



Certificate Number: Q10561

Certificate Number: E17276

# 1SMA4728A-1SMA4764A

## SURFACE MOUNT ZENER DIODES

$V_Z$  : 3.3 - 100Volts

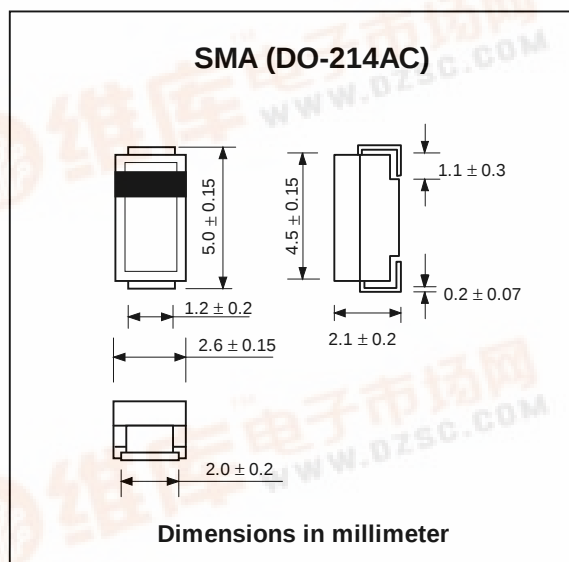
$P_D$  : 1 Watt

### FEATURES :

- \* Complete voltage range 3.3 to 100 volts
- \* High peak reverse power dissipation
- \* High reliability
- \* Low leakage current
- \* Standard zener voltage tolerance is  $\pm 5\%$ .
- \* Pb / RoHS Free

### MECHANICAL DATA

- \* Case : SMA (DO-214AC) Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Lead formed for Surface mount
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.064 gram



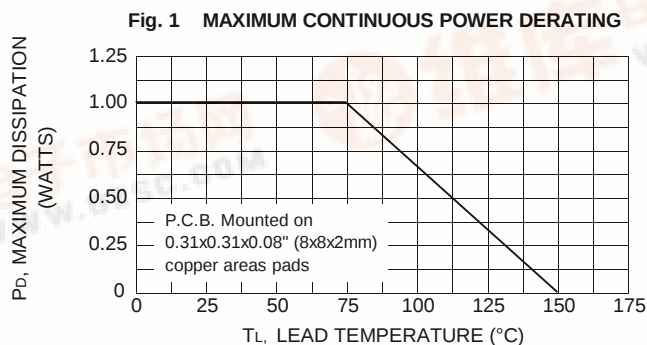
### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                                   | Symbol | Value         | Unit             |
|----------------------------------------------------------|--------|---------------|------------------|
| DC Power Dissipation at $T_L = 75^\circ\text{C}$ (Note1) | $P_D$  | 1.0           | W                |
| Maximum Forward Voltage at $I_F = 200\text{ mA}$         | $V_F$  | 1.2           | V                |
| Junction Temperature Range                               | $T_J$  | - 55 to + 150 | $^\circ\text{C}$ |
| Storage Temperature Range                                | $T_S$  | - 55 to + 150 | $^\circ\text{C}$ |

#### Note :

(1) P.C.B. Mounted on 0.31x0.31x0.08" (8x8x2mm) copper areas pads.





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## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Type      | Device Marking | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |      | Maximum DC Zener Current | Maximum Surge Current          |
|-----------|----------------|----------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------|---------------------------------|------|--------------------------|--------------------------------|
|           |                | V <sub>Z</sub> @ I <sub>ZT</sub> | I <sub>ZT</sub> | Z <sub>VT</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>          | I <sub>RM</sub> <sup>(2)</sup> |
|           |                | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)  | (mA)                     | (mApk)                         |
| 1SMA4728A | 728A           | 3.3                              | 76.0            | 10                                | 400                               | 1.0             | 100                             | 1.0  | 276                      | 1380                           |
| 1SMA4729A | 729A           | 3.6                              | 69.0            | 10                                | 400                               | 1.0             | 100                             | 1.0  | 252                      | 1260                           |
| 1SMA4730A | 730A           | 3.9                              | 64.0            | 9.0                               | 400                               | 1.0             | 50                              | 1.0  | 234                      | 1190                           |
| 1SMA4731A | 731A           | 4.3                              | 58.0            | 9.0                               | 400                               | 1.0             | 10                              | 1.0  | 217                      | 1070                           |
| 1SMA4732A | 732A           | 4.7                              | 53.0            | 8.0                               | 500                               | 1.0             | 10                              | 1.0  | 193                      | 970                            |
| 1SMA4733A | 733A           | 5.1                              | 49.0            | 7.0                               | 550                               | 1.0             | 10                              | 1.0  | 178                      | 890                            |
| 1SMA4734A | 734A           | 5.6                              | 45.0            | 5.0                               | 600                               | 1.0             | 10                              | 2.0  | 162                      | 810                            |
| 1SMA4735A | 735A           | 6.2                              | 41.0            | 2.0                               | 700                               | 1.0             | 10                              | 3.0  | 146                      | 730                            |
| 1SMA4736A | 736A           | 6.8                              | 37.0            | 3.5                               | 700                               | 1.0             | 50                              | 4.0  | 133                      | 660                            |
| 1SMA4737A | 737A           | 7.5                              | 34.0            | 4.0                               | 700                               | 0.5             | 50                              | 5.0  | 121                      | 605                            |
| 1SMA4738A | 738A           | 8.2                              | 31.0            | 4.5                               | 700                               | 0.5             | 50                              | 6.0  | 110                      | 550                            |
| 1SMA4739A | 739A           | 9.1                              | 28.0            | 5.0                               | 700                               | 0.5             | 50                              | 7.0  | 100                      | 500                            |
| 1SMA4740A | 740A           | 10                               | 25.0            | 7.0                               | 700                               | 0.25            | 50                              | 7.6  | 91                       | 454                            |
| 1SMA4741A | 741A           | 11                               | 23.0            | 8.0                               | 700                               | 0.25            | 50                              | 8.4  | 83                       | 414                            |
| 1SMA4742A | 742A           | 12                               | 21.0            | 9.0                               | 700                               | 0.25            | 5.0                             | 9.1  | 76                       | 380                            |
| 1SMA4743A | 743A           | 13                               | 19.0            | 10                                | 700                               | 0.25            | 5.0                             | 9.9  | 69                       | 344                            |
| 1SMA4744A | 744A           | 15                               | 17.0            | 14                                | 700                               | 0.25            | 5.0                             | 11.4 | 61                       | 305                            |
| 1SMA4745A | 745A           | 16                               | 15.5            | 16                                | 700                               | 0.25            | 5.0                             | 12.2 | 57                       | 285                            |
| 1SMA4746A | 746A           | 18                               | 14.0            | 20                                | 750                               | 0.25            | 5.0                             | 13.7 | 50                       | 250                            |
| 1SMA4747A | 747A           | 20                               | 12.5            | 22                                | 750                               | 0.25            | 5.0                             | 15.2 | 45                       | 225                            |
| 1SMA4748A | 748A           | 22                               | 11.5            | 23                                | 750                               | 0.25            | 5.0                             | 16.7 | 41                       | 205                            |
| 1SMA4749A | 749A           | 24                               | 10.5            | 25                                | 750                               | 0.25            | 5.0                             | 18.2 | 38                       | 190                            |
| 1SMA4750A | 750A           | 27                               | 9.5             | 35                                | 750                               | 0.25            | 5.0                             | 20.6 | 34                       | 170                            |
| 1SMA4751A | 751A           | 30                               | 8.5             | 40                                | 1000                              | 0.25            | 5.0                             | 22.8 | 30                       | 150                            |
| 1SMA4752A | 752A           | 33                               | 7.5             | 45                                | 1000                              | 0.25            | 5.0                             | 25.1 | 27                       | 135                            |
| 1SMA4753A | 753A           | 36                               | 7.0             | 50                                | 1000                              | 0.25            | 5.0                             | 27.4 | 25                       | 125                            |
| 1SMA4754A | 754A           | 39                               | 6.5             | 60                                | 1000                              | 0.25            | 5.0                             | 29.7 | 23                       | 115                            |
| 1SMA4755A | 755A           | 43                               | 6.0             | 70                                | 1500                              | 0.25            | 5.0                             | 32.7 | 22                       | 110                            |
| 1SMA4756A | 756A           | 47                               | 5.5             | 80                                | 1500                              | 0.25            | 5.0                             | 35.8 | 19                       | 95                             |
| 1SMA4757A | 757A           | 51                               | 5.0             | 95                                | 1500                              | 0.25            | 5.0                             | 38.8 | 18                       | 90                             |
| 1SMA4758A | 758A           | 56                               | 4.5             | 110                               | 2000                              | 0.25            | 5.0                             | 42.6 | 16                       | 80                             |
| 1SMA4759A | 759A           | 62                               | 4.0             | 125                               | 2000                              | 0.25            | 5.0                             | 47.1 | 14                       | 70                             |
| 1SMA4760A | 760A           | 68                               | 3.7             | 150                               | 2000                              | 0.25            | 5.0                             | 51.7 | 13                       | 65                             |
| 1SMA4761A | 761A           | 75                               | 3.3             | 175                               | 2000                              | 0.25            | 5.0                             | 56.0 | 12                       | 60                             |
| 1SMA4762A | 762A           | 82                               | 3.0             | 200                               | 3000                              | 0.25            | 5.0                             | 62.2 | 11                       | 55                             |
| 1SMA4763A | 763A           | 91                               | 2.8             | 250                               | 3000                              | 0.25            | 5.0                             | 69.2 | 10                       | 50                             |
| 1SMA4764A | 764A           | 100                              | 2.5             | 350                               | 3000                              | 0.25            | 5.0                             | 76.0 | 9.0                      | 45                             |

### Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$ .
- (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