



**V<sub>Z</sub> : 3.3 - 200 Volts**  
**P<sub>D</sub> : 5 Watts**

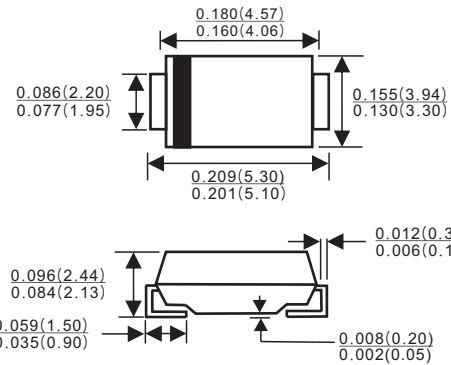
**SMB/DO-214AA**

### Features

- ✧ Complete Voltage Range 3.3 to 200 Volts
- ✧ High peak reverse power dissipation
- ✧ High reliability
- ✧ Low leakage current

### Mechanical Data

- ✧ Case : SMB (DO-214AA) Molded plastic
- ✧ Epoxy : UL94V-O rate flame retardant
- ✧ Lead : Lead formed for Surface mount
- ✧ Polarity : Color band denotes cathode end
- ✧ Mounting position : Any



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                            | Symbol                            | Value         | Unit |
|---------------------------------------------------|-----------------------------------|---------------|------|
| Power Dissipation at T <sub>L</sub> = 25 °C       | P <sub>D</sub>                    | 5             | W    |
| Maximum Forward Voltage at I <sub>F</sub> = 1.0 A | V <sub>F</sub>                    | 1.2           | V    |
| Thermal Resistance, Junction to Ambient (Note 1)  | R <sub>ΘJA</sub>                  | 90            | °C/W |
| Thermal Resistance, Junction to Lead (Note 1)     | R <sub>ΘJL</sub>                  | 25            | °C/W |
| Operating and Storage Temperature Range           | T <sub>J</sub> , T <sub>STG</sub> | - 65 to + 150 | °C   |

#### Note :

- (1) When mounted on FR4 PC board (1 oz Cu) with recommended footprint.

### ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| TYPE      | Nominal Zener Voltage |      | Maximum Zener Impedance |           |      | Maximum Reverse Leakage Current |      | Maximum DC Zener Current |
|-----------|-----------------------|------|-------------------------|-----------|------|---------------------------------|------|--------------------------|
|           | Vz @ IzT              | IzT  | ZzT @ IzT               | Zzk @ IzK | IzK  | IR @ VR                         |      | IzM                      |
|           | (V)                   | (mA) | (Ω)                     | (Ω)       | (mA) | (μA)                            | (V)  | (mA)                     |
| SMBJ5333B | 3.3                   | 380  | 3.0                     | 400       | 1.0  | 300                             | 1.0  | 1440                     |
| SMBJ5334B | 3.6                   | 350  | 2.5                     | 500       | 1.0  | 150                             | 1.0  | 1320                     |
| SMBJ5335B | 3.9                   | 320  | 2.0                     | 500       | 1.0  | 50                              | 1.0  | 1220                     |
| SMBJ5336B | 4.3                   | 290  | 2.0                     | 500       | 1.0  | 10                              | 1.0  | 1100                     |
| SMBJ5337B | 4.7                   | 260  | 2.0                     | 450       | 1.0  | 5.0                             | 1.0  | 1010                     |
| SMBJ5338B | 5.1                   | 240  | 1.5                     | 400       | 1.0  | 1.0                             | 1.0  | 930                      |
| SMBJ5339B | 5.6                   | 220  | 1.0                     | 400       | 1.0  | 1.0                             | 2.0  | 856                      |
| SMBJ5340B | 6.0                   | 200  | 1.0                     | 300       | 1.0  | 1.0                             | 3.0  | 790                      |
| SMBJ5341B | 6.2                   | 200  | 1.0                     | 200       | 1.0  | 1.0                             | 4.0  | 765                      |
| SMBJ5342B | 6.8                   | 175  | 1.0                     | 200       | 1.0  | 10                              | 4.9  | 700                      |
| SMBJ5343B | 7.5                   | 175  | 1.0                     | 200       | 1.0  | 10                              | 5.4  | 630                      |
| SMBJ5344B | 8.2                   | 150  | 1.0                     | 200       | 1.0  | 10                              | 5.9  | 580                      |
| SMBJ5345B | 8.7                   | 150  | 1.0                     | 200       | 1.0  | 10                              | 6.3  | 545                      |
| SMBJ5346B | 9.1                   | 150  | 2.0                     | 150       | 1.0  | 7.5                             | 6.6  | 520                      |
| SMBJ5347B | 10                    | 125  | 2.0                     | 125       | 1.0  | 5.0                             | 7.2  | 475                      |
| SMBJ5348B | 11                    | 125  | 2.0                     | 125       | 1.0  | 5.0                             | 8.0  | 430                      |
| SMBJ5349B | 12                    | 100  | 2.5                     | 125       | 1.0  | 2.0                             | 8.6  | 395                      |
| SMBJ5350B | 13                    | 100  | 2.5                     | 100       | 1.0  | 1.0                             | 9.4  | 365                      |
| SMBJ5351B | 14                    | 100  | 2.5                     | 75        | 1.0  | 1.0                             | 10.1 | 340                      |
| SMBJ5352B | 15                    | 75   | 2.5                     | 75        | 1.0  | 1.0                             | 10.8 | 315                      |
| SMBJ5353B | 16                    | 75   | 2.5                     | 75        | 1.0  | 1.0                             | 11.5 | 295                      |
| SMBJ5354B | 17                    | 70   | 2.5                     | 75        | 1.0  | 0.5                             | 12.2 | 280                      |
| SMBJ5355B | 18                    | 65   | 2.5                     | 75        | 1.0  | 0.5                             | 13.0 | 265                      |
| SMBJ5356B | 19                    | 65   | 3.0                     | 75        | 1.0  | 0.5                             | 13.7 | 250                      |
| SMBJ5357B | 20                    | 65   | 3.0                     | 75        | 1.0  | 0.5                             | 14.4 | 237                      |
| SMBJ5358B | 22                    | 50   | 3.5                     | 75        | 1.0  | 0.5                             | 15.8 | 216                      |
| SMBJ5359B | 24                    | 50   | 3.5                     | 100       | 1.0  | 0.5                             | 17.3 | 198                      |
| SMBJ5360B | 25                    | 50   | 4.0                     | 110       | 1.0  | 0.5                             | 18.0 | 190                      |
| SMBJ5361B | 27                    | 50   | 5.0                     | 120       | 1.0  | 0.5                             | 19.4 | 176                      |
| SMBJ5362B | 28                    | 50   | 6.0                     | 130       | 1.0  | 0.5                             | 20.1 | 170                      |
| SMBJ5363B | 30                    | 40   | 8.0                     | 140       | 1.0  | 0.5                             | 21.6 | 158                      |
| SMBJ5364B | 33                    | 40   | 10                      | 150       | 1.0  | 0.5                             | 23.8 | 144                      |
| SMBJ5365B | 36                    | 30   | 11                      | 160       | 1.0  | 0.5                             | 25.9 | 132                      |
| SMBJ5366B | 39                    | 30   | 14                      | 170       | 1.0  | 0.5                             | 28.1 | 122                      |
| SMBJ5367B | 43                    | 30   | 20                      | 190       | 1.0  | 0.5                             | 31.0 | 110                      |
| SMBJ5368B | 47                    | 25   | 25                      | 210       | 1.0  | 0.5                             | 33.8 | 100                      |
| SMBJ5369B | 51                    | 25   | 27                      | 230       | 1.0  | 0.5                             | 36.7 | 93.0                     |
| SMBJ5370B | 56                    | 20   | 35                      | 280       | 1.0  | 0.5                             | 40.3 | 86.0                     |
| SMBJ5371B | 60                    | 20   | 40                      | 350       | 1.0  | 0.5                             | 43.0 | 79.0                     |
| SMBJ5372B | 62                    | 20   | 42                      | 400       | 1.0  | 0.5                             | 44.6 | 76.0                     |
| SMBJ5373B | 68                    | 20   | 44                      | 500       | 1.0  | 0.5                             | 49.0 | 70.0                     |
| SMBJ5374B | 75                    | 20   | 45                      | 620       | 1.0  | 0.5                             | 54.0 | 63.0                     |
| SMBJ5375B | 82                    | 15   | 65                      | 720       | 1.0  | 0.5                             | 59.0 | 58.0                     |
| SMBJ5376B | 87                    | 15   | 75                      | 760       | 1.0  | 0.5                             | 63.0 | 54.5                     |
| SMBJ5377B | 91                    | 15   | 75                      | 760       | 1.0  | 0.5                             | 65.5 | 52.5                     |
| SMBJ5378B | 100                   | 12   | 90                      | 800       | 1.0  | 0.5                             | 72.0 | 47.5                     |
| SMBJ5379B | 110                   | 12   | 125                     | 1000      | 1.0  | 0.5                             | 79.2 | 43.0                     |
| SMBJ5380B | 120                   | 10   | 170                     | 1150      | 1.0  | 0.5                             | 86.4 | 39.5                     |
| SMBJ5381B | 130                   | 10   | 190                     | 1250      | 1.0  | 0.5                             | 93.2 | 36.6                     |
| SMBJ5382B | 140                   | 8.0  | 230                     | 1500      | 1.0  | 0.5                             | 101  | 34.0                     |
| SMBJ5383B | 150                   | 8.0  | 330                     | 1500      | 1.0  | 0.5                             | 108  | 31.6                     |
| SMBJ5384B | 160                   | 8.0  | 350                     | 1650      | 1.0  | 0.5                             | 115  | 29.4                     |
| SMBJ5385B | 170                   | 8.0  | 380                     | 1750      | 1.0  | 0.5                             | 122  | 28.0                     |
| SMBJ5386B | 180                   | 5.0  | 430                     | 1750      | 1.0  | 0.5                             | 130  | 26.4                     |
| SMBJ5387B | 190                   | 5.0  | 450                     | 1850      | 1.0  | 0.5                             | 137  | 25.0                     |
| SMBJ5388B | 200                   | 5.0  | 480                     | 1850      | 1.0  | 0.5                             | 144  | 23.6                     |

Note :

(1) Suffix " A " indicates ± 10% Voltage tolerance, suffix " B " indicates ± 5% Voltage tolerance.

## RATING AND CHARACTERISTIC CURVES ( SMBJ5333B - SMBJ5388B )

Fig. 1 POWER DERATING CURVE

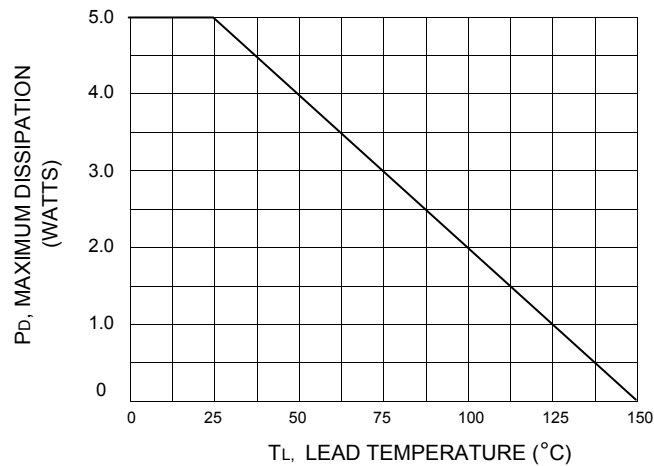
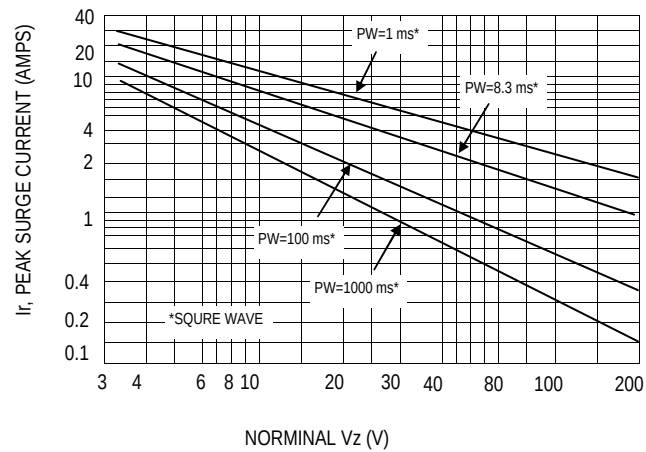


Fig.2 Maximum Non-Repetitive Surg Current versus Nominal Zener Voltage



| PACKAGE | SPQ/PCS   | CARTON<br>SPQ/PCS | CARTON<br>SIZE/CM | CARTON<br>GW/KG | CARTON<br>NW/KG |
|---------|-----------|-------------------|-------------------|-----------------|-----------------|
| SMB     | 3000/REEL | 48000             | 36X35.8X36.5      | 12.00           | 11.00           |