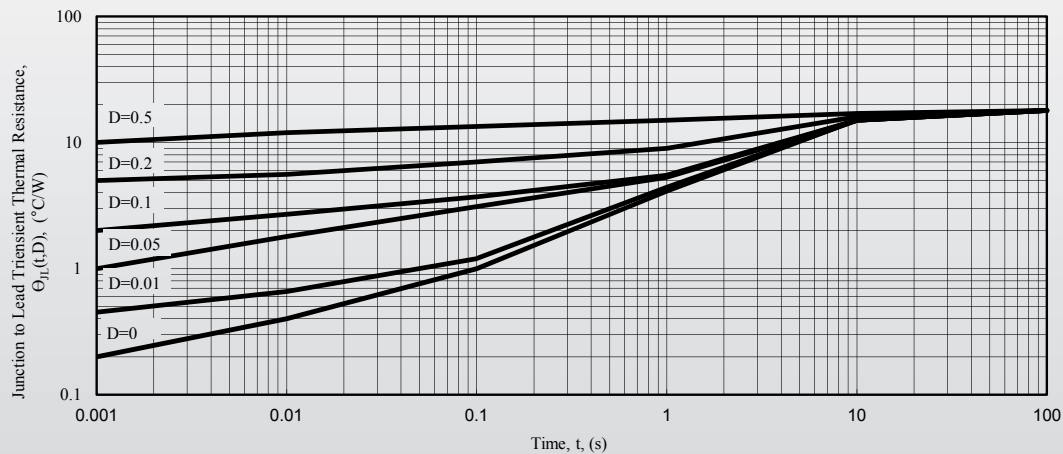
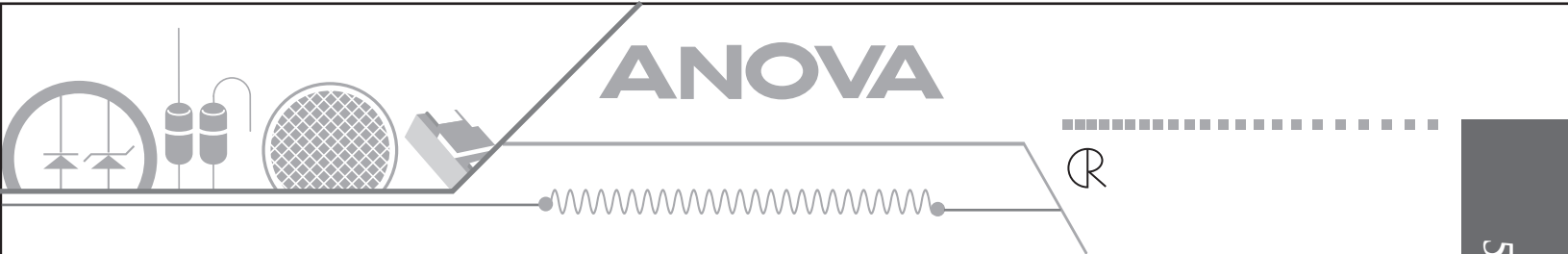


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch



Electrical Characteristics(T<sub>A</sub>=25°C unless otherwise noted)

| Part Number | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |      | Maximum DC 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>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |      | I <sub>ZM</sub>          |
|             | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)  | (mA)                     |
| 1N5333B     | 3.3                              | 380             | 3.0                               | 400                               | 1               | 300.0                           | 1.0  | 1437.0                   |
| 1N5334B     | 3.6                              | 350             | 2.5                               | 500                               | 1               | 150.0                           | 1.0  | 1317.0                   |
| 1N5335B     | 3.9                              | 320             | 2.0                               | 500                               | 1               | 50.0                            | 1.0  | 1216.0                   |
| 1N5336B     | 4.3                              | 290             | 2.0                               | 500                               | 1               | 10.0                            | 1.0  | 1103.0                   |
| 1N5337B     | 4.7                              | 260             | 2.0                               | 450                               | 1               | 5.0                             | 1.0  | 1009.0                   |
| 1N5338B     | 5.1                              | 240             | 1.5                               | 400                               | 1               | 1.0                             | 1.0  | 930.0                    |
| 1N5339B     | 5.6                              | 220             | 1.0                               | 400                               | 1               | 1.0                             | 2.0  | 846.0                    |
| 1N5340B     | 6.0                              | 200             | 1.0                               | 300                               | 1               | 1.0                             | 3.0  | 790.0                    |
| 1N5341B     | 6.2                              | 200             | 1.0                               | 200                               | 1               | 1.0                             | 3.0  | 765.0                    |
| 1N5342B     | 6.8                              | 175             | 1.0                               | 200                               | 1               | 10.0                            | 5.2  | 700.0                    |
| 1N5343B     | 7.5                              | 175             | 1.5                               | 200                               | 1               | 10.0                            | 5.7  | 630.0                    |
| 1N5344B     | 8.2                              | 150             | 1.5                               | 200                               | 1               | 10.0                            | 6.2  | 580.0                    |
| 1N5345B     | 8.7                              | 150             | 2.0                               | 200                               | 1               | 10.0                            | 6.6  | 545.0                    |
| 1N5346B     | 9.1                              | 150             | 2.0                               | 150                               | 1               | 7.5                             | 6.9  | 520.0                    |
| 1N5347B     | 10.0                             | 125             | 2.0                               | 125                               | 1               | 5.0                             | 7.6  | 475.0                    |
| 1N5348B     | 11.0                             | 125             | 2.5                               | 125                               | 1               | 5.0                             | 8.4  | 430.0                    |
| 1N5349B     | 12.0                             | 100             | 2.5                               | 125                               | 1               | 2.0                             | 9.1  | 395.0                    |
| 1N5350B     | 13.0                             | 100             | 2.5                               | 100                               | 1               | 1.0                             | 9.9  | 365.0                    |
| 1N5351B     | 14.0                             | 100             | 2.5                               | 75                                | 1               | 1.0                             | 10.6 | 340.0                    |
| 1N5352B     | 15.0                             | 75              | 2.5                               | 75                                | 1               | 1.0                             | 11.5 | 315.0                    |
| 1N5353B     | 16.0                             | 75              | 2.5                               | 75                                | 1               | 1.0                             | 12.2 | 295.0                    |
| 1N5354B     | 17.0                             | 70              | 2.5                               | 75                                | 1               | 0.5                             | 12.9 | 280.0                    |
| 1N5355B     | 18.0                             | 65              | 2.5                               | 75                                | 1               | 0.5                             | 13.7 | 265.0                    |
| 1N5356B     | 19.0                             | 65              | 3.0                               | 75                                | 1               | 0.5                             | 14.4 | 250.0                    |
| 1N5357B     | 20.0                             | 65              | 3.0                               | 75                                | 1               | 0.5                             | 15.2 | 237.0                    |
| 1N5358B     | 22.0                             | 50              | 3.5                               | 75                                | 1               | 0.5                             | 16.7 | 216.0                    |
| 1N5359B     | 24.0                             | 50              | 3.5                               | 100                               | 1               | 0.5                             | 18.2 | 198.0                    |
| 1N5360B     | 25.0                             | 50              | 4.0                               | 110                               | 1               | 0.5                             | 19.0 | 190.0                    |
| 1N5361B     | 27.0                             | 50              | 5.0                               | 120                               | 1               | 0.5                             | 20.6 | 176.0                    |
| 1N5362B     | 28.0                             | 50              | 6.0                               | 130                               | 1               | 0.5                             | 21.2 | 170.0                    |
| 1N5363B     | 30.0                             | 40              | 8.0                               | 140                               | 1               | 0.5                             | 22.8 | 158.0                    |
| 1N5364B     | 33.0                             | 40              | 10.0                              | 150                               | 1               | 0.5                             | 25.1 | 144.0                    |
| 1N5365B     | 36.0                             | 30              | 11.0                              | 160                               | 1               | 0.5                             | 27.4 | 132.0                    |
| 1N5366B     | 39.0                             | 30              | 14.0                              | 170                               | 1               | 0.5                             | 29.7 | 122.0                    |
| 1N5367B     | 43.0                             | 30              | 20.0                              | 190                               | 1               | 0.5                             | 32.7 | 110.0                    |
| 1N5368B     | 47.0                             | 25              | 25.0                              | 210                               | 1               | 0.5                             | 35.8 | 100.0                    |
| 1N5369B     | 51.0                             | 25              | 27.0                              | 230                               | 1               | 0.5                             | 38.8 | 93.0                     |
| 1N5370B     | 56.0                             | 20              | 35.0                              | 280                               | 1               | 0.5                             | 42.6 | 86.0                     |
| 1N5371B     | 60.0                             | 20              | 40.0                              | 350                               | 1               | 0.5                             | 45.5 | 79.0                     |
| 1N5372B     | 62.0                             | 20              | 42.0                              | 400                               | 1               | 0.5                             | 47.1 | 76.0                     |
| 1N5373B     | 68.0                             | 20              | 44.0                              | 500                               | 1               | 0.5                             | 51.7 | 70.0                     |
| 1N5374B     | 75.0                             | 20              | 45.0                              | 620                               | 1               | 0.5                             | 56.0 | 63.0                     |
| 1N5375B     | 82.0                             | 15              | 65.0                              | 720                               | 1               | 0.5                             | 62.2 | 58.0                     |
| 1N5376B     | 87.0                             | 15              | 75.0                              | 760                               | 1               | 0.5                             | 66.0 | 54.5                     |
| 1N5377B     | 91.0                             | 15              | 75.0                              | 760                               | 1               | 0.5                             | 69.2 | 52.5                     |
| 1N5378B     | 100.0                            | 12              | 90.0                              | 800                               | 1               | 0.5                             | 76.0 | 47.5                     |

Notes :

(1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %

(2) The reve surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC method



Electrical Characteristics(T<sub>A</sub>=25°C unless otherwise noted)

| Part Number | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |       | Maximum DC 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>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |       | I <sub>ZM</sub>          |
|             | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)   | (mA)                     |
| 1N5379B     | 110.0                            | 12              | 125.0                             | 1000                              | 1               | 0.5                             | 83.6  | 43.0                     |
| 1N5380B     | 120.0                            | 10              | 170.0                             | 1150                              | 1               | 0.5                             | 91.2  | 39.5                     |
| 1N5381B     | 130.0                            | 10              | 190.0                             | 1250                              | 1               | 0.5                             | 98.8  | 36.6                     |
| 1N5382B     | 140.0                            | 8               | 230.0                             | 1500                              | 1               | 0.5                             | 106.0 | 34.0                     |
| 1N5383B     | 150.0                            | 8               | 330.0                             | 1500                              | 1               | 0.5                             | 114.0 | 31.6                     |
| 1N5384B     | 160.0                            | 8               | 350.0                             | 1650                              | 1               | 0.5                             | 122.0 | 29.4                     |
| 1N5385B     | 170.0                            | 8               | 380.0                             | 1750                              | 1               | 0.5                             | 129.0 | 28.0                     |
| 1N5386B     | 180.0                            | 5               | 430.0                             | 1750                              | 1               | 0.5                             | 137.0 | 26.4                     |
| 1N5387B     | 190.0                            | 5               | 450.0                             | 1850                              | 1               | 0.5                             | 144.0 | 25.0                     |
| 1N5388B     | 200.0                            | 5               | 480.0                             | 1850                              | 1               | 0.5                             | 152.0 | 23.6                     |



# SMC5333B - SMC5388B

**V<sub>Z</sub>: 3.3 to 200 V**  
**P<sub>D</sub>: 5 W**

**Surface Mount**  
**Zener Diodes**

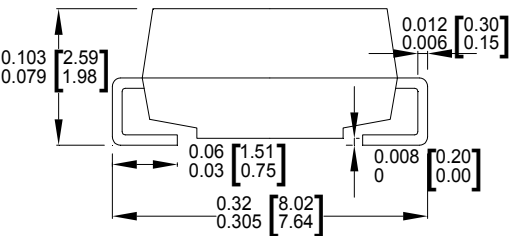
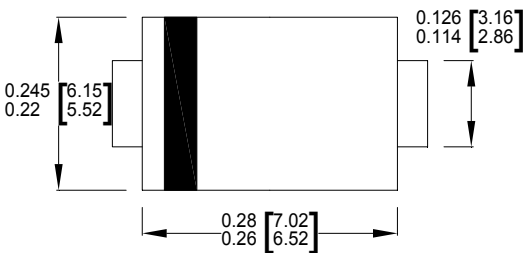
## Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating
- RoHS compliant

## Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026 guranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any

SMC / DO-214AB



Dimensions : inch [ mm ]

## Maximum Ratings(T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                     | Symbol           | Value         | UNIT |
|---------------------------------------------------------------|------------------|---------------|------|
| DC power dissipation at T <sub>L</sub> = 75 °C <sup>(1)</sup> | P <sub>D</sub>   | 5             | W    |
| Maximum forward voltage at I <sub>F</sub> =1A                 | V <sub>F</sub>   | 1.2           | V    |
| Junction temperature range                                    | T <sub>J</sub>   | - 55 to + 150 | °C   |
| Storage temperature range                                     | T <sub>STG</sub> | - 55 to + 150 | °C   |

### Note:

(1) T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body

Ratings and Characteristics Curves (T<sub>A</sub>=25°C unless otherwise noted)

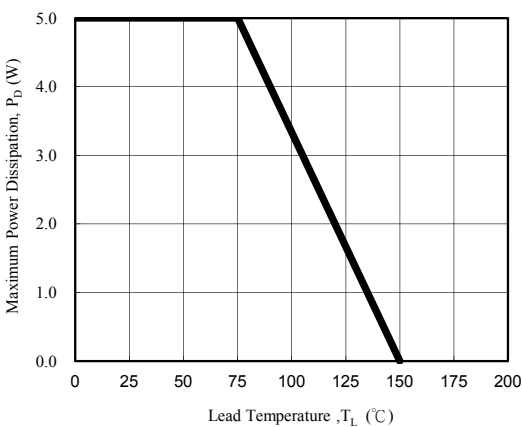


Fig. 1 - Power Temperature Derating Curve

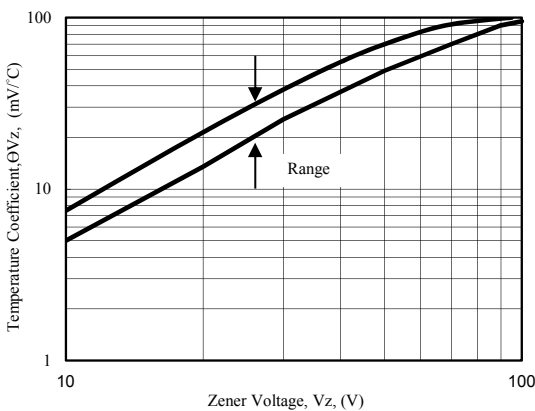


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

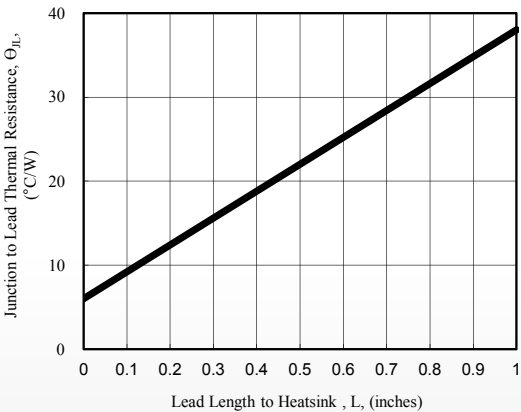


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

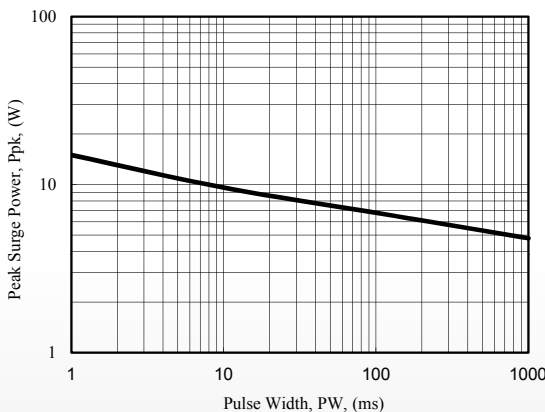


Fig. 4 - Maximum Surge Power

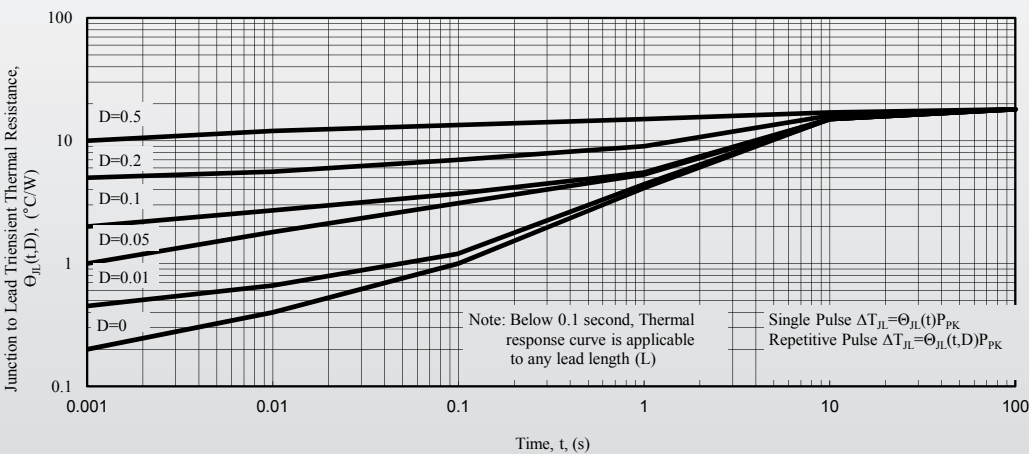
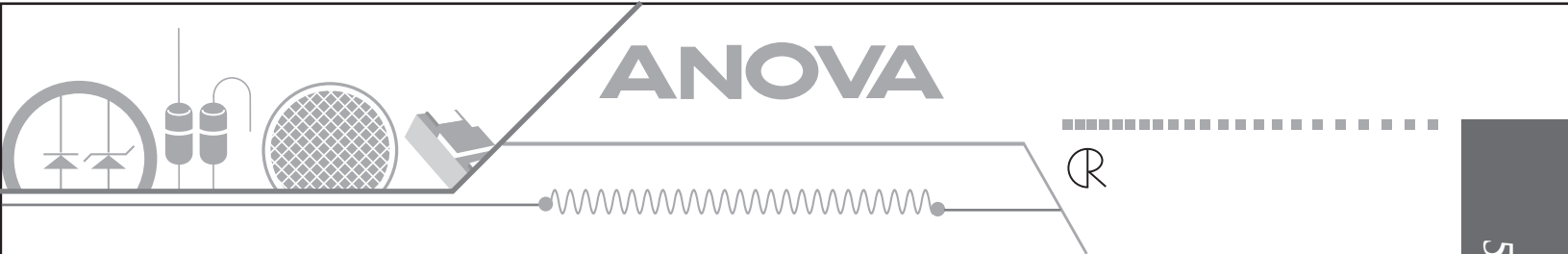


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch



Electrical Characteristics(T<sub>A</sub>=25°C unless otherwise noted)

| Part Number | Device Marking Code | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |      | Maximum DC 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>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |      | I <sub>ZM</sub>          |
|             |                     | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)  | (mA)                     |
| SMC5333B    | 333B                | 3.3                              | 380             | 3.0                               | 400                               | 1               | 300.0                           | 1.0  | 1437.0                   |
| SMC5334B    | 334B                | 3.6                              | 350             | 2.5                               | 500                               | 1               | 150.0                           | 1.0  | 1317.0                   |
| SMC5335B    | 335B                | 3.9                              | 320             | 2.0                               | 500                               | 1               | 50.0                            | 1.0  | 1216.0                   |
| SMC5336B    | 336B                | 4.3                              | 290             | 2.0                               | 500                               | 1               | 10.0                            | 1.0  | 1103.0                   |
| SMC5337B    | 337B                | 4.7                              | 260             | 2.0                               | 450                               | 1               | 5.0                             | 1.0  | 1009.0                   |
| SMC5338B    | 338B                | 5.1                              | 240             | 1.5                               | 400                               | 1               | 1.0                             | 1.0  | 930.0                    |
| SMC5339B    | 339B                | 5.6                              | 220             | 1.0                               | 400                               | 1               | 1.0                             | 2.0  | 846.0                    |
| SMC5340B    | 340B                | 6.0                              | 200             | 1.0                               | 300                               | 1               | 1.0                             | 3.0  | 790.0                    |
| SMC5341B    | 341B                | 6.2                              | 200             | 1.0                               | 200                               | 1               | 1.0                             | 3.0  | 765.0                    |
| SMC5342B    | 342B                | 6.8                              | 175             | 1.0                               | 200                               | 1               | 10.0                            | 5.2  | 700.0                    |
| SMC5343B    | 343B                | 7.5                              | 175             | 1.5                               | 200                               | 1               | 10.0                            | 5.7  | 630.0                    |
| SMC5344B    | 344B                | 8.2                              | 150             | 1.5                               | 200                               | 1               | 10.0                            | 6.2  | 580.0                    |
| SMC5345B    | 345B                | 8.7                              | 150             | 2.0                               | 200                               | 1               | 10.0                            | 6.6  | 545.0                    |
| SMC5346B    | 346B                | 9.1                              | 150             | 2.0                               | 150                               | 1               | 7.5                             | 6.9  | 520.0                    |
| SMC5347B    | 347B                | 10.0                             | 125             | 2.0                               | 125                               | 1               | 5.0                             | 7.6  | 475.0                    |
| SMC5348B    | 348B                | 11.0                             | 125             | 2.5                               | 125                               | 1               | 5.0                             | 8.4  | 430.0                    |
| SMC5349B    | 349B                | 12.0                             | 100             | 2.5                               | 125                               | 1               | 2.0                             | 9.1  | 395.0                    |
| SMC5350B    | 350B                | 13.0                             | 100             | 2.5                               | 100                               | 1               | 1.0                             | 9.9  | 365.0                    |
| SMC5351B    | 351B                | 14.0                             | 100             | 2.5                               | 75                                | 1               | 1.0                             | 10.6 | 340.0                    |
| SMC5352B    | 352B                | 15.0                             | 75              | 2.5                               | 75                                | 1               | 1.0                             | 11.5 | 315.0                    |
| SMC5353B    | 353B                | 16.0                             | 75              | 2.5                               | 75                                | 1               | 1.0                             | 12.2 | 295.0                    |
| SMC5354B    | 354B                | 17.0                             | 70              | 2.5                               | 75                                | 1               | 0.5                             | 12.9 | 280.0                    |
| SMC5355B    | 355B                | 18.0                             | 65              | 2.5                               | 75                                | 1               | 0.5                             | 13.7 | 265.0                    |
| SMC5356B    | 356B                | 19.0                             | 65              | 3.0                               | 75                                | 1               | 0.5                             | 14.4 | 250.0                    |
| SMC5357B    | 357B                | 20.0                             | 65              | 3.0                               | 75                                | 1               | 0.5                             | 15.2 | 237.0                    |
| SMC5358B    | 358B                | 22.0                             | 50              | 3.5                               | 75                                | 1               | 0.5                             | 16.7 | 216.0                    |
| SMC5359B    | 359B                | 24.0                             | 50              | 3.5                               | 100                               | 1               | 0.5                             | 18.2 | 198.0                    |
| SMC5360B    | 360B                | 25.0                             | 50              | 4.0                               | 110                               | 1               | 0.5                             | 19.0 | 190.0                    |
| SMC5361B    | 361B                | 27.0                             | 50              | 5.0                               | 120                               | 1               | 0.5                             | 20.6 | 176.0                    |
| SMC5362B    | 362B                | 28.0                             | 50              | 6.0                               | 130                               | 1               | 0.5                             | 21.2 | 170.0                    |
| SMC5363B    | 363B                | 30.0                             | 40              | 8.0                               | 140                               | 1               | 0.5                             | 22.8 | 158.0                    |
| SMC5364B    | 364B                | 33.0                             | 40              | 10.0                              | 150                               | 1               | 0.5                             | 25.1 | 144.0                    |
| SMC5365B    | 365B                | 36.0                             | 30              | 11.0                              | 160                               | 1               | 0.5                             | 27.4 | 132.0                    |
| SMC5366B    | 366B                | 39.0                             | 30              | 14.0                              | 170                               | 1               | 0.5                             | 29.7 | 122.0                    |
| SMC5367B    | 367B                | 43.0                             | 30              | 20.0                              | 190                               | 1               | 0.5                             | 32.7 | 110.0                    |
| SMC5368B    | 368B                | 47.0                             | 25              | 25.0                              | 210                               | 1               | 0.5                             | 35.8 | 100.0                    |
| SMC5369B    | 369B                | 51.0                             | 25              | 27.0                              | 230                               | 1               | 0.5                             | 38.8 | 93.0                     |
| SMC5370B    | 370B                | 56.0                             | 20              | 35.0                              | 280                               | 1               | 0.5                             | 42.6 | 86.0                     |
| SMC5371B    | 371B                | 60.0                             | 20              | 40.0                              | 350                               | 1               | 0.5                             | 45.5 | 79.0                     |
| SMC5372B    | 372B                | 62.0                             | 20              | 42.0                              | 400                               | 1               | 0.5                             | 47.1 | 76.0                     |
| SMC5373B    | 373B                | 68.0                             | 20              | 44.0                              | 500                               | 1               | 0.5                             | 51.7 | 70.0                     |
| SMC5374B    | 374B                | 75.0                             | 20              | 45.0                              | 620                               | 1               | 0.5                             | 56.0 | 63.0                     |
| SMC5375B    | 375B                | 82.0                             | 15              | 65.0                              | 720                               | 1               | 0.5                             | 62.2 | 58.0                     |
| SMC5376B    | 376B                | 87.0                             | 15              | 75.0                              | 760                               | 1               | 0.5                             | 66.0 | 54.5                     |
| SMC5377B    | 377B                | 91.0                             | 15              | 75.0                              | 760                               | 1               | 0.5                             | 69.2 | 52.5                     |
| SMC5378B    | 378B                | 100.0                            | 12              | 90.0                              | 800                               | 1               | 0.5                             | 76.0 | 47.5                     |

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %
- (2) The reve surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC method



Electrical Characteristics(T<sub>A</sub>=25℃ unless otherwise noted)

| Part Number | Device Marking Code | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |       | Maximum DC 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>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |       | I <sub>ZM</sub>          |
|             |                     | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)   | (mA)                     |
| SMC5379B    | 379B                | 110.0                            | 12              | 125.0                             | 1000                              | 1               | 0.5                             | 83.6  | 43.0                     |
| SMC5380B    | 380B                | 120.0                            | 10              | 170.0                             | 1150                              | 1               | 0.5                             | 91.2  | 39.5                     |
| SMC5381B    | 381B                | 130.0                            | 10              | 190.0                             | 1250                              | 1               | 0.5                             | 98.8  | 36.6                     |
| SMC5382B    | 382B                | 140.0                            | 8               | 230.0                             | 1500                              | 1               | 0.5                             | 106.0 | 34.0                     |
| SMC5383B    | 383B                | 150.0                            | 8               | 330.0                             | 1500                              | 1               | 0.5                             | 114.0 | 31.6                     |
| SMC5384B    | 384B                | 160.0                            | 8               | 350.0                             | 1650                              | 1               | 0.5                             | 122.0 | 29.4                     |
| SMC5385B    | 385B                | 170.0                            | 8               | 380.0                             | 1750                              | 1               | 0.5                             | 129.0 | 28.0                     |
| SMC5386B    | 386B                | 180.0                            | 5               | 430.0                             | 1750                              | 1               | 0.5                             | 137.0 | 26.4                     |
| SMC5387B    | 387B                | 190.0                            | 5               | 450.0                             | 1850                              | 1               | 0.5                             | 144.0 | 25.0                     |
| SMC5388B    | 388B                | 200.0                            | 5               | 480.0                             | 1850                              | 1               | 0.5                             | 152.0 | 23.6                     |



# SMB5333B - SMB5388B

**V<sub>Z</sub>: 3.3 to 200 V**

**P<sub>D</sub>: 5 W**

## Surface Mount Zener Diodes

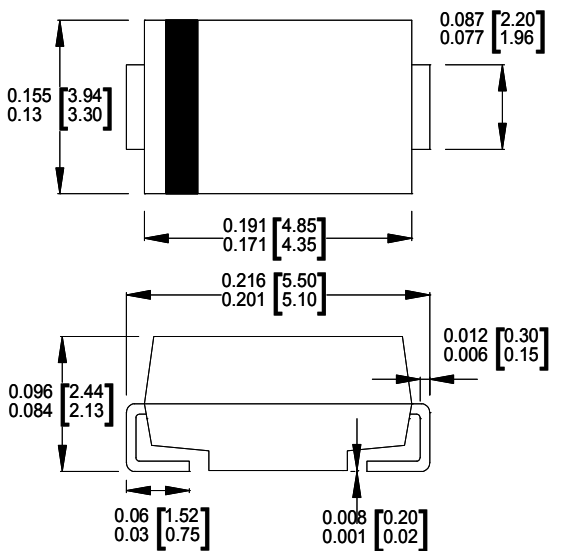
### Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating
- RoHS compliant

### Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any

SMB/ DO-214AA



Dimensions : inch [ mm ]

### Maximum Ratings(T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                     | Symbol           | Value         | UNIT |
|---------------------------------------------------------------|------------------|---------------|------|
| DC power dissipation at T <sub>L</sub> = 50 °C <sup>(1)</sup> | P <sub>D</sub>   | 5             | W    |
| Maximum forward voltage at I <sub>F</sub> = 200 mA            | V <sub>F</sub>   | 1.2           | V    |
| Junction temperature range                                    | T <sub>J</sub>   | - 55 to + 150 | °C   |
| Storage temperature range                                     | T <sub>STG</sub> | - 55 to + 150 | °C   |

**Note:**

(1) T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body

Ratings and Characteristics Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

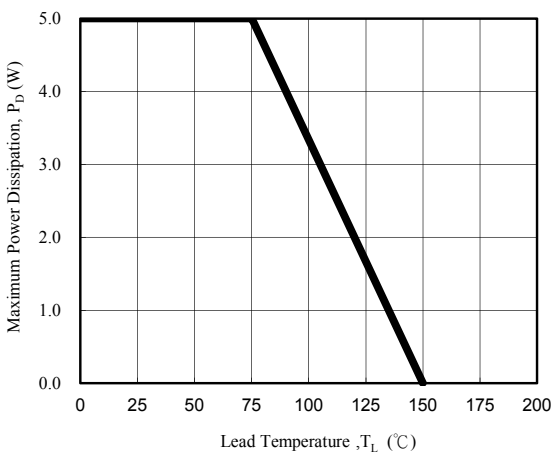


Fig. 1 - Power Temperature Derating Curve

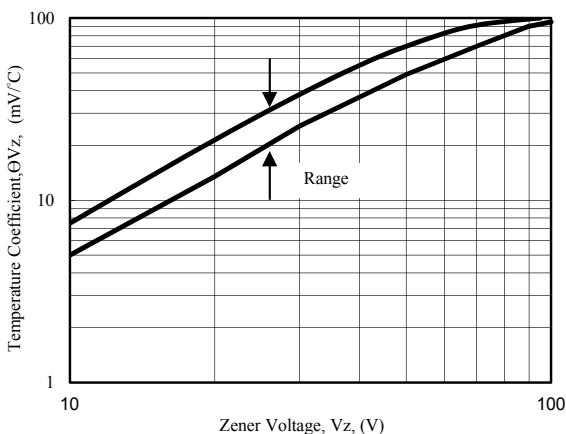


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

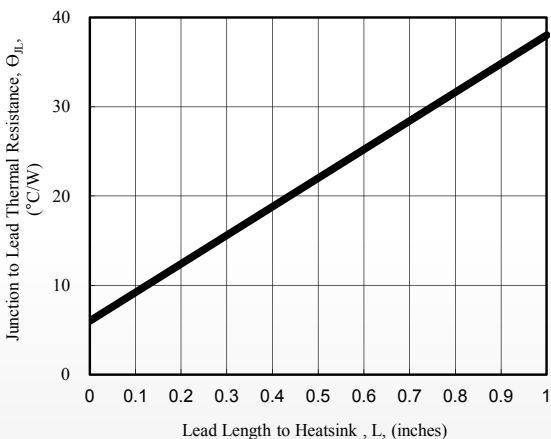


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

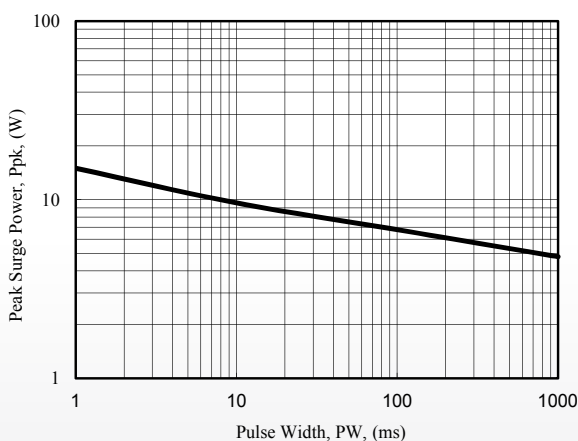


Fig. 4 - Maximum Surge Power

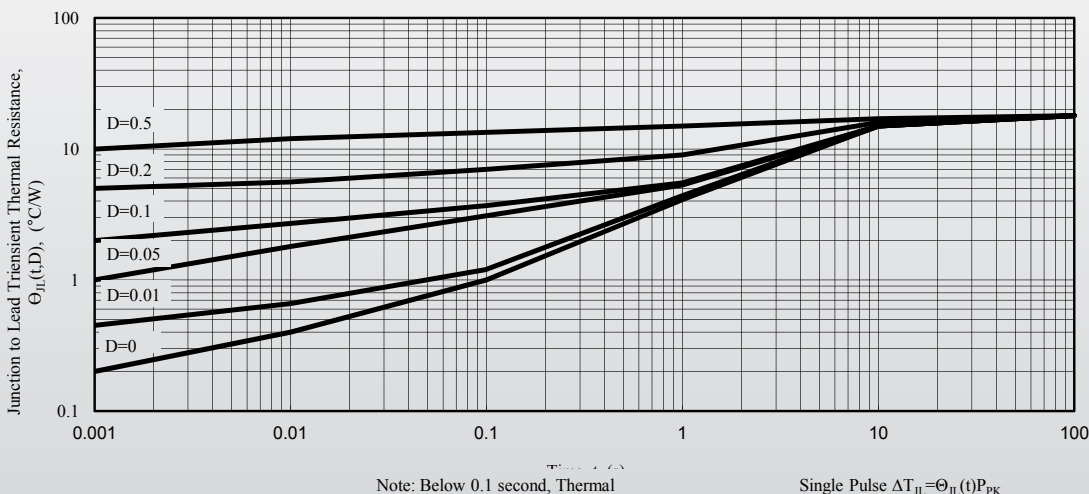
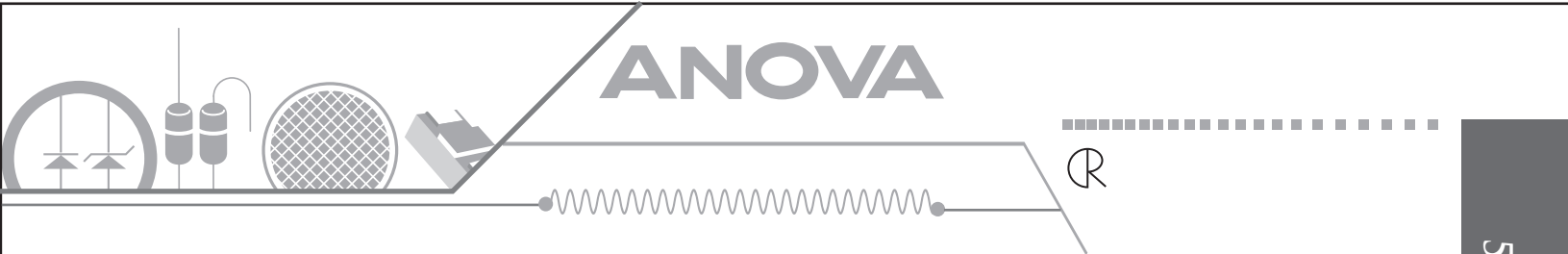


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch



**Electrical Characteristics(T<sub>A</sub>=25°C unless otherwise noted)**

| Part Number | Device Marking Code | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |      | Maximum DC 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>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |      | I <sub>ZM</sub>          |
|             |                     | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)  | (mA)                     |
| SMB5333B    | 333B                | 3.3                              | 380             | 3.0                               | 400                               | 1               | 300.0                           | 1.0  | 1437.0                   |
| SMB5334B    | 334B                | 3.6                              | 350             | 2.5                               | 500                               | 1               | 150.0                           | 1.0  | 1317.0                   |
| SMB5335B    | 335B                | 3.9                              | 320             | 2.0                               | 500                               | 1               | 50.0                            | 1.0  | 1216.0                   |
| SMB5336B    | 336B                | 4.3                              | 290             | 2.0                               | 500                               | 1               | 10.0                            | 1.0  | 1103.0                   |
| SMB5337B    | 337B                | 4.7                              | 260             | 2.0                               | 450                               | 1               | 5.0                             | 1.0  | 1009.0                   |
| SMB5338B    | 338B                | 5.1                              | 240             | 1.5                               | 400                               | 1               | 1.0                             | 1.0  | 930.0                    |
| SMB5339B    | 339B                | 5.6                              | 220             | 1.0                               | 400                               | 1               | 1.0                             | 2.0  | 846.0                    |
| SMB5340B    | 340B                | 6.0                              | 200             | 1.0                               | 300                               | 1               | 1.0                             | 3.0  | 790.0                    |
| SMB5341B    | 341B                | 6.2                              | 200             | 1.0                               | 200                               | 1               | 1.0                             | 3.0  | 765.0                    |
| SMB5342B    | 342B                | 6.8                              | 175             | 1.0                               | 200                               | 1               | 10.0                            | 5.2  | 700.0                    |
| SMB5343B    | 343B                | 7.5                              | 175             | 1.5                               | 200                               | 1               | 10.0                            | 5.7  | 630.0                    |
| SMB5344B    | 344B                | 8.2                              | 150             | 1.5                               | 200                               | 1               | 10.0                            | 6.2  | 580.0                    |
| SMB5345B    | 345B                | 8.7                              | 150             | 2.0                               | 200                               | 1               | 10.0                            | 6.6  | 545.0                    |
| SMB5346B    | 346B                | 9.1                              | 150             | 2.0                               | 150                               | 1               | 7.5                             | 6.9  | 520.0                    |
| SMB5347B    | 347B                | 10.0                             | 125             | 2.0                               | 125                               | 1               | 5.0                             | 7.6  | 475.0                    |
| SMB5348B    | 348B                | 11.0                             | 125             | 2.5                               | 125                               | 1               | 5.0                             | 8.4  | 430.0                    |
| SMB5349B    | 349B                | 12.0                             | 100             | 2.5                               | 125                               | 1               | 2.0                             | 9.1  | 395.0                    |
| SMB5350B    | 350B                | 13.0                             | 100             | 2.5                               | 100                               | 1               | 1.0                             | 9.9  | 365.0                    |
| SMB5351B    | 351B                | 14.0                             | 100             | 2.5                               | 75                                | 1               | 1.0                             | 10.6 | 340.0                    |
| SMB5352B    | 352B                | 15.0                             | 75              | 2.5                               | 75                                | 1               | 1.0                             | 11.5 | 315.0                    |
| SMB5353B    | 353B                | 16.0                             | 75              | 2.5                               | 75                                | 1               | 1.0                             | 12.2 | 295.0                    |
| SMB5354B    | 354B                | 17.0                             | 70              | 2.5                               | 75                                | 1               | 0.5                             | 12.9 | 280.0                    |
| SMB5355B    | 355B                | 18.0                             | 65              | 2.5                               | 75                                | 1               | 0.5                             | 13.7 | 265.0                    |
| SMB5356B    | 356B                | 19.0                             | 65              | 3.0                               | 75                                | 1               | 0.5                             | 14.4 | 250.0                    |
| SMB5357B    | 357B                | 20.0                             | 65              | 3.0                               | 75                                | 1               | 0.5                             | 15.2 | 237.0                    |
| SMB5358B    | 358B                | 22.0                             | 50              | 3.5                               | 75                                | 1               | 0.5                             | 16.7 | 216.0                    |
| SMB5359B    | 359B                | 24.0                             | 50              | 3.5                               | 100                               | 1               | 0.5                             | 18.2 | 198.0                    |
| SMB5360B    | 360B                | 25.0                             | 50              | 4.0                               | 110                               | 1               | 0.5                             | 19.0 | 190.0                    |
| SMB5361B    | 361B                | 27.0                             | 50              | 5.0                               | 120                               | 1               | 0.5                             | 20.6 | 176.0                    |
| SMB5362B    | 362B                | 28.0                             | 50              | 6.0                               | 130                               | 1               | 0.5                             | 21.2 | 170.0                    |
| SMB5363B    | 363B                | 30.0                             | 40              | 8.0                               | 140                               | 1               | 0.5                             | 22.8 | 158.0                    |
| SMB5364B    | 364B                | 33.0                             | 40              | 10.0                              | 150                               | 1               | 0.5                             | 25.1 | 144.0                    |
| SMB5365B    | 365B                | 36.0                             | 30              | 11.0                              | 160                               | 1               | 0.5                             | 27.4 | 132.0                    |
| SMB5366B    | 366B                | 39.0                             | 30              | 14.0                              | 170                               | 1               | 0.5                             | 29.7 | 122.0                    |
| SMB5367B    | 367B                | 43.0                             | 30              | 20.0                              | 190                               | 1               | 0.5                             | 32.7 | 110.0                    |
| SMB5368B    | 368B                | 47.0                             | 25              | 25.0                              | 210                               | 1               | 0.5                             | 35.8 | 100.0                    |
| SMB5369B    | 369B                | 51.0                             | 25              | 27.0                              | 230                               | 1               | 0.5                             | 38.8 | 93.0                     |
| SMB5370B    | 370B                | 56.0                             | 20              | 35.0                              | 280                               | 1               | 0.5                             | 42.6 | 86.0                     |
| SMB5371B    | 371B                | 60.0                             | 20              | 40.0                              | 350                               | 1               | 0.5                             | 42.5 | 79.0                     |
| SMB5372B    | 372B                | 62.0                             | 20              | 42.0                              | 400                               | 1               | 0.5                             | 47.1 | 76.0                     |
| SMB5373B    | 373B                | 68.0                             | 20              | 44.0                              | 500                               | 1               | 0.5                             | 51.7 | 70.0                     |
| SMB5374B    | 374B                | 75.0                             | 20              | 45.0                              | 620                               | 1               | 0.5                             | 56.0 | 63.0                     |
| SMB5375B    | 375B                | 82.0                             | 15              | 65.0                              | 720                               | 1               | 0.5                             | 62.2 | 58.0                     |

**Notes :**

- (1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I<sub>ZT</sub> per JEDEC method



Electrical Characteristics(T<sub>A</sub>=25°C unless otherwise noted)

| Part Number | Device Marking Code | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |       | Maximum DC 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>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |       | I <sub>ZM</sub>          |
|             |                     | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)   | (mA)                     |
| SMB5376B    | 376B                | 87.0                             | 15              | 75.0                              | 760                               | 1               | 0.5                             | 66.0  | 54.5                     |
| SMB5377B    | 377B                | 91.0                             | 15              | 75.0                              | 760                               | 1               | 0.5                             | 69.2  | 52.5                     |
| SMB5378B    | 378B                | 100.0                            | 12              | 90.0                              | 800                               | 1               | 0.5                             | 76.0  | 47.5                     |
| SMB5379B    | 379B                | 110.0                            | 12              | 125.0                             | 1000                              | 1               | 0.5                             | 83.6  | 43.0                     |
| SMB5380B    | 380B                | 120.0                            | 10              | 170.0                             | 1150                              | 1               | 0.5                             | 91.2  | 39.5                     |
| SMB5381B    | 381B                | 130.0                            | 10              | 190.0                             | 1250                              | 1               | 0.5                             | 98.8  | 36.6                     |
| SMB5382B    | 382B                | 140.0                            | 8               | 230.0                             | 1500                              | 1               | 0.5                             | 106.0 | 34.0                     |
| SMB5383B    | 383B                | 150.0                            | 8               | 330.0                             | 1500                              | 1               | 0.5                             | 114.0 | 31.6                     |
| SMB5384B    | 384B                | 160.0                            | 8               | 350.0                             | 1650                              | 1               | 0.5                             | 122.0 | 29.4                     |
| SMB5385B    | 385B                | 170.0                            | 8               | 380.0                             | 1750                              | 1               | 0.5                             | 129.0 | 28.0                     |
| SMB5386B    | 386B                | 180.0                            | 5               | 430.0                             | 1750                              | 1               | 0.5                             | 137.0 | 26.4                     |
| SMB5387B    | 387B                | 190.0                            | 5               | 450.0                             | 1850                              | 1               | 0.5                             | 144.0 | 25.0                     |
| SMB5388B    | 388B                | 200.0                            | 5               | 480.0                             | 1850                              | 1               | 0.5                             | 152.0 | 23.6                     |