

# SZ103D - SZ10D0

## SURFACE MOUNT SILICON ZENER DIODES

**V<sub>z</sub> : 3.3 - 200 Volts**

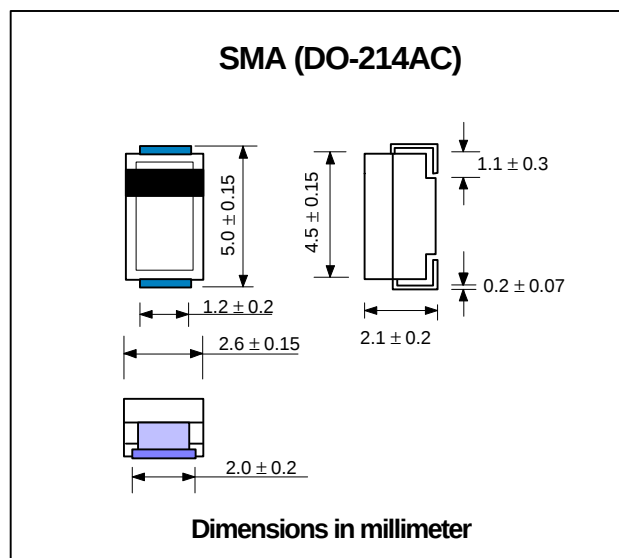
**P<sub>D</sub> : 1 Watt**

### FEATURES :

- \* Complete Voltage Range 3.3 to 200 Volts
- \* High peak reverse power dissipation
- \* High reliability
- \* Low leakage current

### 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



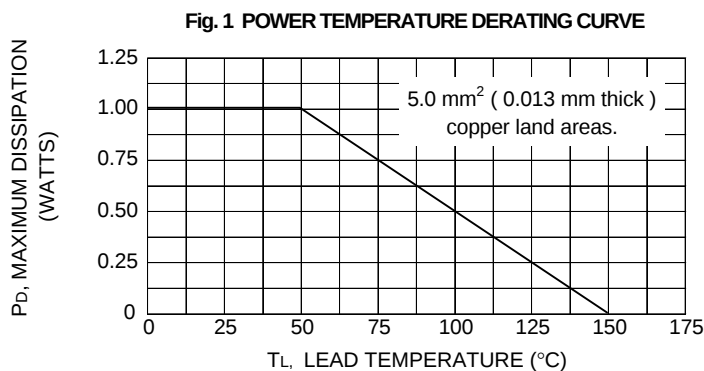
### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                                 | Symbol         | Value         | Unit  |
|--------------------------------------------------------|----------------|---------------|-------|
| DC Power Dissipation at T <sub>L</sub> = 50 °C (Note1) | P <sub>D</sub> | 1.0           | Watt  |
| Maximum Forward Voltage at I <sub>F</sub> = 200 mA     | V <sub>F</sub> | 1.2           | Volts |
| Junction Temperature Range                             | T <sub>J</sub> | - 55 to + 150 | °C    |
| Storage Temperature Range                              | T <sub>S</sub> | - 55 to + 150 | °C    |

#### Note :

(1) T<sub>L</sub> = Lead temperature at 5.0 mm<sup>2</sup> ( 0.013 mm thick ) copper land areas.



UPDATE : SEPTEMBER 9, 2000

## ELECTRICAL CHARACTERISTICS

Rating at = 25 °C ambient temperature unless otherwise specified

| TYPE   | Nominal Zener Voltage            |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |       | Maximum DC Zener Current |
|--------|----------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------|---------------------------------|-------|--------------------------|
|        | V <sub>Z</sub> @ I <sub>ZT</sub> | I <sub>ZT</sub> | Z <sub>KT</sub> @ I <sub>ZT</sub> | Z <sub>KK</sub> @ I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |       | I <sub>ZM</sub>          |
|        | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)   | (mA)                     |
| SZ103D | 3.3                              | 76.0            | 10                                | 400                               | 1.0             | 100                             | 1.0   | 276                      |
| SZ103G | 3.6                              | 69.0            | 10                                | 400                               | 1.0             | 100                             | 1.0   | 252                      |
| SZ103J | 3.9                              | 64.0            | 9.0                               | 400                               | 1.0             | 50                              | 1.0   | 234                      |
| SZ104D | 4.3                              | 58.0            | 9.0                               | 400                               | 1.0             | 10                              | 1.0   | 217                      |
| SZ104H | 4.7                              | 53.0            | 8.0                               | 500                               | 1.0             | 10                              | 1.0   | 193                      |
| SZ105B | 5.1                              | 49.0            | 7.0                               | 550                               | 1.0             | 10                              | 1.0   | 178                      |
| SZ105G | 5.6                              | 45.0            | 5.0                               | 600                               | 1.0             | 10                              | 2.0   | 162                      |
| SZ106C | 6.2                              | 41.0            | 2.0                               | 700                               | 1.0             | 10                              | 3.0   | 146                      |
| SZ106I | 6.8                              | 37.0            | 3.5                               | 700                               | 1.0             | 50                              | 4.0   | 133                      |
| SZ107F | 7.5                              | 34.0            | 4.0                               | 700                               | 0.5             | 50                              | 5.0   | 121                      |
| SZ108C | 8.2                              | 31.0            | 4.5                               | 700                               | 0.5             | 50                              | 6.0   | 110                      |
| SZ109B | 9.1                              | 28.0            | 5.0                               | 700                               | 0.5             | 50                              | 7.0   | 100                      |
| SZ1010 | 10                               | 25.0            | 7.0                               | 700                               | 0.25            | 50                              | 7.6   | 91                       |
| SZ1011 | 11                               | 23.0            | 8.0                               | 700                               | 0.25            | 50                              | 8.4   | 83                       |
| SZ1012 | 12                               | 21.0            | 9.0                               | 700                               | 0.25            | 5.0                             | 9.1   | 76                       |
| SZ1013 | 13                               | 19.0            | 10                                | 700                               | 0.25            | 5.0                             | 9.9   | 69                       |
| SZ1015 | 15                               | 17.0            | 14                                | 700                               | 0.25            | 5.0                             | 11.4  | 61                       |
| SZ1016 | 16                               | 15.5            | 16                                | 700                               | 0.25            | 5.0                             | 12.2  | 57                       |
| SZ1018 | 18                               | 14.0            | 20                                | 750                               | 0.25            | 5.0                             | 13.7  | 50                       |
| SZ1020 | 20                               | 12.5            | 22                                | 750                               | 0.25            | 5.0                             | 15.2  | 45                       |
| SZ1022 | 22                               | 11.5            | 23                                | 750                               | 0.25            | 5.0                             | 16.7  | 41                       |
| SZ1024 | 24                               | 10.5            | 25                                | 750                               | 0.25            | 5.0                             | 18.2  | 38                       |
| SZ1027 | 27                               | 9.5             | 35                                | 750                               | 0.25            | 5.0                             | 20.6  | 34                       |
| SZ1030 | 30                               | 8.5             | 40                                | 1000                              | 0.25            | 5.0                             | 22.8  | 30                       |
| SZ1033 | 33                               | 7.5             | 45                                | 1000                              | 0.25            | 5.0                             | 25.1  | 27                       |
| SZ1036 | 36                               | 7.0             | 50                                | 1000                              | 0.25            | 5.0                             | 27.4  | 25                       |
| SZ1039 | 39                               | 6.5             | 60                                | 1000                              | 0.25            | 5.0                             | 29.7  | 23                       |
| SZ1043 | 43                               | 6.0             | 70                                | 1500                              | 0.25            | 5.0                             | 32.7  | 22                       |
| SZ1047 | 47                               | 5.5             | 80                                | 1500                              | 0.25            | 5.0                             | 35.8  | 19                       |
| SZ1051 | 51                               | 5.0             | 95                                | 1500                              | 0.25            | 5.0                             | 38.8  | 18                       |
| SZ1056 | 56                               | 4.5             | 110                               | 2000                              | 0.25            | 5.0                             | 42.6  | 16                       |
| SZ1062 | 62                               | 4.0             | 125                               | 2000                              | 0.25            | 5.0                             | 47.1  | 14                       |
| SZ1068 | 68                               | 3.7             | 150                               | 2000                              | 0.25            | 5.0                             | 51.7  | 13                       |
| SZ1075 | 75                               | 3.3             | 175                               | 2000                              | 0.25            | 5.0                             | 56.0  | 12                       |
| SZ1082 | 82                               | 3.0             | 200                               | 3000                              | 0.25            | 5.0                             | 62.2  | 11                       |
| SZ1091 | 91                               | 2.8             | 250                               | 3000                              | 0.25            | 5.0                             | 69.2  | 10                       |
| SZ10B0 | 100                              | 2.5             | 350                               | 3000                              | 0.25            | 5.0                             | 76.0  | 9.0                      |
| SZ10B1 | 110                              | 2.3             | 450                               | 4000                              | 0.25            | 5.0                             | 83.6  | 8.6                      |
| SZ10B2 | 120                              | 2.0             | 550                               | 4500                              | 0.25            | 5.0                             | 91.2  | 7.8                      |
| SZ10B3 | 130                              | 1.9             | 700                               | 5000                              | 0.25            | 5.0                             | 98.8  | 7.0                      |
| SZ10B5 | 150                              | 1.7             | 1000                              | 6000                              | 0.25            | 5.0                             | 114.0 | 6.4                      |
| SZ10B6 | 160                              | 1.6             | 1100                              | 6500                              | 0.25            | 5.0                             | 121.6 | 5.8                      |
| SZ10B8 | 180                              | 1.4             | 1200                              | 7000                              | 0.25            | 5.0                             | 136.8 | 5.2                      |
| SZ10D0 | 200                              | 1.2             | 1500                              | 8000                              | 0.25            | 5.0                             | 152.0 | 4.7                      |

### Note :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 10\%$ , altered the fourth number of type from "0" for  $\pm 10\%$  tolerance to be "5" for  $\pm 5.0\%$  tolerance.
- (2) "SZ" will be omitted in marking on the diode.