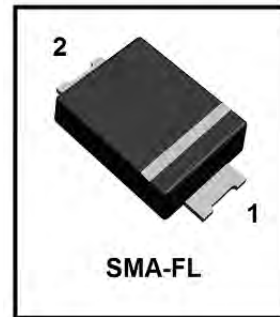


### Feature

- \* 1 W SMA-FL
- \* Zener voltage regulator diodes
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* We declare that the material of product compliance with RoHS requirements.
- \* Guarding for over voltage protection
- \* High temperature soldering guaranteed:  
260°C/10 seconds at terminals
- \* IEC61000-4-2 ESD Air Contact  $\geq \pm 15KV$
- \* MSL: 1
- \* We declare that the material of product compliance with RoHS requirements and Halogen Free.



### Mechanical Data

**Case:** JEDEC SMA-FL molded plastic

**Terminals :**Plated terminals, solderable per MIL-STD-750,Method 2026

**Polarity:** Color band denoted cathode except Bipolar

**Mounting Position:** Any

**Weight :** 28mg

### 1.Electrical Characteristic

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| RATING   | SYMBOL         | VALUE       | UNITS |
|--|----------------|-------------|-------|
| Steady State Power Dissipation at $T_A = 50^\circ C$ (Note1) | $P_{M(AV)}$    | 1           | Watts |
| Z-current  | $I_Z$          | $P_V/V_Z$   | mA    |
| Operating and Storage Temperature Range                      | $T_J, T_{STG}$ | -50 to +150 | °C    |

NOTES:

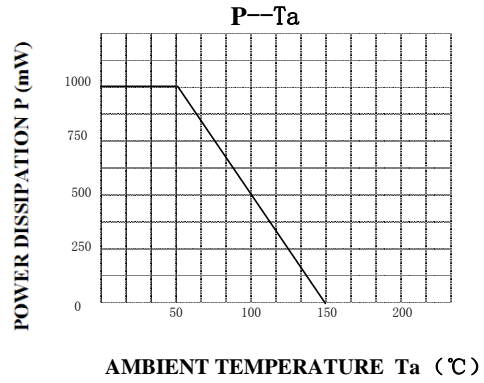
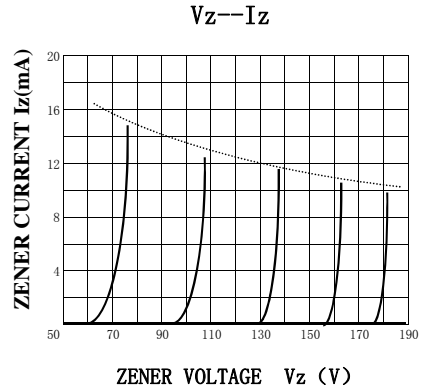
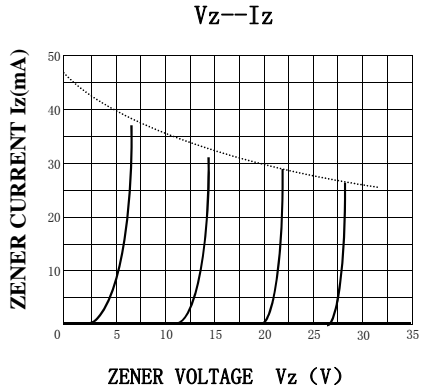
1. 8.0mm<sup>2</sup> (.013mm thick) land areas

### 2.Product Characteristic

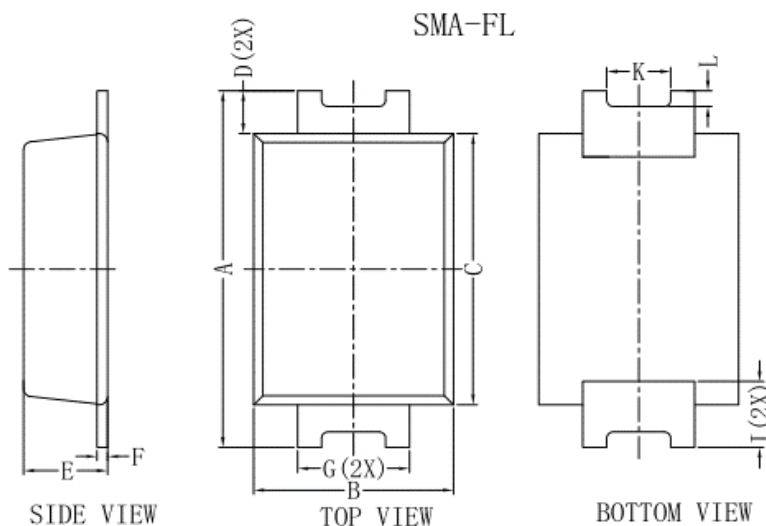
Vz tolerance : ±5%; Ta=25°C Vmax =1.2V @ IF = 200mA P=1 W

| Type     | Device marking code | Zener   | Current | A and B Suffix only |           |           | Leakage Current |       | Maximum Regulator Current(2) |
|----------|---------------------|---------|---------|---------------------|-----------|-----------|-----------------|-------|------------------------------|
|          |                     | Voltage | Izt     | Zzt @ Izt           | Zzk @ Izk | Zzk @ Izk | IR              | VR    | IzM @ Tamb =50 ° C           |
|          |                     | Vz@Lzt  |         |                     |           |           |                 |       |                              |
|          |                     | Volts   | mA      | Ohms                | Ohms      | m A       | uA Max          | Volts | mA                           |
| SZAF2.4A | Z2.4                | 2.4     | 102     | 30                  | 1200      | 1         | 100             | 1.0   | 378                          |
| SZAF2.5A | Z2.5                | 2.5     | 98      | 30                  | 1250      | 1         |                 | 1.0   | 362                          |
| SZAF2.7A | Z2.7                | 2.7     | 90      | 30                  | 1300      | 1         |                 | 1.0   | 334                          |
| SZAF2.8A | Z2.8                | 2.8     | 87      | 30                  | 1400      | 1         |                 | 1.0   | 324                          |
| SZAF3.0A | Z3.0                | 3.0     | 82      | 29                  | 1600      | 1         |                 | 1.0   | 302                          |
| SZAF3.3A | Z3.3                | 3.3     | 76      | 28                  | 400       | 1         |                 | 1.0   | 276                          |
| SZAF3.6A | Z3.6                | 3.6     | 69      | 24                  | 400       | 1         |                 | 1.0   | 252                          |
| SZAF3.9A | Z3.9                | 3.9     | 64      | 23                  | 400       | 1         |                 | 1.0   | 238                          |
| SZAF4.3A | Z4.3                | 4.3     | 58      | 22                  | 400       | 1         |                 | 1.0   | 214                          |
| SZAF4.7A | Z4.7                | 4.7     | 53      | 19                  | 400       | 1         |                 | 1.0   | 194                          |
| SZAF5.1A | Z5.1                | 5.1     | 49      | 7                   | 550       | 1         | 1.0             | 178   |                              |
| SZAF5.6A | Z5.6                | 5.6     | 45      | 5                   | 600       |           | 2.0             | 164   |                              |
| SZAF6.2A | Z6.2                | 6.2     | 41      | 2                   | 700       |           | 3.0             | 146   |                              |
| SZAF6.8A | Z6.8                | 6.8     | 37      | 4                   | 1300      |           | 4               | 133   |                              |
| SZAF7.5A | Z7.5                | 7.5     | 34      | 4.5                 | 1300      | 0.5       | 70              | 5     | 121                          |
| SZAF8.2A | Z8.2                | 8.2     | 31      | 5.5                 | 1300      | 0.5       |                 | 6     | 110                          |
| SZAF9.1A | Z9.1                | 9.1     | 28      | 6                   | 1300      | 0.5       |                 | 7     | 100                          |
| SZAF10A  | Z10                 | 10      | 25      | 7                   | 1300      | 0.25      | 2               | 7.6   | 91                           |
| SZAF11A  | Z11                 | 11      | 23      | 8                   | 1300      |           |                 | 8.4   | 83                           |
| SZAF12A  | Z12                 | 12      | 21      | 9                   | 1300      |           |                 | 9.1   | 76                           |
| SZAF13A  | Z13                 | 13      | 19      | 10                  | 1300      |           |                 | 9.9   | 69                           |
| SZAF15A  | Z15                 | 15      | 17      | 14                  | 1300      |           |                 | 11.4  | 61                           |
| SZAF16A  | Z16                 | 16      | 15.5    | 16                  | 1300      |           | 12.2            | 57    |                              |
| SZAF18A  | Z18                 | 18      | 14      | 20                  | 1300      |           | 13.7            | 50    |                              |
| SZAF20A  | Z20                 | 20      | 12.5    | 22                  | 1300      |           | 15.2            | 45    |                              |
| SZAF22A  | Z22                 | 22      | 11.5    | 23                  | 1300      |           | 16.7            | 41    |                              |
| SZAF24A  | Z24                 | 24      | 10.5    | 25                  | 1300      |           | 18.2            | 38    |                              |
| SZAF27A  | Z27                 | 27      | 9.5     | 35                  | 1300      |           | 20.6            | 34    |                              |
| SZAF30A  | Z30                 | 30      | 8.5     | 40                  | 1500      |           | 22.8            | 30    |                              |
| SZAF33A  | Z33                 | 33      | 7.5     | 45                  | 1500      |           | 25.1            | 27    |                              |
| SZAF36A  | Z36                 | 36      | 7       | 50                  | 1500      |           | 27.4            | 25    |                              |
| SZAF39A  | Z39                 | 39      | 6.5     | 60                  | 1500      |           | 29.7            | 23    |                              |
| SZAF43A  | Z43                 | 43      | 6       | 70                  | 2500      |           | 32.7            | 22    |                              |
| SZAF47A  | Z47                 | 47      | 5.5     | 80                  | 2500      |           | 35.8            | 19    |                              |
| SZAF51A  | Z51                 | 51      | 5       | 95                  | 2500      |           | 38.8            | 18    |                              |
| SZAF56A  | Z56                 | 56      | 4.5     | 110                 | 2500      |           | 42.6            | 16    |                              |
| SZAF62A  | Z62                 | 62      | 4       | 125                 | 2500      |           | 47.1            | 14    |                              |
| SZAF68A  | Z68                 | 68      | 3.7     | 150                 | 2500      | 51.7      | 13              |       |                              |
| SZAF75A  | Z75                 | 75      | 3.3     | 175                 | 2500      | 56        | 12              |       |                              |
| SZAF82A  | Z82                 | 82      | 3       | 200                 | 3000      | 62.2      | 11              |       |                              |
| SZAF91A  | Z91                 | 91      | 2.8     | 250                 | 3000      | 69.2      | 10              |       |                              |
| SZAF100A | Z100                | 100     | 2.5     | 350                 | 3000      | 76        | 9               |       |                              |
| SZAF110A | Z110                | 110     | 2       | 550                 | 5000      | 83        | 8               |       |                              |
| SZAF120A | Z120                | 120     | 1.5     | 750                 | 5500      | 90        | 7               |       |                              |
| SZAF130A | Z130                | 130     | 1       | 900                 | 6000      | 98        | 6               |       |                              |
| SZAF150A | Z150                | 150     | 1       | 1200                | 6500      | 113       | 6               |       |                              |
| SZAF160A | Z160                | 160     | 1       | 1350                | 7000      | 120       | 6               |       |                              |
| SZAF180A | Z180                | 180     | 1       | 1650                | 8500      | 135       | 5               |       |                              |
| SZAF200A | Z200                | 200     | 1       | 1950                | 10000     | 150       | 4               |       |                              |
| SZAF220A | Z220                | 220     | 1       | 2300                | 12000     | 165       | 4               |       |                              |

**3.Characteristic Curves**



**4.OUTLINE AND DIMENSIONS**

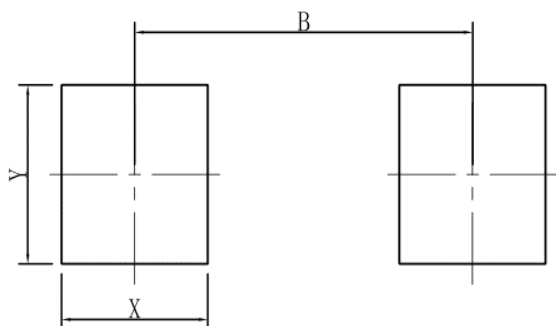


| SMA-FL               |      |      |      |
|----------------------|------|------|------|
| DIM                  | MIN  | MAX  | Typ. |
| A                    | 4.40 | 4.80 | 4.60 |
| B                    | 2.30 | 2.70 | 2.60 |
| C                    | 3.30 | 3.70 | 3.50 |
| D                    | -    | -    | 0.55 |
| E                    | 0.90 | 1.20 | 1.05 |
| F                    | 0.11 | 0.21 | 0.17 |
| G                    | 1.30 | 1.50 | 1.40 |
| I                    | -    | -    | 0.90 |
| K                    | -    | -    | 0.80 |
| L                    | -    | -    | 0.20 |
| All Dimensions in mm |      |      |      |

**GENERAL NOTES**

- 1.Top package surface finish Ra0.4±0.2um
- 2.Bottom package surface finish Ra0.7±0.2um

**5.SOLDERING FOOTPRINT**



| SMA-FL |      |
|--------|------|
| DIM    | (mm) |
| X      | 1.60 |
| Y      | 1.80 |
| B      | 3.70 |