

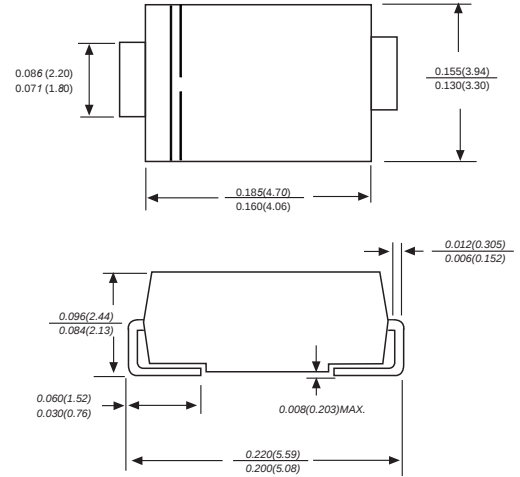
### Features

Small plastic package suitable for surface mounted design.

### Mechanical Data

**Case** : JEDEC SMB Molded plastic body  
**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity** : Polarity symbol marking on body  
**Mounting Position** : Any  
**Weight** : 0.002ounce, 0.055grams  
**Standard packing** : 12mm tape(E1A-481)

### DO-214AA/SMB

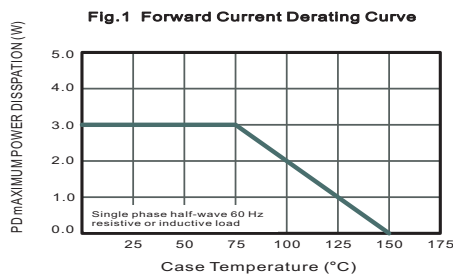


Dimensions in inches and (millimeters)

### Ordering Information

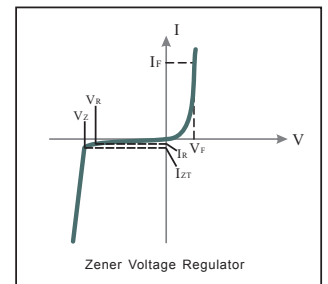
| Parameter                                                                               | Symbol | Value         | Unit   |
|-----------------------------------------------------------------------------------------|--------|---------------|--------|
| DC power dissipation at TL=75°C, measure at zero lead length (Note 1) derate above 75°C | PD     | 3.0           | W      |
|                                                                                         |        | 40            | mW/ °C |
| Maximum Steady State Power Dissipation @ TA=25°C Derate above 25°C                      | PD     | 550           | mW     |
|                                                                                         |        | 4.4           | mW/ °C |
| Junction to ambient thermal resistance                                                  | RthJA  | 226           | °C/W   |
| Junction to lead thermal resistance                                                     | RthJL  | 25            | °C/W   |
| Junction Temperature Range                                                              | TJ     | - 55 to + 150 | °C     |
| Storage Temperature Range                                                               | TSTG   | - 55 to + 150 | °C     |

Note: 1. Mounted on Cu-Pad size 5mm x 5mm on PCB.



**ELECTRICAL CHARACTERISTICS**  
 (TL = 30°C unless otherwise noted,  
 VF = 1.5 V Max. @ IF = 200 mA(DC) for all types)

| Symbol | Parameter                     |
|--------|-------------------------------|
| VZ     | Reverse Zener Voltage @ IZT   |
| IZT    | Reverse Current               |
| ZZT    | Maximum Zener Impedance @ IZT |
| IZK    | Reverse Current               |
| ZZK    | Maximum Zener Impedance @ IZK |
| IR     | Reverse Leakage Current @ VR  |
| VR     | Reverse Voltage               |
| IF     | Forward Current               |
| VF     | Forward Voltage @ IF          |
| IZM    | Maximum DC Zener Current      |



Notes On Page 2:

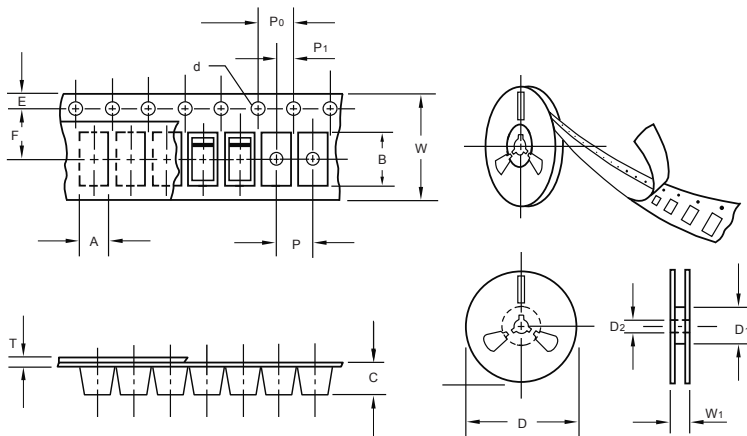
1. Tolerance and type number designation the type numbers listed indicate a tolerance of 5%
2. Zener voltage (VZ) measurement  
 Nominal Zener voltage is measured with the device junction in thermal equilibrium with ambient temperature 25°C
3. Zener impedance (ZZ) derivation : ZZT and ZZK are measured by dividing the AC voltage drop across the device by the AC current applied.  
 The specified limits are for IZ(AC) = 0.1 IZ(DC) with the AC frequency = 60 Hz

### Ratings And Characteristic Curves

Characteristics at Ta=25°C (TL=30°C unless otherwise noted, VF=1.5V Max. @ IF=200 mA(DC) for all types)

| Type      | Marking | Nominal Zener Voltage <sup>(3)</sup> |                          |           |                 | Zener Impedance <sup>(4)</sup>    |      |                                 | Leakage Current |       | Maximum DC Zener Current |
|-----------|---------|--------------------------------------|--------------------------|-----------|-----------------|-----------------------------------|------|---------------------------------|-----------------|-------|--------------------------|
|           |         | V <sub>z</sub>                       |                          |           | I <sub>zr</sub> | Z <sub>zk</sub> @ I <sub>zk</sub> |      | I <sub>R</sub> @ V <sub>R</sub> |                 |       |                          |
|           |         | Min ( V )                            | Nom ( V ) <sup>(2)</sup> | Max ( V ) | (mA)            | (Ω)                               | (Ω)  | (mA)                            | ( μA )          | ( V ) |                          |
| 1SMB5913B | 913B    | 3.13                                 | 3.3                      | 3.47      | 113.6           | 10                                | 500  | 1                               | 100             | 1     | 454                      |
| 1SMB5914B | 914B    | 3.42                                 | 3.6                      | 3.78      | 104.2           | 9                                 | 500  | 1                               | 75              | 1     | 416                      |
| 1SMB5915B | 915B    | 3.70                                 | 3.9                      | 4.10      | 96.1            | 7.5                               | 500  | 1                               | 25              | 1     | 384                      |
| 1SMB5916B | 916B    | 4.08                                 | 4.3                      | 4.52      | 87.2            | 6                                 | 500  | 1                               | 5               | 1     | 348                      |
| 1SMB5917B | 917B    | 4.46                                 | 4.7                      | 4.94      | 79.8            | 5                                 | 500  | 1                               | 5               | 1.5   | 319                      |
| 1SMB5918B | 918B    | 4.84                                 | 5.1                      | 5.36      | 73.5            | 4                                 | 350  | 1                               | 5               | 2     | 294                      |
| 1SMB5919B | 919B    | 5.32                                 | 5.6                      | 5.88      | 66.9            | 2                                 | 250  | 1                               | 5               | 3     | 267                      |
| 1SMB5920B | 920B    | 5.89                                 | 6.2                      | 6.51      | 60.5            | 2                                 | 200  | 1                               | 5               | 4     | 241                      |
| 1SMB5921B | 921B    | 6.46                                 | 6.8                      | 7.14      | 55.1            | 2.5                               | 200  | 1                               | 5               | 5.2   | 220                      |
| 1SMB5922B | 922B    | 7.12                                 | 7.5                      | 7.88      | 50              | 3                                 | 400  | 0.5                             | 5               | 6     | 200                      |
| 1SMB5923B | 923B    | 7.79                                 | 8.2                      | 8.61      | 45.7            | 3.5                               | 400  | 0.5                             | 5               | 6.5   | 182                      |
| 1SMB5924B | 924B    | 8.64                                 | 9.1                      | 9.56      | 41.2            | 4                                 | 500  | 0.5                             | 5               | 7     | 164                      |
| 1SMB5925B | 925B    | 9.5                                  | 10                       | 10.5      | 37.5            | 4.5                               | 500  | 0.25                            | 5               | 8     | 150                      |
| 1SMB5926B | 926B    | 10.45                                | 11                       | 11.55     | 34.1            | 5.5                               | 550  | 0.25                            | 1               | 8.4   | 136                      |
| 1SMB5927B | 927B    | 11.4                                 | 12                       | 12.6      | 31.2            | 6.5                               | 550  | 0.25                            | 1               | 9.1   | 125                      |
| 1SMB5928B | 928B    | 12.35                                | 13                       | 13.65     | 28.8            | 7                                 | 550  | 0.25                            | 1               | 9.9   | 115                      |
| 1SMB5929B | 929B    | 14.25                                | 15                       | 15.75     | 25              | 9                                 | 600  | 0.25                            | 1               | 11.4  | 100                      |
| 1SMB5930B | 930B    | 15.2                                 | 16                       | 16.8      | 23.4            | 10                                | 600  | 0.25                            | 1               | 12.2  | 93                       |
| 1SMB5931B | 931B    | 17.1                                 | 18                       | 18.9      | 20.8            | 12                                | 650  | 0.25                            | 1               | 13.7  | 83                       |
| 1SMB5932B | 932B    | 19                                   | 20                       | 21        | 18.7            | 14                                | 650  | 0.25                            | 1               | 15.2  | 75                       |
| 1SMB5933B | 933B    | 20.9                                 | 22                       | 23.1      | 17              | 17.5                              | 650  | 0.25                            | 1               | 16.7  | 68                       |
| 1SMB5934B | 934B    | 22.8                                 | 24                       | 25.2      | 15.6            | 19                                | 700  | 0.25                            | 1               | 18.2  | 62                       |
| 1SMB5935B | 935B    | 25.65                                | 27                       | 28.35     | 13.9            | 23                                | 700  | 0.25                            | 1               | 20.6  | 55                       |
| 1SMB5936B | 936B    | 28.5                                 | 30                       | 31.5      | 12.5            | 28                                | 750  | 0.25                            | 1               | 22.8  | 50                       |
| 1SMB5937B | 937B    | 31.35                                | 33                       | 34.65     | 11.4            | 33                                | 800  | 0.25                            | 1               | 25.1  | 45                       |
| 1SMB5938B | 938B    | 34.2                                 | 36                       | 37.8      | 10.4            | 38                                | 850  | 0.25                            | 1               | 27.4  | 41                       |
| 1SMB5939B | 939B    | 37.05                                | 39                       | 40.95     | 9.6             | 45                                | 900  | 0.25                            | 1               | 29.7  | 38                       |
| 1SMB5940B | 940B    | 40.85                                | 43                       | 45.15     | 8.7             | 53                                | 950  | 0.25                            | 1               | 32.7  | 34                       |
| 1SMB5941B | 941B    | 44.65                                | 47                       | 49.35     | 8               | 67                                | 1000 | 0.25                            | 1               | 35.8  | 31                       |
| 1SMB5942B | 942B    | 48.45                                | 51                       | 53.55     | 7.3             | 70                                | 1100 | 0.25                            | 1               | 38.8  | 29                       |
| 1SMB5943B | 943B    | 53.2                                 | 56                       | 58.8      | 6.7             | 86                                | 1300 | 0.25                            | 1               | 42.6  | 26                       |
| 1SMB5944B | 944B    | 58.9                                 | 62                       | 65.1      | 6               | 100                               | 1500 | 0.25                            | 1               | 47.1  | 24                       |
| 1SMB5945B | 945B    | 64.6                                 | 68                       | 71.4      | 5.5             | 120                               | 1700 | 0.25                            | 1               | 51.7  | 22                       |
| 1SMB5946B | 946B    | 71.25                                | 75                       | 78.75     | 5               | 140                               | 2000 | 0.25                            | 1               | 56    | 20                       |
| 1SMB5947B | 947B    | 77.9                                 | 82                       | 86.1      | 4.6             | 160                               | 2500 | 0.25                            | 1               | 62.2  | 18                       |
| 1SMB5948B | 948B    | 86.45                                | 91                       | 95.55     | 4.1             | 200                               | 3000 | 0.25                            | 1               | 69.2  | 16                       |
| 1SMB5949B | 949B    | 95                                   | 100                      | 105       | 3.7             | 250                               | 3100 | 0.25                            | 1               | 76    | 15                       |
| 1SMB5950B | 950B    | 104.5                                | 110                      | 115.5     | 3.4             | 300                               | 4000 | 0.25                            | 1               | 83.6  | 13                       |
| 1SMB5951B | 951B    | 114                                  | 120                      | 126       | 3.1             | 380                               | 4500 | 0.25                            | 1               | 91.2  | 12                       |
| 1SMB5952B | 952B    | 123.5                                | 130                      | 136.5     | 2.9             | 450                               | 5000 | 0.25                            | 1               | 98.8  | 11                       |
| 1SMB5953B | 953B    | 142.5                                | 150                      | 157.5     | 2.5             | 600                               | 6000 | 0.25                            | 1               | 114   | 10                       |
| 1SMB5954B | 954B    | 152                                  | 160                      | 168       | 2.3             | 700                               | 6500 | 0.25                            | 1               | 121.6 | 9                        |
| 1SMB5955B | 955B    | 171                                  | 180                      | 189       | 2.1             | 900                               | 7000 | 0.25                            | 1               | 136.8 | 8                        |
| 1SMB5956B | 956B    | 190                                  | 200                      | 210       | 1.9             | 1200                              | 8000 | 0.25                            | 1               | 152   | 7                        |

### Packing information



unit:mm

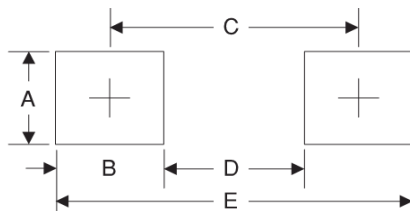
| Item                      | Symbol         | Tolerance | SMB    |
|---------------------------|----------------|-----------|--------|
| Carrier width             | A              | 0.1       | 3.81   |
| Carrier length            | B              | 0.1       | 5.41   |
| Carrier depth             | C              | 0.1       | 2.42   |
| Sprocket hole             | d              | 0.05      | 1.5.0  |
| 13" Reel outside diameter | D              | 2.0       | 330.00 |
| 13" Reel inner diameter   | D <sub>1</sub> | min       | 50.00  |
| Feed hole diameter        | D <sub>2</sub> | 0.5       | 13.00  |
| Sprocket hole position    | E              | 0.1       | 1.75   |
| Punch hole position       | F              | 0.1       | 5.55   |
| Punch hole pitch          | P              | 0.1       | 8.00   |
| Sprocket hole pitch       | P <sub>0</sub> | 0.1       | 4.00   |
| Embossment center         | P <sub>1</sub> | 0.1       | 2.00   |
| Overall tape thickness    | T              | 0.1       | 0.30   |
| Tape width                | W              | 0.3       | 12.00  |
| Reel width                | W <sub>1</sub> | 1.0       | 12.30  |

Note: Devices are packed in accordance with EIA standar RS-481-A and specifications listed above.

### Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (mm) | BOX (pcs) | INNER BOX (mm) | REEL DIA, (mm) | CARTON SIZE (mm) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|-----------|------------|------------------------|-----------|----------------|----------------|------------------|--------------|---------------------------|
| SMB     | 13"       | 3,000      | 4.0                    | 6,000     | 190*190*41     | 330            | 365*365*360      | 48,000       | 14.0                      |

### Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 2.8       | 0.110       |
| B      | 2.4       | 0.094       |
| C      | 4.6       | 0.181       |
| D      | 2.2       | 0.086       |
| E      | 7.0       | 0.276       |