

**VOLTAGE RANGE: 3V6 - 200 V**

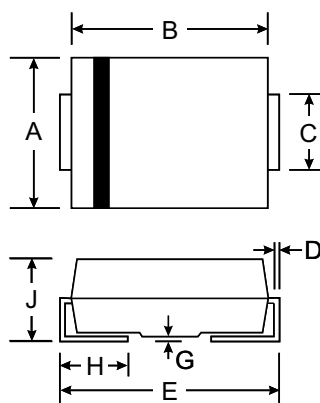
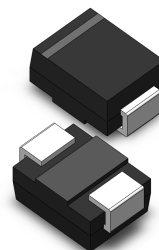
**POWER: 2.0Watts**

### Features

- Complete Voltage Range 3.6 to 200 Volts
- High peak reverse power dissipation
- High reliability
- Low leakage current

### Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



| SMB(DO-214AA)        |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.30 | 3.94 |
| B                    | 4.06 | 4.70 |
| C                    | 1.91 | 2.21 |
| D                    | 0.15 | 0.31 |
| E                    | 5.00 | 5.59 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| All Dimensions in mm |      |      |

### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                                             | Symbol          | Value         | Unit               |
|--------------------------------------------------------------------|-----------------|---------------|--------------------|
| DC Power Dissipation at $T_L = 75\text{ }^{\circ}\text{C}$ (Note1) | $P_D$           | 2.0           | Watts              |
| Maximum Forward Voltage at $I_F = 200\text{ mA}$                   | $V_F$           | 1.2           | Volts              |
| Maximum Thermal Resistance Junction to Ambient Air (Note2)         | $R_{\theta JA}$ | 60            | K / W              |
| Junction Temperature Range                                         | $T_J$           | - 55 to + 175 | $^{\circ}\text{C}$ |
| Storage Temperature Range                                          | $T_S$           | - 55 to + 175 | $^{\circ}\text{C}$ |

**Note :**

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

(2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

## 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 |
|----------|----------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------|---------------------------------|-------|--------------------------|
|          | 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)                     |
| Z2SMB3V6 | 3.6                              | 139             | 5.0                               | 400                               | 1.0             | 80                              | 1.0   | 504                      |
| Z2SMB3V9 | 3.9                              | 128             | 5.0                               | 400                               | 1.0             | 50                              | 1.0   | 468                      |
| Z2SMB4V3 | 4.3                              | 116             | 4.5                               | 400                               | 1.0             | 50                              | 1.0   | 434                      |
| Z2SMB4V7 | 4.7                              | 106             | 4.5                               | 550                               | 1.0             | 50                              | 1.0   | 386                      |
| Z2SMB5V1 | 5.1                              | 98.0            | 3.5                               | 600                               | 1.0             | 50                              | 1.0   | 356                      |
| Z2SMB5V6 | 5.6                              | 89.5            | 2.5                               | 500                               | 1.0             | 50                              | 2.0   | 324                      |
| Z2SMB6V2 | 6.2                              | 80.5            | 1.5                               | 700                               | 1.0             | 50                              | 3.0   | 292                      |
| Z2SMB6V8 | 6.8                              | 73.5            | 2.0                               | 700                               | 1.0             | 50                              | 4.0   | 266                      |
| Z2SMB7V5 | 7.5                              | 66.5            | 2.0                               | 700                               | 0.5             | 50                              | 5.0   | 242                      |
| Z2SMB8V2 | 8.2                              | 61.0            | 2.3                               | 700                               | 0.5             | 50                              | 6.0   | 220                      |
| Z2SMB9V1 | 9.1                              | 55.0            | 2.5                               | 700                               | 0.5             | 50                              | 7.0   | 200                      |
| Z2SMB10  | 10                               | 50.0            | 3.5                               | 700                               | 0.25            | 50                              | 7.6   | 182                      |
| Z2SMB11  | 11                               | 45.5            | 4.0                               | 700                               | 0.25            | 50                              | 8.4   | 166                      |
| Z2SMB12  | 12                               | 41.5            | 4.5                               | 700                               | 0.25            | 1.0                             | 9.1   | 152                      |
| Z2SMB13  | 13                               | 38.5            | 5.0                               | 700                               | 0.25            | 0.5                             | 9.9   | 138                      |
| Z2SMB14  | 14                               | 35.7            | 5.5                               | 700                               | 0.25            | 0.5                             | 10.6  | 130                      |
| Z2SMB15  | 15                               | 33.4            | 7.0                               | 700                               | 0.25            | 0.5                             | 11.4  | 122                      |
| Z2SMB16  | 16                               | 31.2            | 8.0                               | 700                               | 0.25            | 0.5                             | 12.2  | 114                      |
| Z2SMB17  | 17                               | 29.4            | 9.0                               | 750                               | 0.25            | 0.5                             | 13.0  | 107                      |
| Z2SMB18  | 18                               | 27.8            | 10                                | 750                               | 0.25            | 0.5                             | 13.7  | 100                      |
| Z2SMB19  | 19                               | 26.3            | 11                                | 750                               | 0.25            | 0.5                             | 14.4  | 95                       |
| Z2SMB20  | 20                               | 25.0            | 11                                | 750                               | 0.25            | 0.5                             | 15.2  | 90                       |
| Z2SMB22  | 22                               | 22.8            | 12                                | 750                               | 0.25            | 0.5                             | 16.7  | 82                       |
| Z2SMB24  | 24                               | 20.8            | 13                                | 750                               | 0.25            | 0.5                             | 18.2  | 76                       |
| Z2SMB27  | 27                               | 18.5            | 18                                | 750                               | 0.25            | 0.5                             | 20.6  | 68                       |
| Z2SMB30  | 30                               | 16.6            | 20                                | 1000                              | 0.25            | 0.5                             | 22.5  | 60                       |
| Z2SMB33  | 33                               | 15.1            | 23                                | 1000                              | 0.25            | 0.5                             | 25.1  | 55                       |
| Z2SMB36  | 36                               | 13.9            | 25                                | 1000                              | 0.25            | 0.5                             | 27.4  | 50                       |
| Z2SMB39  | 39                               | 12.8            | 30                                | 1000                              | 0.25            | 0.5                             | 29.7  | 47                       |
| Z2SMB43  | 43                               | 11.6            | 35                                | 1500                              | 0.25            | 0.5                             | 32.7  | 43                       |
| Z2SMB47  | 47                               | 10.6            | 40                                | 1500                              | 0.25            | 0.5                             | 35.8  | 39                       |
| Z2SMB51  | 51                               | 9.8             | 48                                | 1500                              | 0.25            | 0.5                             | 38.8  | 36                       |
| Z2SMB56  | 56                               | 9.0             | 55                                | 2000                              | 0.25            | 0.5                             | 42.6  | 32                       |
| Z2SMB62  | 62                               | 8.1             | 60                                | 2000                              | 0.25            | 0.5                             | 47.1  | 29                       |
| Z2SMB68  | 68                               | 7.4             | 75                                | 2000                              | 0.25            | 0.5                             | 51.7  | 27                       |
| Z2SMB75  | 75                               | 6.7             | 90                                | 2000                              | 0.25            | 0.5                             | 56.0  | 24                       |
| Z2SMB82  | 82                               | 6.1             | 100                               | 3000                              | 0.25            | 0.5                             | 62.2  | 22                       |
| Z2SMB91  | 91                               | 5.5             | 125                               | 3000                              | 0.25            | 0.5                             | 69.2  | 20                       |
| Z2SMB100 | 100                              | 5.0             | 175                               | 3000                              | 0.25            | 0.5                             | 76.0  | 18                       |
| Z2SMB110 | 110                              | 4.5             | 250                               | 4000                              | 0.25            | 0.5                             | 83.6  | 17                       |
| Z2SMB120 | 120                              | 4.2             | 325                               | 4500                              | 0.25            | 0.5                             | 91.2  | 15                       |
| Z2SMB130 | 130                              | 3.8             | 400                               | 5000                              | 0.25            | 0.5                             | 98.8  | 14                       |
| Z2SMB140 | 140                              | 3.6             | 500                               | 5500                              | 0.25            | 0.5                             | 106.4 | 13                       |
| Z2SMB150 | 150                              | 3.3             | 575                               | 6000                              | 0.25            | 0.5                             | 114.0 | 12                       |
| Z2SMB160 | 160                              | 3.1             | 650                               | 6500                              | 0.25            | 0.5                             | 121.6 | 11                       |
| Z2SMB170 | 170                              | 2.9             | 675                               | 7000                              | 0.25            | 0.5                             | 130.4 | 11                       |
| Z2SMB180 | 180                              | 2.8             | 725                               | 7000                              | 0.25            | 0.5                             | 136.8 | 10                       |
| Z2SMB190 | 190                              | 2.6             | 825                               | 8000                              | 0.25            | 0.5                             | 144.8 | 10                       |
| Z2SMB200 | 200                              | 2.5             | 900                               | 8000                              | 0.25            | 0.5                             | 152.0 | 9.0                      |

Note :

- ( 1 ) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 10\%$ ,  
altered the fourth number of type from " 0 " for  $\pm 10\%$  tolerance to be " 5 " for  $\pm 5\%$  tolerance.

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