



# 1SMAF4728A THRU 1SMAF4763A

## Silicon Planar Zener Diodes

### Features

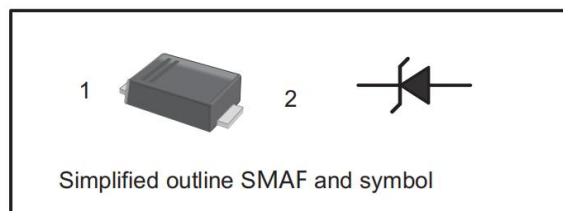
- Total power dissipation: max. 1W
- Wide zener reverse voltage range 3.3V to 91V
- Small plastic package suitable for surface mounted design

### Mechanical Data

- Case:SMAF
- Terminals: Solderable per MIL-STD-750,Method 2026
- Approx.Weight: 27mg / 0.00095oz

### PINNING

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



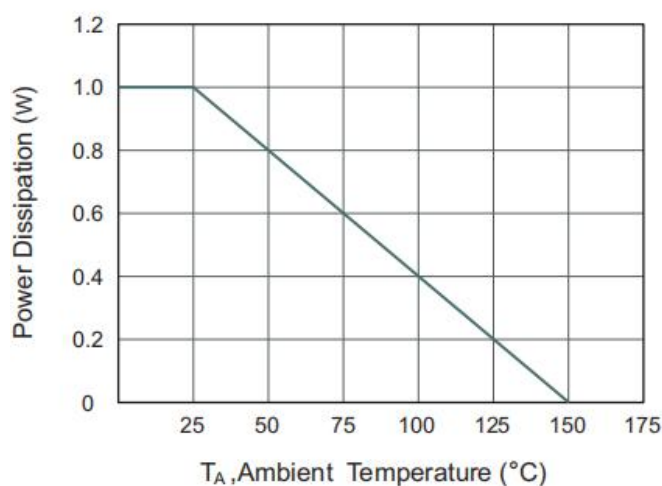
### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ )

| Parameter                                     | Symbol          | Value         | Unit                 |
|-----------------------------------------------|-----------------|---------------|----------------------|
| Power Dissipation at $T_A=25^{\circ}\text{C}$ | $P_D$           | 1             | W                    |
| Forward Voltage at $I_F=200\text{mA}$         | $V_F$           | 1.2           | V                    |
| Junction Temperature Range                    | $T_J$           | $-55\sim+150$ | $^{\circ}\text{C}$   |
| Storage Temperature Range                     | $T_S$           | $-55\sim+150$ | $^{\circ}\text{C}$   |
| Typical Thermal Resistance <sup>(1)</sup>     | $R_{\theta JA}$ | 100           | $^{\circ}\text{C/W}$ |
|                                               | $R_{\theta JC}$ | 20            |                      |
|                                               | $R_{\theta JL}$ | 30            |                      |

Note:(1) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper areas pads.

### Typical Characteristics

Fig.1 Maximum Continuous Power Derating





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### Characteristics (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(uA)         | (V)               | I <sub>ZM</sub> (mA)     |
| 1SMAF4728A | 728A    | 3.14                                  | 3.3    | 3.47   | 75              | 10                                    | 100             | 1                 | 285                      |
| 1SMAF4729A | 729A    | 3.42                                  | 3.6    | 3.78   | 69              | 10                                    | 100             | 1                 | 263                      |
| 1SMAF4730A | 730A    | 3.71                                  | 3.9    | 4.1    | 64              | 9.0                                   | 50              | 1                 | 243                      |
| 1SMAF4731A | 731A    | 4.09                                  | 4.3    | 4.52   | 58              | 9.0                                   | 25              | 1                 | 219                      |
| 1SMAF4732A | 732A    | 4.47                                  | 4.7    | 4.94   | 53              | 8.0                                   | 10              | 1                 | 203                      |
| 1SMAF4733A | 733A    | 4.85                                  | 5.1    | 5.36   | 49              | 7.0                                   | 10              | 1                 | 186                      |
| 1SMAF4734A | 734A    | 5.32                                  | 5.6    | 5.88   | 45              | 5.0                                   | 10              | 2                 | 170                      |
| 1SMAF4735A | 735A    | 5.89                                  | 6.2    | 6.51   | 41              | 2.0                                   | 10              | 3                 | 154                      |
| 1SMAF4736A | 736A    | 6.46                                  | 6.8    | 7.14   | 37              | 3.5                                   | 10              | 4                 | 140                      |
| 1SMAF4737A | 737A    | 7.13                                  | 7.5    | 7.88   | 34              | 4.0                                   | 10              | 5                 | 127                      |
| 1SMAF4738A | 738A    | 7.79                                  | 8.2    | 8.61   | 31              | 4.5                                   | 10              | 6                 | 116                      |
| 1SMAF4739A | 739A    | 8.65                                  | 9.1    | 9.56   | 28              | 5.0                                   | 10              | 7                 | 104                      |
| 1SMAF4740A | 740A    | 9.5                                   | 10     | 10.5   | 25              | 7.0                                   | 10              | 7                 | 95                       |
| 1SMAF4741A | 741A    | 10.45                                 | 11     | 11.55  | 23              | 8.0                                   | 5               | 8                 | 86                       |
| 1SMAF4742A | 742A    | 11.4                                  | 12     | 12.6   | 21              | 9.0                                   | 5               | 9                 | 79                       |
| 1SMAF4743A | 743A    | 12.35                                 | 13     | 13.65  | 19              | 10                                    | 5               | 10                | 71                       |
| 1SMAF4744A | 744A    | 14.25                                 | 15     | 15.75  | 17              | 14                                    | 5               | 11                | 63                       |
| 1SMAF4745A | 745A    | 15.2                                  | 16     | 16.8   | 16              | 16                                    | 5               | 12                | 58                       |
| 1SMAF4746A | 746A    | 17.1                                  | 18     | 18.9   | 14              | 20                                    | 5               | 13                | 52                       |
| 1SMAF4747A | 747A    | 19                                    | 20     | 21     | 13              | 22                                    | 5               | 15                | 47                       |
| 1SMAF4748A | 748A    | 20.9                                  | 22     | 23.1   | 12              | 23                                    | 5               | 17                | 43                       |
| 1SMAF4749A | 749A    | 22.8                                  | 24     | 25.2   | 11              | 25                                    | 5               | 18                | 38                       |
| 1SMAF4750A | 750A    | 25.65                                 | 27     | 28.35  | 9.5             | 35                                    | 5               | 21                | 35                       |
| 1SMAF4751A | 751A    | 28.5                                  | 30     | 31.5   | 8.5             | 40                                    | 5               | 23                | 31                       |



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|            |      |       |    |       |     |     |   |    |    |
|------------|------|-------|----|-------|-----|-----|---|----|----|
| 1SMAF4752A | 752A | 31.35 | 33 | 34.65 | 7.5 | 45  | 5 | 25 | 28 |
| 1SMAF4753A | 753A | 34.2  | 36 | 37.8  | 7.0 | 50  | 5 | 27 | 26 |
| 1SMAF4754A | 754A | 37.05 | 39 | 40.95 | 6.5 | 60  | 5 | 30 | 24 |
| 1SMAF4755A | 755A | 40.85 | 43 | 45.15 | 6.0 | 70  | 1 | 32 | 22 |
| 1SMAF4756A | 756A | 44.65 | 47 | 49.35 | 5.5 | 80  | 1 | 35 | 20 |
| 1SMAF4757A | 757A | 48.45 | 51 | 53.55 | 5.0 | 95  | 1 | 38 | 18 |
| 1SMAF4758A | 758A | 53.2  | 56 | 58.8  | 4.5 | 110 | 1 | 42 | 17 |
| 1SMAF4759A | 759A | 58.9  | 62 | 65.1  | 4.0 | 125 | 1 | 47 | 15 |
| 1SMAF4760A | 760A | 64.6  | 68 | 71.4  | 3.7 | 150 | 1 | 52 | 14 |
| 1SMAF4761A | 761A | 71.25 | 75 | 78.75 | 3.3 | 175 | 1 | 56 | 12 |
| 1SMAF4762A | 762A | 77.9  | 82 | 86.1  | 3.0 | 200 | 1 | 62 | 11 |
| 1SMAF4763A | 763A | 86.45 | 91 | 95.55 | 2.8 | 250 | 1 | 69 | 10 |

Note:(1)V<sub>zT</sub> is tested with pulses (20ms).

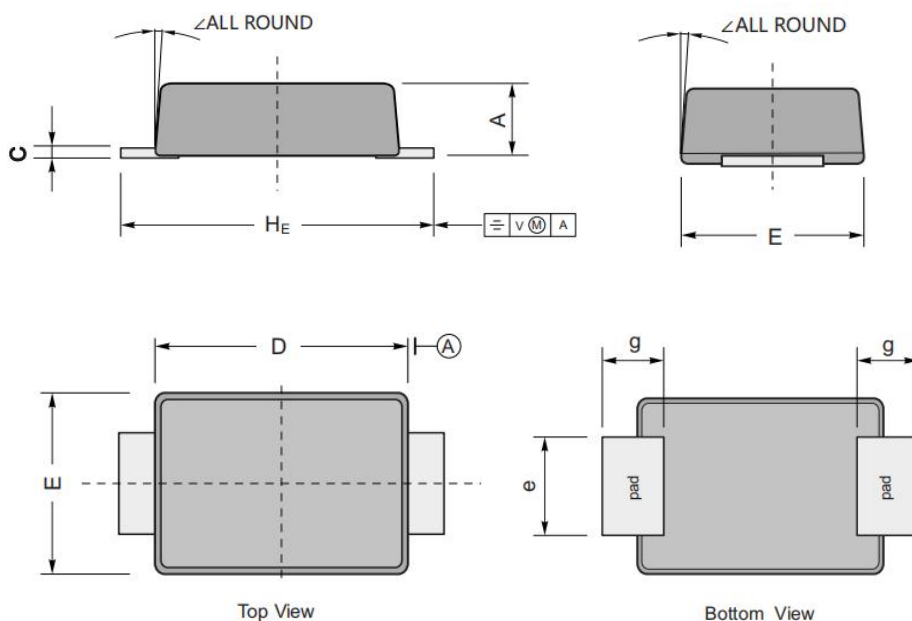


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## Package Information

### SMAF

### Dimensions in mm



| Unit |     | A   | C    | D   | E   | e   | g   | $H_E$ | $\angle$ |
|------|-----|-----|------|-----|-----|-----|-----|-------|----------|
| mm   | max | 1.2 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9   | 7°       |
|      | min | 0.9 | 0.12 | 3.3 | 2.4 | 1.3 | 0.8 | 4.4   |          |
| mil  | max | 47  | 7.9  | 146 | 106 | 63  | 47  | 193   |          |
|      | min | 35  | 4.7  | 130 | 94  | 51  | 31  | 173   |          |

### The recommended mounting pad size

