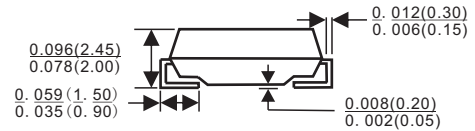
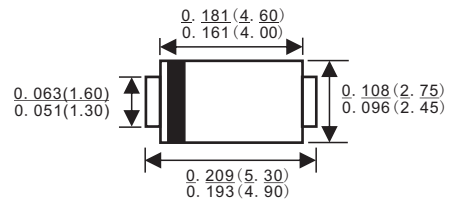




**V<sub>Z</sub> : 3.6 - 200 Volts**

**P<sub>D</sub> : 1.0 Watts**

### SMA/DO-214AC



Dimensions in inches and(millimeters)

## Features

- 1.0W power dissipation
- High surge capability
- Ideally suited for automatic assembly
- 3.6V-200V nominal zener voltage range
- Standard VZ tolerance is  $\pm 5\%$
- RoHS compliant with Halogen-free

## Mechanical Data

- Case: SMA molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Polarity: Color band denotes cathode end

## Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

| Parameter                                       | Symbol           | Value      | Unit |
|---|------------------|------------|------|
| Power dissipation at T <sub>A</sub> =50°C       | P <sub>tot</sub> | 1.0        | W    |
| Forward voltage @I <sub>F</sub> =200mA          | V <sub>F</sub>   | 1.2        | V    |
| Maximum thermal resistance junction to ambient  | R <sub>θJA</sub> | 125        | °C/W |
| Maximum thermal resistance junction to terminal | R <sub>θJT</sub> | 30         | °C/W |
| Junction temperature                            | T <sub>J</sub>   | -55 ~ +150 | °C   |
| Storage temperature range                       | T <sub>STG</sub> | -55 ~ +150 | °C   |



### Electrical Characteristics (@T<sub>A</sub> = 25°C unless otherwise specified)

| Type<br>(Note 2) | Marking<br>Code | Zener<br>Voltage Range(Note 1)  |            |            | Test<br>Current | Maximum Zener<br>Impedance       |                                  |     | Maximum<br>Reverse<br>Current  |      | I <sub>ZM</sub> Max |
|------------------|-----------------|---------------------------------|------------|------------|-----------------|----------------------------------|----------------------------------|-----|--------------------------------|------|---------------------|
|                  |                 | V <sub>Z</sub> @I <sub>ZT</sub> |            |            | I <sub>ZT</sub> | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @I <sub>ZK</sub> |     | I <sub>R</sub> @V <sub>R</sub> |      |                     |
|                  |                 | Nom<br>(V)                      | Min<br>(V) | Max<br>(V) | mA              | Ω                                | Ω                                | mA  | μA                             | V    |                     |
| SMAZ3V6          | ZHG             | 3.6                             | 3.42       | 3.78       | 100             | 2.0                              | 250                              | 1.0 | 2.5                            | 1.0  | 230                 |
| SMAZ3V9          | ZHI             | 3.9                             | 3.71       | 4.10       | 100             | 2.0                              | 250                              | 1.0 | 2.5                            | 1.0  | 213                 |
| SMAZ5V1          | ZHK             | 5.1                             | 4.84       | 5.40       | 100             | 5.0                              | 500                              | 1.0 | 2.5                            | 1.0  | 196                 |
| SMAZ5V6          | ZHL             | 5.6                             | 5.32       | 5.88       | 100             | 2.0                              | 250                              | 2.0 | 5.0                            | 2.0  | 179                 |
| SMAZ6V2          | ZHN             | 6.2                             | 5.89       | 6.51       | 100             | 2.0                              | 200                              | 2.0 | 5.0                            | 3.0  | 161                 |
| SMAZ6V8          | ZHO             | 6.8                             | 6.46       | 7.14       | 100             | 2.0                              | 200                              | 1.0 | 5.0                            | 4.0  | 147                 |
| SMAZ7V5          | ZHQ             | 7.5                             | 7.13       | 7.88       | 100             | 2.0                              | 450                              | 1.0 | 5.0                            | 5.0  | 133                 |
| SMAZ8V2          | ZHR             | 8.2                             | 7.79       | 8.61       | 100             | 2.0                              | 200                              | 1.0 | 5.0                            | 6.0  | 122                 |
| SMAZ9V1          | ZHT             | 9.1                             | 8.65       | 9.56       | 50              | 4.0                              | 200                              | 1.0 | 5.0                            | 7.0  | 110                 |
| SMAZ10           | ZHU             | 10                              | 9.50       | 10.50      | 50              | 4.0                              | 200                              | 1.0 | 1.0                            | 7.6  | 100                 |
| SMAZ12           | ZHW             | 12                              | 11.40      | 12.60      | 50              | 7.0                              | 150                              | 1.0 | 1.0                            | 9.1  | 83                  |
| SMAZ15           | ZHZ             | 15                              | 14.25      | 15.75      | 50              | 10                               | 150                              | 1.0 | 1.0                            | 11.4 | 67                  |
| SMAZ16           | ZJA             | 16                              | 15.20      | 16.80      | 25              | 15                               | 150                              | 1.0 | 0.5                            | 12.2 | 63                  |
| SMAZ18           | ZJF             | 18                              | 17.10      | 18.90      | 25              | 15                               | 150                              | 1.0 | 0.5                            | 13.7 | 56                  |
| SMAZ20           | ZJG             | 20                              | 19.00      | 21.00      | 25              | 15                               | 180                              | 1.0 | 0.5                            | 15.2 | 50                  |
| SMAZ22           | ZJK             | 22                              | 20.90      | 23.10      | 25              | 15                               | 180                              | 1.0 | 0.5                            | 16.7 | 45                  |
| SMAZ24           | ZJL             | 24                              | 22.80      | 25.20      | 25              | 15                               | 180                              | 1.0 | 0.5                            | 18.2 | 42                  |
| SMAZ27           | ZJN             | 27                              | 25.65      | 28.35      | 25              | 15                               | 200                              | 1.0 | 0.5                            | 20.5 | 37                  |
| SMAZ30           | ZJQ             | 30                              | 28.50      | 31.50      | 25              | 15                               | 250                              | 1.0 | 0.5                            | 22.8 | 33                  |
| SMAZ33           | ZJR             | 33                              | 31.35      | 34.65      | 25              | 15                               | 300                              | 1.0 | 0.5                            | 25.1 | 30                  |
| SMAZ36           | ZJS             | 36                              | 34.20      | 37.80      | 10              | 40                               | 350                              | 1.0 | 0.5                            | 27.4 | 28                  |
| SMAZ39           | ZJT             | 39                              | 37.05      | 40.95      | 10              | 40                               | 450                              | 1.0 | 0.5                            | 29.6 | 26                  |
| SMAZ47           | ZJV             | 47                              | 44.65      | 49.35      | 10              | 45                               | 600                              | 1.0 | 0.5                            | 35.7 | 21                  |
| SMAZ68           | ZKM             | 68                              | 64.60      | 71.40      | 10              | 80                               | 1000                             | 1.0 | 0.5                            | 47.1 | 15                  |
| SMAZ100          | ZKQ             | 100                             | 95.00      | 105.00     | 5.0             | 200                              | 2000                             | 1.0 | 0.5                            | 75   | 10                  |
| SMAZ150          | ZKR             | 150                             | 142.50     | 157.50     | 5.0             | 300                              | 4000                             | 0.5 | 0.5                            | 114  | 7.0                 |
| SMAZ200          | ZKW             | 200                             | 190.00     | 210.00     | 5.0             | 350                              | 6000                             | 0.5 | 0.5                            | 152  | 5.0                 |

Notes:

1. Short duration test pulse used to minimize self-heating effect.
2. Zener voltage below 5.1V available upon request.



### Ratings and Characteristic Curves (@ $T_A=25^\circ\text{C}$ unless otherwise noted)

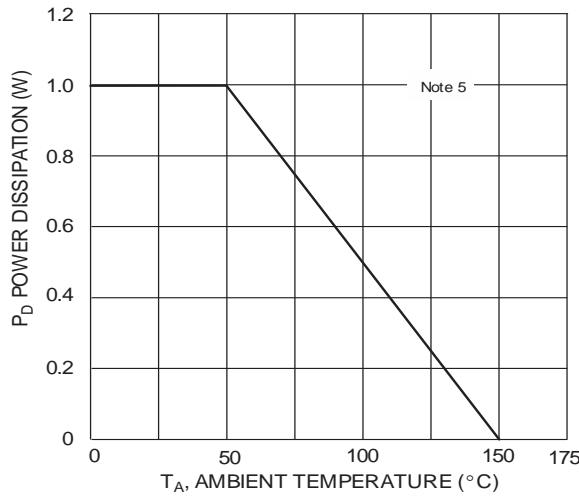


Fig. 1 Power Dissipation vs. Ambient Temperature

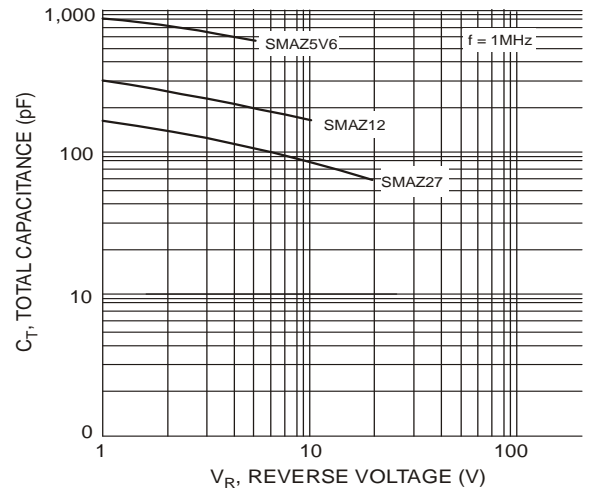


Fig. 2 Typical Total Capacitance vs. Reverse Voltage

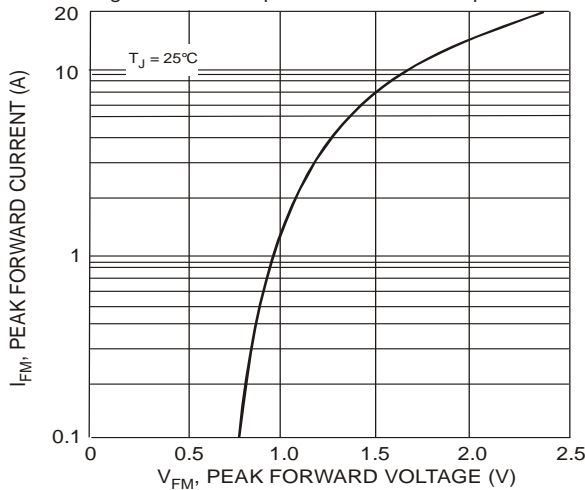


Fig. 3 Peak Forward Current vs. Peak Forward Voltage

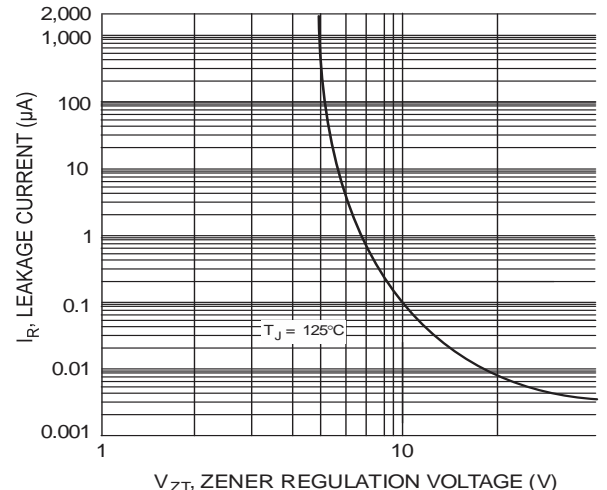


Fig. 4 Leakage Current vs. Regulation Voltage

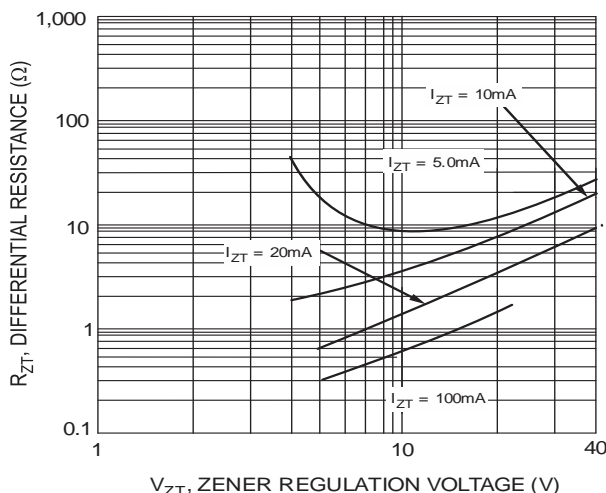


Fig. 5 Differential Resistance vs. Regulation Voltage

| PACKAGE | SPQ/PCS   | CARTON SPQ/PCS | CARTON SIZE/CM | CARTON GW/KG | CARTON NW/KG |
|---------|-----------|----------------|----------------|--------------|--------------|
| SMA     | 5000/REEL | 80000          | 36X30.6X31     | 12.00        | 11.00        |