

# SZ103D - SZ10D0

# SURFACE MOUNT SILICON ZENER DIODES

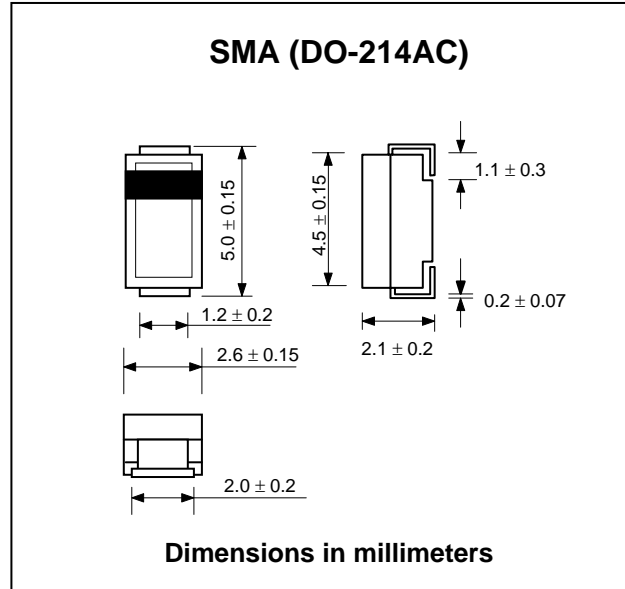
**V<sub>Z</sub> : 3.3 - 200 Volts**  
**P<sub>D</sub> : 1 Watt**

### FEATURES :

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

### 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



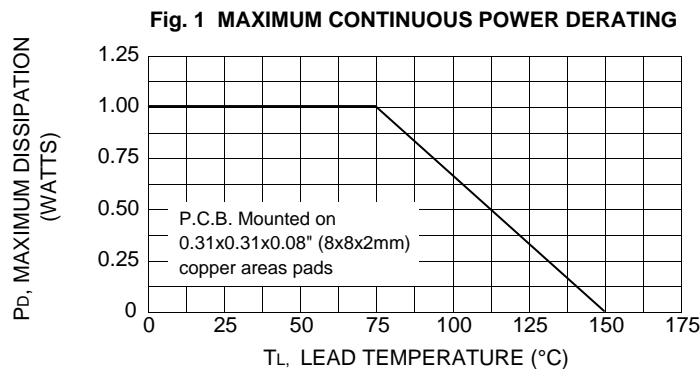
### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating   | Symbol         | Value         | Unit |
|--|----------------|---------------|------|
| DC Power Dissipation at T <sub>L</sub> = 75 °C (Note1) | P <sub>D</sub> | 1.0           | W    |
| Maximum Forward Voltage at I <sub>F</sub> = 200 mA     | V <sub>F</sub> | 1.2           | V    |
| Junction Temperature Range                             | T <sub>J</sub> | - 55 to + 150 | °C   |
| Storage Temperature Range                              | T <sub>s</sub> | - 55 to + 150 | °C   |

**Note :**

(1) P.C.B. Mounted on 0.31x0.31x0.08" (8x8x2mm) copper areas pads.





**ELECTRICAL CHARACTERISTICS** (Ta = 25 °C unless otherwise specified)

| Type   | Nominal Zener Voltage   |      | Maximum Zener Impedance |           |      | Maximum Reverse Leakage Current |       | Maximum DC Zener Current | Maximum Surge Current |
|--------|-------------------------|------|-------------------------|-----------|------|---------------------------------|-------|--------------------------|-----------------------|
|        | Vz <sup>(1)</sup> @ IZT | IZT  | ZzT @ IZT               | Zzk @ Izk | Izk  | IR @ VR                         |       | IzM                      | IRM <sup>(2)</sup>    |
|        | (V)                     | (mA) | (Ω)                     | (Ω)       | (mA) | (μA)                            | (V)   | (mA)                     | (mApk)                |
| SZ103D | 3.3                     | 76.0 | 10                      | 400       | 1.0  | 100                             | 1.0   | 276                      | 1380                  |
| SZ103G | 3.6                     | 69.0 | 10                      | 400       | 1.0  | 100                             | 1.0   | 252                      | 1260                  |
| SZ103J | 3.9                     | 64.0 | 9.0                     | 400       | 1.0  | 50                              | 1.0   | 234                      | 1190                  |
| SZ104D | 4.3                     | 58.0 | 9.0                     | 400       | 1.0  | 10                              | 1.0   | 217                      | 1070                  |
| SZ104H | 4.7                     | 53.0 | 8.0                     | 500       | 1.0  | 10                              | 1.0   | 193                      | 970                   |
| SZ105B | 5.1                     | 49.0 | 7.0                     | 550       | 1.0  | 10                              | 1.0   | 178                      | 890                   |
| SZ105G | 5.6                     | 45.0 | 5.0                     | 600       | 1.0  | 10                              | 2.0   | 162                      | 810                   |
| SZ106C | 6.2                     | 41.0 | 2.0                     | 700       | 1.0  | 10                              | 3.0   | 146                      | 730                   |
| SZ106I | 6.8                     | 37.0 | 3.5                     | 700       | 1.0  | 10                              | 4.0   | 133                      | 660                   |
| SZ107F | 7.5                     | 34.0 | 4.0                     | 700       | 0.5  | 10                              | 5.0   | 121                      | 605                   |
| SZ108C | 8.2                     | 31.0 | 4.5                     | 700       | 0.5  | 10                              | 6.0   | 110                      | 550                   |
| SZ109B | 9.1                     | 28.0 | 5.0                     | 700       | 0.5  | 10                              | 7.0   | 100                      | 500                   |
| SZ1010 | 10                      | 25.0 | 7.0                     | 700       | 0.25 | 10                              | 7.6   | 91                       | 454                   |
| SZ1011 | 11                      | 23.0 | 8.0                     | 700       | 0.25 | 5.0                             | 8.4   | 83                       | 414                   |
| SZ1012 | 12                      | 21.0 | 9.0                     | 700       | 0.25 | 5.0                             | 9.1   | 76                       | 380                   |
| SZ1013 | 13                      | 19.0 | 10                      | 700       | 0.25 | 5.0                             | 9.9   | 69                       | 344                   |
| SZ1015 | 15                      | 17.0 | 14                      | 700       | 0.25 | 5.0                             | 11.4  | 61                       | 305                   |
| SZ1016 | 16                      | 15.5 | 16                      | 700       | 0.25 | 5.0                             | 12.2  | 57                       | 285                   |
| SZ1018 | 18                      | 14.0 | 20                      | 750       | 0.25 | 5.0                             | 13.7  | 50                       | 250                   |
| SZ1020 | 20                      | 12.5 | 22                      | 750       | 0.25 | 5.0                             | 15.2  | 45                       | 225                   |
| SZ1022 | 22                      | 11.5 | 23                      | 750       | 0.25 | 5.0                             | 16.7  | 41                       | 205                   |
| SZ1024 | 24                      | 10.5 | 25                      | 750       | 0.25 | 5.0                             | 18.2  | 38                       | 190                   |
| SZ1027 | 27                      | 9.5  | 35                      | 750       | 0.25 | 5.0                             | 20.6  | 34                       | 170                   |
| SZ1030 | 30                      | 8.5  | 40                      | 1000      | 0.25 | 5.0                             | 22.8  | 30                       | 150                   |
| SZ1033 | 33                      | 7.5  | 45                      | 1000      | 0.25 | 5.0                             | 25.1  | 27                       | 135                   |
| SZ1036 | 36                      | 7.0  | 50                      | 1000      | 0.25 | 5.0                             | 27.4  | 25                       | 125                   |
| SZ1039 | 39                      | 6.5  | 60                      | 1000      | 0.25 | 5.0                             | 29.7  | 23                       | 115                   |
| SZ1043 | 43                      | 6.0  | 70                      | 1500      | 0.25 | 5.0                             | 32.7  | 22                       | 110                   |
| SZ1047 | 47                      | 5.5  | 80                      | 1500      | 0.25 | 5.0                             | 35.8  | 19                       | 95                    |
| SZ1051 | 51                      | 5.0  | 95                      | 1500      | 0.25 | 5.0                             | 38.8  | 18                       | 90                    |
| SZ1056 | 56                      | 4.5  | 110                     | 2000      | 0.25 | 5.0                             | 42.6  | 16                       | 80                    |
| SZ1062 | 62                      | 4.0  | 125                     | 2000      | 0.25 | 5.0                             | 47.1  | 14                       | 70                    |
| SZ1068 | 68                      | 3.7  | 150                     | 2000      | 0.25 | 5.0                             | 51.7  | 13                       | 65                    |
| SZ1075 | 75                      | 3.3  | 175                     | 2000      | 0.25 | 5.0                             | 56.0  | 12                       | 60                    |
| SZ1082 | 82                      | 3.0  | 200                     | 3000      | 0.25 | 5.0                             | 62.2  | 11                       | 55                    |
| SZ1091 | 91                      | 2.8  | 250                     | 3000      | 0.25 | 5.0                             | 69.2  | 10                       | 50                    |
| SZ10B0 | 100                     | 2.5  | 350                     | 3000      | 0.25 | 5.0                             | 76.0  | 9.0                      | 45                    |
| SZ10B1 | 110                     | 2.3  | 450                     | 4000      | 0.25 | 5.0                             | 83.6  | 8.6                      | 40                    |
| SZ10B2 | 120                     | 2.0  | 550                     | 4500      | 0.25 | 5.0                             | 91.2  | 7.8                      | 37                    |
| SZ10B3 | 130                     | 1.9  | 700                     | 5000      | 0.25 | 5.0                             | 98.8  | 7.0                      | 34                    |
| SZ10B5 | 150                     | 1.7  | 1000                    | 6000      | 0.25 | 5.0                             | 114.0 | 6.4                      | 30                    |
| SZ10B6 | 160                     | 1.6  | 1100                    | 6500      | 0.25 | 5.0                             | 121.6 | 5.8                      | 28                    |
| SZ10B8 | 180                     | 1.4  | 1200                    | 7000      | 0.25 | 5.0                             | 136.8 | 5.2                      | 25                    |
| SZ10D0 | 200                     | 1.2  | 1900                    | 9990      | 0.25 | 5.0                             | 152.0 | 4.7                      | 22                    |

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of ±10%, altered the fourth number of type from " 0 " for ±10% tolerance to be " 5 " for ±5.0% tolerance.
- (2) Surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC Method
- (3) " SZ " will be omitted in marking on the diode.