

# SZ153D-Q - SZ15D0-Q SURFACE MOUNT SILICON ZENER DIODES

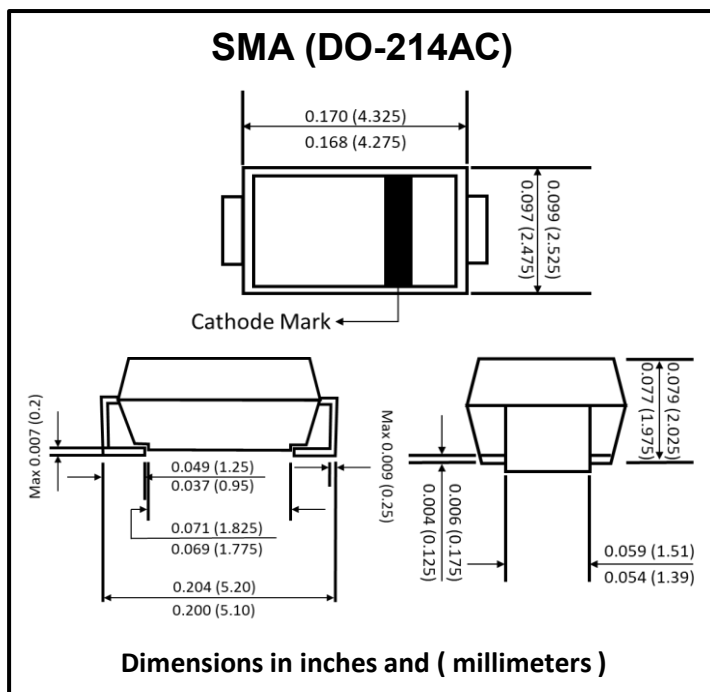
**V<sub>Z</sub> : 3.3 - 200 Volts**  
**P<sub>D</sub> : 1 Watt**

## FEATURES :

- \* AEC-Q101 Qualified
- \* 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



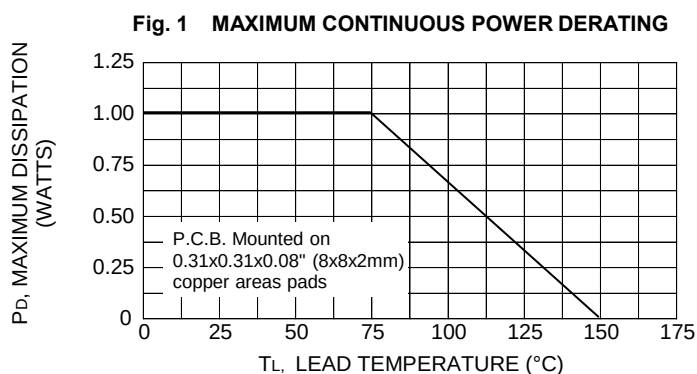
## MAXIMUM RATINGS

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

Rating at 25 °C ambient temperature unless otherwise specified

| Type     | Nominal Zener Voltage                           |                 | Maximum Zener Impedance           |                                   |                 | Maximum Reverse Leakage Current |       | Maximum DC Zener Current | Maximum Surge Current          |
|----------|-------------------------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------|---------------------------------|-------|--------------------------|--------------------------------|
|          | V <sub>Z</sub> <sup>(1)</sup> @ 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>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |       | I <sub>ZM</sub>          | I <sub>RM</sub> <sup>(2)</sup> |
|          | (V)                                             | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)   | (mA)                     | (mA <sub>pk</sub> )            |
| SZ153D-Q | 3.3                                             | 76.0            | 10                                | 400                               | 1.0             | 100                             | 1.0   | 276                      | 1380                           |
| SZ153G-Q | 3.6                                             | 69.0            | 10                                | 400                               | 1.0             | 100                             | 1.0   | 252                      | 1260                           |
| SZ153J-Q | 3.9                                             | 64.0            | 9.0                               | 400                               | 1.0             | 50                              | 1.0   | 234                      | 1190                           |
| SZ154D-Q | 4.3                                             | 58.0            | 9.0                               | 400                               | 1.0             | 10                              | 1.0   | 217                      | 1070                           |
| SZ154H-Q | 4.7                                             | 53.0            | 8.0                               | 500                               | 1.0             | 10                              | 1.0   | 193                      | 970                            |
| SZ155B-Q | 5.1                                             | 49.0            | 7.0                               | 550                               | 1.0             | 10                              | 1.0   | 178                      | 890                            |
| SZ155G-Q | 5.6                                             | 45.0            | 5.0                               | 600                               | 1.0             | 10                              | 2.0   | 162                      | 810                            |
| SZ156C-Q | 6.2                                             | 41.0            | 2.0                               | 700                               | 1.0             | 10                              | 3.0   | 146                      | 730                            |
| SZ156I-Q | 6.8                                             | 37.0            | 3.5                               | 700                               | 1.0             | 10                              | 4.0   | 133                      | 660                            |
| SZ157F-Q | 7.5                                             | 34.0            | 4.0                               | 700                               | 0.5             | 10                              | 5.0   | 121                      | 605                            |
| SZ158C-Q | 8.2                                             | 31.0            | 4.5                               | 700                               | 0.5             | 10                              | 6.0   | 110                      | 550                            |
| SZ159B-Q | 9.1                                             | 28.0            | 5.0                               | 700                               | 0.5             | 10                              | 7.0   | 100                      | 500                            |
| SZ1510-Q | 10                                              | 25.0            | 7.0                               | 700                               | 0.25            | 10                              | 7.6   | 91                       | 454                            |
| SZ1511-Q | 11                                              | 23.0            | 8.0                               | 700                               | 0.25            | 5.0                             | 8.4   | 83                       | 414                            |
| SZ1512-Q | 12                                              | 21.0            | 9.0                               | 700                               | 0.25            | 5.0                             | 9.1   | 76                       | 380                            |
| SZ1513-Q | 13                                              | 19.0            | 10                                | 700                               | 0.25            | 5.0                             | 9.9   | 69                       | 344                            |
| SZ1515-Q | 15                                              | 17.0            | 14                                | 700                               | 0.25            | 5.0                             | 11.4  | 61                       | 305                            |
| SZ1516-Q | 16                                              | 15.5            | 16                                | 700                               | 0.25            | 5.0                             | 12.2  | 57                       | 285                            |
| SZ1518-Q | 18                                              | 14.0            | 20                                | 750                               | 0.25            | 5.0                             | 13.7  | 50                       | 250                            |
| SZ1520-Q | 20                                              | 12.5            | 22                                | 750                               | 0.25            | 5.0                             | 15.2  | 45                       | 225                            |
| SZ1522-Q | 22                                              | 11.5            | 23                                | 750                               | 0.25            | 5.0                             | 16.7  | 41                       | 205                            |
| SZ1524-Q | 24                                              | 10.5            | 25                                | 750                               | 0.25            | 5.0                             | 18.2  | 38                       | 190                            |
| SZ1527-Q | 27                                              | 9.5             | 35                                | 750                               | 0.25            | 5.0                             | 20.6  | 34                       | 170                            |
| SZ1530-Q | 30                                              | 8.5             | 40                                | 1000                              | 0.25            | 5.0                             | 22.8  | 30                       | 150                            |
| SZ1533-Q | 33                                              | 7.5             | 45                                | 1000                              | 0.25            | 5.0                             | 25.1  | 27                       | 135                            |
| SZ1536-Q | 36                                              | 7.0             | 50                                | 1000                              | 0.25            | 5.0                             | 27.4  | 25                       | 125                            |
| SZ1539-Q | 39                                              | 6.5             | 60                                | 1000                              | 0.25            | 5.0                             | 29.7  | 23                       | 115                            |
| SZ1543-Q | 43                                              | 6.0             | 70                                | 1500                              | 0.25            | 5.0                             | 32.7  | 22                       | 110                            |
| SZ1547-Q | 47                                              | 5.5             | 80                                | 1500                              | 0.25            | 5.0                             | 35.8  | 19                       | 95                             |
| SZ1551-Q | 51                                              | 5.0             | 95                                | 1500                              | 0.25            | 5.0                             | 38.8  | 18                       | 90                             |
| SZ1556-Q | 56                                              | 4.5             | 110                               | 2000                              | 0.25            | 5.0                             | 42.6  | 16                       | 80                             |
| SZ1562-Q | 62                                              | 4.0             | 125                               | 2000                              | 0.25            | 5.0                             | 47.1  | 14                       | 70                             |
| SZ1568-Q | 68                                              | 3.7             | 150                               | 2000                              | 0.25            | 5.0                             | 51.7  | 13                       | 65                             |
| SZ1575-Q | 75                                              | 3.3             | 175                               | 2000                              | 0.25            | 5.0                             | 56.0  | 12                       | 60                             |
| SZ1582-Q | 82                                              | 3.0             | 200                               | 3000                              | 0.25            | 5.0                             | 62.2  | 11                       | 55                             |
| SZ1591-Q | 91                                              | 2.8             | 250                               | 3000                              | 0.25            | 5.0                             | 69.2  | 10                       | 50                             |
| SZ15B0-Q | 100                                             | 2.5             | 350                               | 3000                              | 0.25            | 5.0                             | 76.0  | 9.0                      | 45                             |
| SZ15B1-Q | 110                                             | 2.3             | 450                               | 4000                              | 0.25            | 5.0                             | 83.6  | 8.6                      | 40                             |
| SZ15B2-Q | 120                                             | 2.0             | 550                               | 4500                              | 0.25            | 5.0                             | 91.2  | 7.8                      | 37                             |
| SZ15B3-Q | 130                                             | 1.9             | 700                               | 5000                              | 0.25            | 5.0                             | 98.8  | 7.0                      | 34                             |
| SZ15B5-Q | 150                                             | 1.7             | 1000                              | 6000                              | 0.25            | 5.0                             | 114.0 | 6.4                      | 30                             |
| SZ15B6-Q | 160                                             | 1.6             | 1100                              | 6500                              | 0.25            | 5.0                             | 121.6 | 5.8                      | 28                             |
| SZ15B8-Q | 180                                             | 1.4             | 1200                              | 7000                              | 0.25            | 5.0                             | 136.8 | 5.2                      | 25                             |
| SZ15D0-Q | 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 ±5%, altered the fourth number of type from " 5 " for ±5% tolerance to be " 0 " for ±10% tolerance.
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I<sub>ZT</sub> per JEDEC Method
- (3) " SZ " will be omitted in marking on the diode.