Certificate Number: Q10561

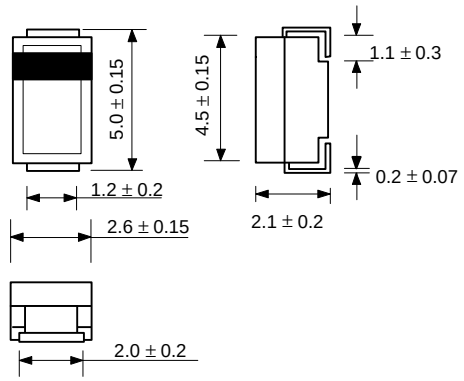
Certificate Number: E17276

# SZ153D - SZ15D0

# SURFACE MOUNT SILICON ZENER DIODES

## $V_Z$ : 3.3 - 200 Volts
## $P_D$ : 1 Watt

**SMA (DO-214AC)**




**Dimensions in millimeter**

### 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

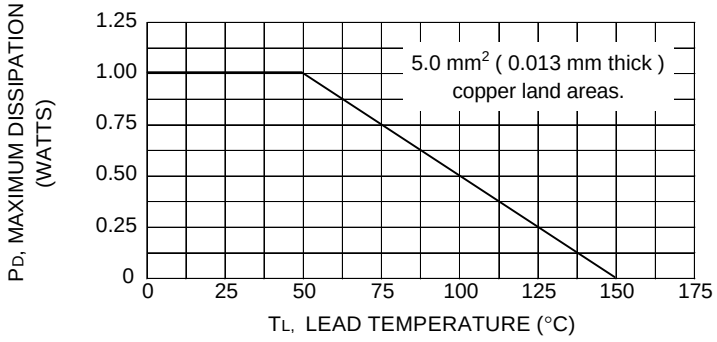
Rating at 25 °C ambient temperature unless otherwise specified

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| DC Power Dissipation at $T_L$ = 50 °C (Note1) | $P_D$ | 1.0 | W |
| Maximum Forward Voltage at $I_F$ = 200 mA | $V_F$ | 1.2 | V |
| Junction Temperature Range | $T_J$ | - 55 to + 150 | °C |
| Storage Temperature Range | Ts | - 55 to + 150 | °C |

**Note :**

(1) $T_L$ = Lead temperature at 5.0 $mm^2$ ( 0.013 mm thick ) copper land areas.

**Fig. 1 POWER TEMPERATURE DERATING CURVE**



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# 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 |
|---|---|---|---|---|---|---|---|---|
| | $V_Z$ @ $I_{ZT}$ | $I_{ZT}$ | $Z_{ZT}$ @ $I_{ZT}$ | $Z_{ZK}$ @ $I_{ZK}$ | $I_{ZK}$ | $I_R$ @ $V_R$ | | $I_{ZM}$ |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | (mA) |
| **SZ153D** | 3.3 | 76.0 | 10 | 400 | 1.0 | 100 | 1.0 | 276 |
| **SZ153G** | 3.6 | 69.0 | 10 | 400 | 1.0 | 100 | 1.0 | 252 |
| **SZ153J** | 3.9 | 64.0 | 9.0 | 400 | 1.0 | 50 | 1.0 | 234 |
| **SZ154D** | 4.3 | 58.0 | 9.0 | 400 | 1.0 | 10 | 1.0 | 217 |
| **SZ154H** | 4.7 | 53.0 | 8.0 | 500 | 1.0 | 10 | 1.0 | 193 |
| **SZ155B** | 5.1 | 49.0 | 7.0 | 550 | 1.0 | 10 | 1.0 | 178 |
| **SZ155G** | 5.6 | 45.0 | 5.0 | 600 | 1.0 | 10 | 2.0 | 162 |
| **SZ156C** | 6.2 | 41.0 | 2.0 | 700 | 1.0 | 10 | 3.0 | 146 |
| **SZ156I** | 6.8 | 37.0 | 3.5 | 700 | 1.0 | 50 | 4.0 | 133 |
| **SZ157F** | 7.5 | 34.0 | 4.0 | 700 | 0.5 | 50 | 5.0 | 121 |
| **SZ158C** | 8.2 | 31.0 | 4.5 | 700 | 0.5 | 50 | 6.0 | 110 |
| **SZ159B** | 9.1 | 28.0 | 5.0 | 700 | 0.5 | 50 | 7.0 | 100 |
| **SZ1510** | 10 | 25.0 | 7.0 | 700 | 0.25 | 50 | 7.6 | 91 |
| **SZ1511** | 11 | 23.0 | 8.0 | 700 | 0.25 | 50 | 8.4 | 83 |
| **SZ1512** | 12 | 21.0 | 9.0 | 700 | 0.25 | 5.0 | 9.1 | 76 |
| **SZ1513** | 13 | 19.0 | 10 | 700 | 0.25 | 5.0 | 9.9 | 69 |
| **SZ1515** | 15 | 17.0 | 14 | 700 | 0.25 | 5.0 | 11.4 | 61 |
| **SZ1516** | 16 | 15.5 | 16 | 700 | 0.25 | 5.0 | 12.2 | 57 |
| **SZ1518** | 18 | 14.0 | 20 | 750 | 0.25 | 5.0 | 13.7 | 50 |
| **SZ1520** | 20 | 12.5 | 22 | 750 | 0.25 | 5.0 | 15.2 | 45 |
| **SZ1522** | 22 | 11.5 | 23 | 750 | 0.25 | 5.0 | 16.7 | 41 |
| **SZ1524** | 24 | 10.5 | 25 | 750 | 0.25 | 5.0 | 18.2 | 38 |
| **SZ1527** | 27 | 9.5 | 35 | 750 | 0.25 | 5.0 | 20.6 | 34 |
| **SZ1530** | 30 | 8.5 | 40 | 1000 | 0.25 | 5.0 | 22.8 | 30 |
| **SZ1533** | 33 | 7.5 | 45 | 1000 | 0.25 | 5.0 | 25.1 | 27 |
| **SZ1536** | 36 | 7.0 | 50 | 1000 | 0.25 | 5.0 | 27.4 | 25 |
| **SZ1539** | 39 | 6.5 | 60 | 1000 | 0.25 | 5.0 | 29.7 | 23 |
| **SZ1543** | 43 | 6.0 | 70 | 1500 | 0.25 | 5.0 | 32.7 | 22 |
| **SZ1547** | 47 | 5.5 | 80 | 1500 | 0.25 | 5.0 | 35.8 | 19 |
| **SZ1551** | 51 | 5.0 | 95 | 1500 | 0.25 | 5.0 | 38.8 | 18 |
| **SZ1556** | 56 | 4.5 | 110 | 2000 | 0.25 | 5.0 | 42.6 | 16 |
| **SZ1562** | 62 | 4.0 | 125 | 2000 | 0.25 | 5.0 | 47.1 | 14 |
| **SZ1568** | 68 | 3.7 | 150 | 2000 | 0.25 | 5.0 | 51.7 | 13 |
| **SZ1575** | 75 | 3.3 | 175 | 2000 | 0.25 | 5.0 | 56.0 | 12 |
| **SZ1582** | 82 | 3.0 | 200 | 3000 | 0.25 | 5.0 | 62.2 | 11 |
| **SZ1591** | 91 | 2.8 | 250 | 3000 | 0.25 | 5.0 | 69.2 | 10 |
| **SZ15B0** | 100 | 2.5 | 350 | 3000 | 0.25 | 5.0 | 76.0 | 9.0 |
| **SZ15B1** | 110 | 2.3 | 450 | 4000 | 0.25 | 5.0 | 83.6 | 8.6 |
| **SZ15B2** | 120 | 2.0 | 550 | 4500 | 0.25 | 5.0 | 91.2 | 7.8 |
| **SZ15B3** | 130 | 1.9 | 700 | 5000 | 0.25 | 5.0 | 98.8 | 7.0 |
| **SZ15B5** | 150 | 1.7 | 1000 | 6000 | 0.25 | 5.0 | 114.0 | 6.4 |
| **SZ15B6** | 160 | 1.6 | 1100 | 6500 | 0.25 | 5.0 | 121.6 | 5.8 |
| **SZ15B8** | 180 | 1.4 | 1200 | 7000 | 0.25 | 5.0 | 136.8 | 5.2 |
| **SZ15D0** | 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 ± 5%,

( 2 ) " SZ " will be omitted in marking on the diode.