

# SMA1W4728AT~SMA1W4777AT

## SILICON PLANAR ZENER DIODES

Power Dissipation-1W

Zener Voltage-3.3V to 330V

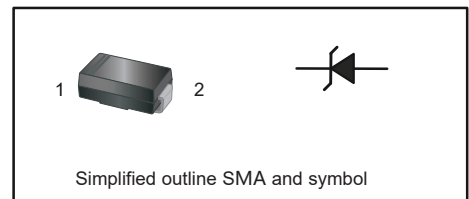
### FEATURES

- ◆ Total power dissipation: 1W max.
- ◆ Wide zener reverse voltage range:3.3V to 330V
- ◆ Designed for surface mount

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |

### MECHANICAL DATA



- ◆ Case: SMA molded plastic body
- ◆ Terminals: Solderable per MIL-STD- 750, Method 2026
- ◆ Weight: Approximated 0.055 grams

### ABSOLUTE MAXIMUM RATINGS AND CHARACTERISTICS (T<sub>A</sub> = 25 °C)

| PARAMETER                                  | SYMBOL                            | VALUE      | UNIT |
|--------------------------------------------|-----------------------------------|------------|------|
| Power Dissipation at T <sub>L</sub> =75°C  | P <sub>D</sub>                    | 1          | W    |
| Forward Voltage at I <sub>F</sub> = 200 mA | V <sub>F</sub>                    | 1.2        | V    |
| Operating and Storage Temperature Range    | T <sub>J</sub> , T <sub>STG</sub> | -55 ~ +150 | °C   |

Note: P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

Dated: 12/2017

Rev:1.0

# SMA1W4728AT~SMA1W4777AT

## CHARACTERISTICS at T<sub>A</sub>=25 °C

| Type        | Marking | Zener Voltage Range <sup>(1)</sup>    |        |        |                 | Dynamic Impedance                     | Reverse Current |                   | Admissible Zener Current |
|-------------|---------|---------------------------------------|--------|--------|-----------------|---------------------------------------|-----------------|-------------------|--------------------------|
|             |         | V <sub>ZT</sub> (at I <sub>ZT</sub> ) |        |        | I <sub>ZT</sub> | Z <sub>ZT</sub> (at I <sub>ZT</sub> ) | I <sub>R</sub>  | at V <sub>R</sub> |                          |
|             |         | Min(V)                                | Nom(V) | Max(V) | (mA)            | Max (Ω)                               | Max(μA)         | (V)               | I <sub>ZM</sub> (mA)     |
| SMA1W4728AT | 728A    | 3.10                                  | 3.3    | 3.50   | 75              | 10                                    | 100             | 1                 | 285                      |
| SMA1W4729AT | 729A    | 3.40                                  | 3.6    | 3.80   | 69              | 10                                    | 100             | 1                 | 263                      |
| SMA1W4730AT | 730A    | 3.70                                  | 3.9    | 4.10   | 64              | 9.0                                   | 50              | 1                 | 243                      |
| SMA1W4731AT | 731A    | 4.06                                  | 4.3    | 4.56   | 58              | 9.0                                   | 25              | 1                 | 219                      |
| SMA1W4732AT | 732A    | 4.50                                  | 4.7    | 4.93   | 53              | 8.0                                   | 10              | 1                 | 203                      |
| SMA1W4733AT | 733A    | 4.84                                  | 5.1    | 5.36   | 49              | 7.0                                   | 10              | 1                 | 186                      |
| SMA1W4734AT | 734A    | 5.32                                  | 5.6    | 5.92   | 45              | 5.0                                   | 10              | 2                 | 170                      |
| SMA1W4735AT | 735A    | 5.86                                  | 6.2    | 6.51   | 41              | 2.0                                   | 10              | 3                 | 154                      |
| SMA1W4736AT | 736A    | 6.46                                  | 6.8    | 7.18   | 37              | 3.5                                   | 10              | 4                 | 140                      |
| SMA1W4737AT | 737A    | 7.12                                  | 7.5    | 7.88   | 34              | 4.0                                   | 10              | 5                 | 127                      |
| SMA1W4738AT | 738A    | 7.79                                  | 8.2    | 8.67   | 31              | 4.5                                   | 10              | 6                 | 116                      |
| SMA1W4739AT | 739A    | 8.60                                  | 9.1    | 9.59   | 28              | 5.0                                   | 10              | 7                 | 104                      |
| SMA1W4740AT | 740A    | 9.50                                  | 10     | 10.5   | 25              | 7.0                                   | 10              | 7                 | 95                       |
| SMA1W4741AT | 741A    | 10.4                                  | 11     | 11.6   | 23              | 8.0                                   | 5               | 8                 | 86                       |
| SMA1W4742AT | 742A    | 11.4                                  | 12     | 12.6   | 21              | 9.0                                   | 5               | 9                 | 79                       |
| SMA1W4743AT | 743A    | 12.4                                  | 13     | 14.1   | 19              | 10                                    | 5               | 10                | 71                       |
| SMA1W4744AT | 744A    | 13.8                                  | 15     | 15.8   | 17              | 14                                    | 5               | 11                | 63                       |
| SMA1W4745AT | 745A    | 15.2                                  | 16     | 17.1   | 16              | 16                                    | 5               | 12                | 58                       |
| SMA1W4746AT | 746A    | 16.8                                  | 18     | 19.2   | 14              | 20                                    | 5               | 13                | 52                       |
| SMA1W4747AT | 747A    | 19.0                                  | 20     | 21.2   | 13              | 22                                    | 5               | 15                | 47                       |
| SMA1W4748AT | 748A    | 20.8                                  | 22     | 23.3   | 12              | 23                                    | 5               | 17                | 43                       |
| SMA1W4749AT | 749A    | 22.8                                  | 24     | 26.0   | 11              | 25                                    | 5               | 18                | 38                       |
| SMA1W4750AT | 750A    | 25.3                                  | 27     | 28.9   | 9.5             | 35                                    | 5               | 21                | 35                       |
| SMA1W4751AT | 751A    | 28.2                                  | 30     | 32.0   | 8.5             | 40                                    | 5               | 23                | 31                       |
| SMA1W4752AT | 752A    | 31.3                                  | 33     | 34.9   | 7.5             | 45                                    | 5               | 25                | 28                       |
| SMA1W4753AT | 753A    | 34.2                                  | 36     | 37.9   | 7.0             | 50                                    | 5               | 27                | 26                       |
| SMA1W4754AT | 754A    | 37.2                                  | 39     | 41.5   | 6.5             | 60                                    | 5               | 30                | 24                       |

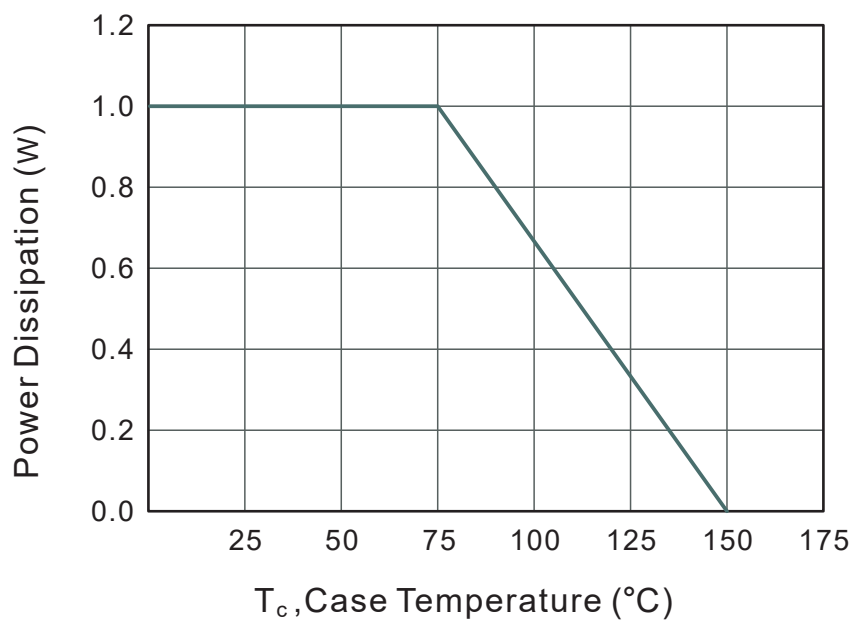
Dated: 12/2017  
Rev:1.0

# SMA1W4728AT~SMA1W4777AT

|             |      |      |     |      |     |      |   |     |     |
|-------------|------|------|-----|------|-----|------|---|-----|-----|
| SMA1W4755AT | 755A | 40.9 | 43  | 45.6 | 6.0 | 70   | 1 | 32  | 22  |
| SMA1W4756AT | 756A | 44.9 | 47  | 49.8 | 5.5 | 80   | 1 | 35  | 20  |
| SMA1W4757AT | 757A | 48.6 | 51  | 54.0 | 5.0 | 95   | 1 | 38  | 18  |
| SMA1W4758AT | 758A | 53.6 | 56  | 58.8 | 4.5 | 110  | 1 | 42  | 17  |
| SMA1W4759AT | 759A | 58.9 | 62  | 65.6 | 4.0 | 125  | 1 | 47  | 15  |
| SMA1W4760AT | 760A | 64.6 | 68  | 71.7 | 3.7 | 150  | 1 | 52  | 14  |
| SMA1W4761AT | 761A | 71.2 | 75  | 78.8 | 3.3 | 175  | 1 | 56  | 12  |
| SMA1W4762AT | 762A | 77.9 | 82  | 87.0 | 3.0 | 200  | 1 | 62  | 11  |
| SMA1W4763AT | 763A | 86.0 | 91  | 96.0 | 2.8 | 250  | 1 | 69  | 10  |
| SMA1W4764AT | 764A | 95.0 | 100 | 105  | 2.5 | 350  | 1 | 76  | 9.5 |
| SMA1W4765AT | 765A | 104  | 110 | 116  | 2.3 | 450  | 1 | 84  | 8.6 |
| SMA1W4766AT | 766A | 114  | 120 | 127  | 2.0 | 550  | 1 | 91  | 7.8 |
| SMA1W4767AT | 767A | 125  | 135 | 142  | 1.9 | 700  | 1 | 100 | 7.0 |
| SMA1W4768AT | 768A | 140  | 150 | 157  | 1.7 | 900  | 1 | 110 | 6.3 |
| SMA1W4769AT | 769A | 155  | 165 | 172  | 1.6 | 1100 | 1 | 120 | 5.8 |
| SMA1W4770AT | 770A | 170  | 180 | 191  | 1.4 | 1200 | 1 | 135 | 5.2 |
| SMA1W4771AT | 771A | 189  | 200 | 211  | 1.2 | 1400 | 1 | 150 | 4.7 |
| SMA1W4772AT | 772A | 209  | 220 | 231  | 1.0 | 1600 | 1 | 165 | 4.3 |
| SMA1W4773AT | 773A | 229  | 240 | 251  | 1.0 | 1800 | 1 | 180 | 3.9 |
| SMA1W4774AT | 774A | 249  | 260 | 271  | 1.0 | 2000 | 1 | 190 | 3.7 |
| SMA1W4775AT | 775A | 269  | 280 | 291  | 1.0 | 2100 | 1 | 205 | 3.4 |
| SMA1W4776AT | 776A | 289  | 300 | 315  | 1.0 | 2300 | 1 | 230 | 3.1 |
| SMA1W4777AT | 777A | 313  | 330 | 346  | 1.0 | 2500 | 1 | 250 | 2.8 |

( 1 )  $V_{ZT}$  is tested with pulses (20 ms)

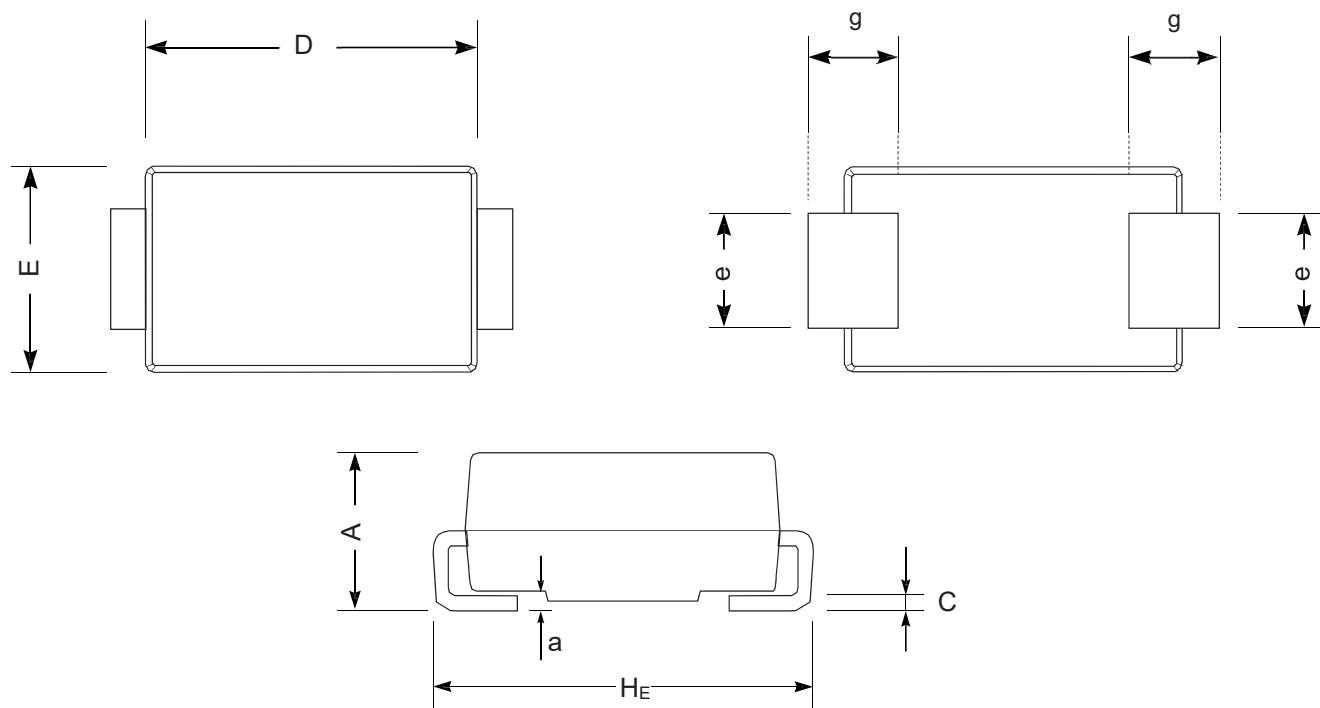
Fig.1 Maximum Continuous Power Derating



# SMA1W4728AT~SMA1W4777AT

## PACKAGE OUTLINE

### SMA



| UNIT |     | A   | D   | E   | H <sub>E</sub> | C    | e   | g   | a   |
|------|-----|-----|-----|-----|----------------|------|-----|-----|-----|
| mm   | max | 2.2 | 4.5 | 2.7 | 5.2            | 0.31 | 1.6 | 1.5 | 0.3 |
|      | min | 1.9 | 4.0 | 2.3 | 4.7            | 0.15 | 1.3 | 0.9 |     |
| mil  | max | 87  | 181 | 106 | 205            | 12   | 63  | 59  | 12  |
|      | min | 75  | 157 | 91  | 185            | 6    | 51  | 35  |     |

| Device                  | Package | Shipping                      |
|-------------------------|---------|-------------------------------|
| SMA1W4728AT~SMA1W4777AT | SMA     | 5,000/Tape & Reel (13 inches) |