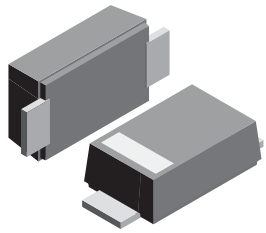
# Z2SMF3V6 - Z2SMF200

## SURFACE MOUNT SILICON ZENER DIODES

**VOLTAGE RANGE: 3.6 - 200V**
**POWER: 2.0Watts**



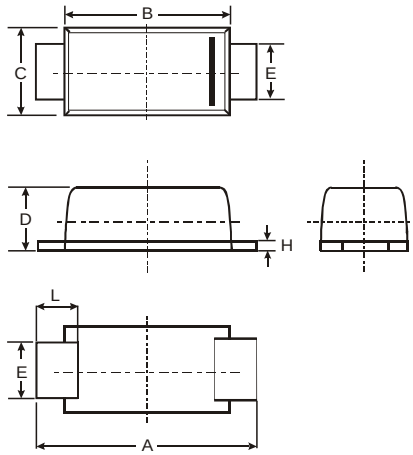
## Features

- Complete Voltage Range 3.6 to 200 Volts
- High peak reverse power dissipation
- High reliability
- Low leakage current

## Mechanical Data

- Case: SOD-123FL
  plastic body over passivated junction
- Terminals : Plated axial leads,
- solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight:0.0007 ounce, 0.02 grams

RoHS COMPLIANT




| SOD-123FL | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | 3.58 | 3.72 | 3.65 |
| **B** | 2.72 | 2.78 | 2.75 |
| **C** | 1.77 | 1.83 | 1.80 |
| **D** | 1.02 | 1.08 | 1.05 |
| **E** | 0.097 | 1.03 | 1.00 |
| **H** | 0.13 | 0.17 | 0.15 |
| **L** | 0.53 | 0.57 | 0.55 |
| **All Dimensions in mm** | | | |

## Maximum Ratings $T_A$ = 25°C unless otherwise specified

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| DC Power Dissipation at $T_L$ = 75 °C (Note1) | $P_D$ | 2.0 | Watts |
| Maximum Forward Voltage at $I_F$ = 200 mA | $V_F$ | 1.2 | Volts |
| Maximum Thermal Resistance Junction to Ambient Air (Note2) | $R\theta JA$ | 60 | K / W |
| Junction Temperature Range | $T_J$ | - 55 to + 175 | °C |
| Storage Temperature Range | Ts | - 55 to + 175 | °C |

**Note :**

(1) $T_L$ = Lead temperature at 3/8 " (9.5mm) from body

(2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

## 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) |
| **Z2SMF3V6** | 3.6 | 139 | 5.0 | 400 | 1.0 | 80 | 1.0 | 504 |
| **Z2SMF3V9** | 3.9 | 128 | 5.0 | 400 | 1.0 | 30 | 1.0 | 468 |
| **Z2SMF4V3** | 4.3 | 116 | 4.5 | 400 | 1.0 | 20 | 1.0 | 434 |
| **Z2SMF4V7** | 4.7 | 106 | 4.5 | 550 | 1.0 | 5.0 | 1.0 | 386 |
| **Z2SMF5V1** | 5.1 | 98.0 | 3.5 | 600 | 1.0 | 5.0 | 1.0 | 356 |
| **Z2SMF5V6** | 5.6 | 89.5 | 2.5 | 500 | 1.0 | 5.0 | 2.0 | 324 |
| **Z2SMF6V2** | 6.2 | 80.5 | 1.5 | 700 | 1.0 | 5.0 | 3.0 | 292 |
| **Z2SMF6V8** | 6.8 | 73.5 | 2.0 | 700 | 1.0 | 5.0 | 4.0 | 266 |
| **Z2SMF7V5** | 7.5 | 66.5 | 2.0 | 700 | 0.5 | 50 | 5.0 | 242 |
| **Z2SMF8V2** | 8.2 | 61.0 | 2.3 | 700 | 0.5 | 50 | 6.0 | 220 |
| **Z2SMF9V1** | 9.1 | 55.0 | 2.5 | 700 | 0.5 | 50 | 7.0 | 200 |
| **Z2SMF10** | 10 | 50.0 | 3.5 | 700 | 0.25 | 50 | 7.6 | 182 |
| **Z2SMF11** | 11 | 45.5 | 4.0 | 700 | 0.25 | 50 | 8.4 | 166 |
| **Z2SMF12** | 12 | 41.5 | 4.5 | 700 | 0.25 | 1.0 | 9.1 | 152 |
| **Z2SMF13** | 13 | 38.5 | 5.0 | 700 | 0.25 | 0.5 | 9.9 | 138 |
| **Z2SMF14** | 14 | 35.7 | 5.5 | 700 | 0.25 | 0.5 | 10.6 | 130 |
| **Z2SMF15** | 15 | 33.4 | 7.0 | 700 | 0.25 | 0.5 | 11.4 | 122 |
| **Z2SMF16** | 16 | 31.2 | 8.0 | 700 | 0.25 | 0.5 | 12.2 | 114 |
| **Z2SMF17** | 17 | 29.4 | 9.0 | 750 | 0.25 | 0.5 | 13.0 | 107 |
| **Z2SMF18** | 18 | 27.8 | 10 | 750 | 0.25 | 0.5 | 13.7 | 100 |
| **Z2SMF19** | 19 | 26.3 | 11 | 750 | 0.25 | 0.5 | 14.4 | 95 |
| **Z2SMF20** | 20 | 25.0 | 11 | 750 | 0.25 | 0.5 | 15.2 | 90 |
| **Z2SMF22** | 22 | 22.8 | 12 | 750 | 0.25 | 0.5 | 16.7 | 82 |
| **Z2SMF24** | 24 | 20.8 | 13 | 750 | 0.25 | 0.5 | 18.2 | 76 |
| **Z2SMF27** | 27 | 18.5 | 18 | 750 | 0.25 | 0.5 | 20.6 | 68 |
| **Z2SMF30** | 30 | 16.6 | 20 | 1000 | 0.25 | 0.5 | 22.5 | 60 |
| **Z2SMF33** | 33 | 15.1 | 23 | 1000 | 0.25 | 0.5 | 25.1 | 55 |
| **Z2SMF36** | 36 | 13.9 | 25 | 1000 | 0.25 | 0.5 | 27.4 | 50 |
| **Z2SMF39** | 39 | 12.8 | 30 | 1000 | 0.25 | 0.5 | 29.7 | 47 |
| **Z2SMF43** | 43 | 11.6 | 35 | 1500 | 0.25 | 0.5 | 32.7 | 43 |
| **Z2SMF47** | 47 | 10.6 | 40 | 1500 | 0.25 | 0.5 | 35.8 | 39 |
| **Z2SMF51** | 51 | 9.8 | 48 | 1500 | 0.25 | 0.5 | 38.8 | 36 |
| **Z2SMF56** | 56 | 9.0 | 55 | 2000 | 0.25 | 0.5 | 42.6 | 32 |
| **Z2SMF62** | 62 | 8.1 | 60 | 2000 | 0.25 | 0.5 | 47.1 | 29 |
| **Z2SMF68** | 68 | 7.4 | 75 | 2000 | 0.25 | 0.5 | 51.7 | 27 |
| **Z2SMF75** | 75 | 6.7 | 90 | 2000 | 0.25 | 0.5 | 56.0 | 24 |
| **Z2SMF82** | 82 | 6.1 | 100 | 3000 | 0.25 | 0.5 | 62.2 | 22 |
| **Z2SMF91** | 91 | 5.5 | 125 | 3000 | 0.25 | 0.5 | 69.2 | 20 |
| **Z2SMF100** | 100 | 5.0 | 175 | 3000 | 0.25 | 0.5 | 76.0 | 18 |
| **Z2SMF110** | 110 | 4.5 | 250 | 4000 | 0.25 | 0.5 | 83.6 | 17 |
| **Z2SMF120** | 120 | 4.2 | 325 | 4500 | 0.25 | 0.5 | 91.2 | 15 |
| **Z2SMF130** | 130 | 3.8 | 400 | 5000 | 0.25 | 0.5 | 98.8 | 14 |
| **Z2SMF140** | 140 | 3.6 | 500 | 5500 | 0.25 | 0.5 | 106.4 | 13 |
| **Z2SMF150** | 150 | 3.3 | 575 | 6000 | 0.25 | 0.5 | 114.0 | 12 |
| **Z2SMF160** | 160 | 3.1 | 650 | 6500 | 0.25 | 0.5 | 121.6 | 11 |
| **Z2SMF170** | 170 | 2.9 | 675 | 7000 | 0.25 | 0.5 | 130.4 | 11 |
| **Z2SMF180** | 180 | 2.8 | 725 | 7000 | 0.25 | 0.5 | 136.8 | 10 |
| **Z2SMF190** | 190 | 2.6 | 825 | 8000 | 0.25 | 0.5 | 144.8 | 10 |
| **Z2SMF200** | 200 | 2.5 | 900 | 8000 | 0.25 | 0.5 | 152.0 | 9.0 |