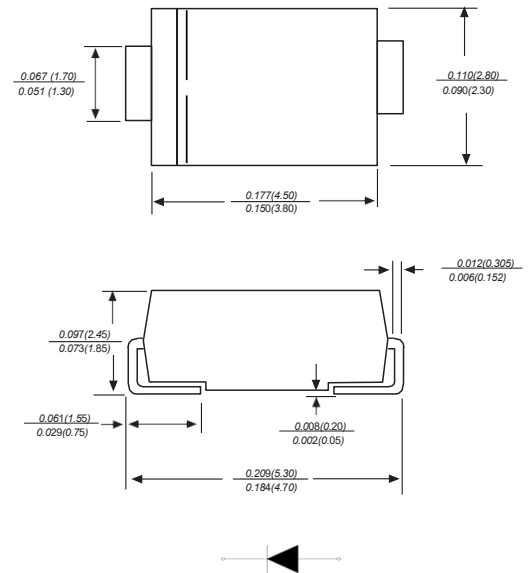


## SURFACE MOUNT ZENER DIODE

### Features

- ◆ Complete Voltage Range 3.3 to 240 Volts
- ◆ High peak reverse power dissipation
- ◆ High reliability
- ◆ Low leakage current

### DO-214AC/SMA

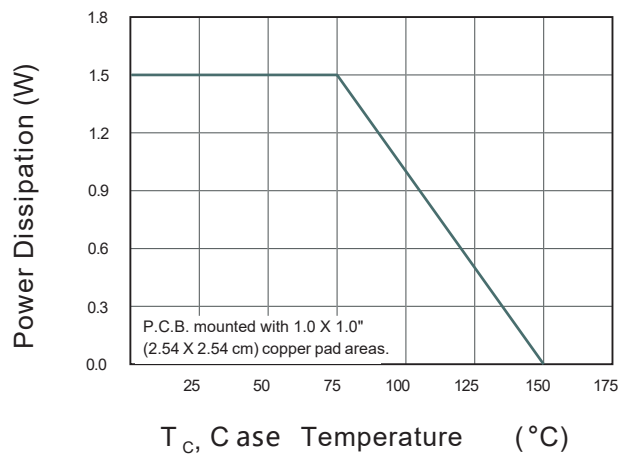


Dimensions in inches and (millimeters)

### Maximum Ratings And Electrical Characteristics

| Parameter                                   | Symbol | Value         | Unit             |
|---------------------------------------------|--------|---------------|------------------|
| Power Dissipation at $T_L=75^\circ\text{C}$ | $P_D$  | 1.5           | W                |
| Forward Voltage at $I_F = 200 \text{ mA}$   | $V_F$  | 1.5           | V                |
| Junction Temperature Range                  | $T_J$  | - 55 to + 150 | $^\circ\text{C}$ |
| Storage Temperature Range                   | $T_S$  | - 55 to + 150 | $^\circ\text{C}$ |

Fig.1 Maximum Continuous Power Derating



The curve graph is for reference only

**Characteristics at  $T_a = 25^{\circ}\text{C}$** 

| Type<br>(note1) | Marking<br>(note1) | Zener Voltage Range (note2) |         |         |             | Dynamic<br>Impedance    | Reverse Current       |          | Admissible<br>Zener Current |
|-----------------|--------------------|-----------------------------|---------|---------|-------------|-------------------------|-----------------------|----------|-----------------------------|
|                 |                    | $V_{ZT}$ (at $I_{ZT}$ )     |         |         | at $I_{ZT}$ | $Z_{ZT}$ (at $I_{ZT}$ ) | $I_R$                 | at $V_R$ |                             |
|                 |                    | Min (V)                     | Nom (V) | Max (V) | (mA)        | Max ( $\Omega$ )        | Max ( $\mu\text{A}$ ) | (V)      | $I_{ZM}$ (mA)               |
| 1SMA5913A       | 913A               | 2.97                        | 3.3     | 3.63    | 113.6       | 10                      | 100                   | 1        | 454                         |
| 1SMA5914A       | 914A               | 3.24                        | 3.6     | 3.96    | 104.2       | 9.0                     | 75                    | 1        | 416                         |
| 1SMA5915A       | 915A               | 3.51                        | 3.9     | 4.29    | 96.1        | 7.5                     | 25                    | 1        | 384                         |
| 1SMA5916A       | 916A               | 3.87                        | 4.3     | 4.73    | 87.2        | 6.0                     | 5                     | 1        | 348                         |
| 1SMA5917A       | 917A               | 4.23                        | 4.7     | 5.17    | 79.8        | 5.0                     | 5                     | 1.5      | 319                         |
| 1SMA5918A       | 918A               | 4.59                        | 5.1     | 5.61    | 73.5        | 4.0                     | 5                     | 2        | 294                         |
| 1SMA5919A       | 919A               | 5.04                        | 5.6     | 6.16    | 66.9        | 2.0                     | 5                     | 3        | 267                         |
| 1SMA5920A       | 920A               | 5.58                        | 6.2     | 6.82    | 60.5        | 2.0                     | 5                     | 4        | 241                         |
| 1SMA5921A       | 921A               | 6.12                        | 6.8     | 7.48    | 55          | 2.5                     | 5                     | 5.2      | 220                         |
| 1SMA5922A       | 922A               | 6.75                        | 7.5     | 8.25    | 50          | 3.0                     | 5                     | 6        | 200                         |
| 1SMA5923A       | 923A               | 7.38                        | 8.2     | 9.02    | 45.7        | 3.5                     | 5                     | 6.5      | 182                         |
| 1SMA5924A       | 924A               | 8.19                        | 9.1     | 10.01   | 41.2        | 4.0                     | 5                     | 7        | 164                         |
| 1SMA5925A       | 925A               | 9                           | 10      | 11      | 37.5        | 4.5                     | 5                     | 8        | 150                         |
| 1SMA5926A       | 926A               | 9.9                         | 11      | 12.1    | 34          | 5.5                     | 1                     | 8.4      | 136                         |
| 1SMA5927A       | 927A               | 10.8                        | 12      | 13.2    | 31.2        | 6.5                     | 1                     | 9        | 125                         |
| 1SMA5928A       | 928A               | 11.7                        | 13      | 14.3    | 28.8        | 7.0                     | 1                     | 9.9      | 115                         |
| 1SMA5929A       | 929A               | 13.5                        | 15      | 16.5    | 25          | 9.0                     | 1                     | 11.4     | 100                         |
| 1SMA5930A       | 930A               | 14.4                        | 16      | 17.6    | 23.4        | 10                      | 1                     | 12.2     | 93                          |
| 1SMA5931A       | 931A               | 16.2                        | 18      | 19.8    | 21          | 12                      | 1                     | 13.7     | 83                          |
| 1SMA5932A       | 932A               | 18                          | 20      | 22      | 19          | 14                      | 1                     | 15.2     | 75                          |
| 1SMA5933A       | 933A               | 19.8                        | 22      | 24.2    | 17          | 18                      | 1                     | 16.7     | 68                          |
| 1SMA5934A       | 934A               | 21.6                        | 24      | 26.4    | 16          | 19                      | 1                     | 18.2     | 62                          |
| 1SMA5935A       | 935A               | 24.3                        | 27      | 29.7    | 14          | 23                      | 1                     | 20.6     | 55                          |
| 1SMA5936A       | 936A               | 27                          | 30      | 33      | 12.5        | 26                      | 1                     | 23       | 50                          |
| 1SMA5937A       | 937A               | 29.7                        | 33      | 36.3    | 11.4        | 33                      | 1                     | 25       | 45                          |
| 1SMA5938A       | 938A               | 32.4                        | 36      | 39.6    | 10.4        | 38                      | 1                     | 27       | 41                          |
| 1SMA5939A       | 939A               | 35.1                        | 39      | 42.9    | 9.6         | 45                      | 1                     | 30       | 38                          |
| 1SMA5940A       | 940A               | 38.7                        | 43      | 47.3    | 8.7         | 53                      | 1                     | 33       | 34                          |
| 1SMA5941A       | 941A               | 42.3                        | 47      | 51.7    | 8.0         | 67                      | 1                     | 36       | 31                          |
| 1SMA5942A       | 942A               | 45.9                        | 51      | 56.1    | 7.3         | 70                      | 1                     | 39       | 29                          |
| 1SMA5943A       | 943A               | 50.4                        | 56      | 61.6    | 6.7         | 86                      | 1                     | 42       | 26                          |
| 1SMA5944A       | 944A               | 55.8                        | 62      | 68.2    | 6.0         | 100                     | 1                     | 47       | 24                          |
| 1SMA5945A       | 945A               | 61.2                        | 68      | 74.8    | 5.5         | 120                     | 1                     | 52       | 22                          |
| 1SMA5946A       | 946A               | 67.5                        | 75      | 82.5    | 5.0         | 140                     | 1                     | 57       | 20                          |
| 1SMA5947A       | 947A               | 73.8                        | 82      | 90.2    | 4.6         | 160                     | 1                     | 62       | 18                          |
| 1SMA5948A       | 948A               | 81.9                        | 91      | 100.1   | 4.1         | 200                     | 1                     | 69       | 16                          |
| 1SMA5949A       | 949A               | 90                          | 100     | 110     | 3.7         | 250                     | 1                     | 76       | 15                          |
| 1SMA5950A       | 950A               | 99                          | 110     | 121     | 3.4         | 300                     | 1                     | 84       | 13                          |
| 1SMA5951A       | 951A               | 108                         | 120     | 132     | 3.1         | 380                     | 1                     | 91       | 12                          |
| 1SMA5952A       | 952A               | 117                         | 130     | 143     | 2.9         | 450                     | 1                     | 100      | 11                          |
| 1SMA5953A       | 953A               | 135                         | 150     | 165     | 2.5         | 600                     | 1                     | 114      | 10                          |
| 1SMA5954A       | 954A               | 144                         | 160     | 176     | 2.3         | 700                     | 1                     | 121.6    | 9.0                         |
| 1SMA5955A       | 955A               | 162                         | 180     | 198     | 2.1         | 900                     | 1                     | 136.8    | 8.0                         |
| 1SMA5956A       | 956A               | 180                         | 200     | 220     | 1.9         | 1200                    | 1                     | 152      | 7.0                         |
| 1SMA5957A       | 957A               | 216                         | 240     | 264     | 1.5         | 1600                    | 1                     | 182.4    | 6.0                         |

(1) Suffix "A" indicates  $\pm 10\%$  tolerance, Suffix "B" indicates  $\pm 5\%$  tolerance  
( v2.1