

ZENER DIODE

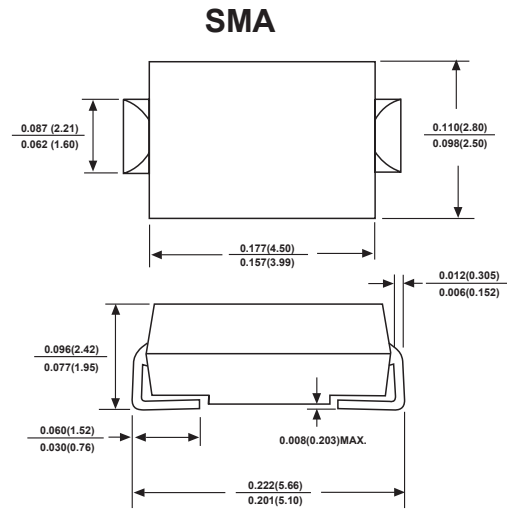
ZENER VOLTAGE RANGE: 3.3 --- 100V PEAK PULSE POWER:1000mW

FEATURES

- Low Reverse Leakage
- Low Zener Impedance
- High Stability and High Reliability

MECHANICAL DATA

- Case: SMA
- Polarity: Color band denotes cathode end
- Mounting Position: Any



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25 C ambient temperature unless otherwise specified

| Parameters | SYMBOLS | VALUE | UNITS |
|--------------------------------|-----------|--------------|-------|
| Power Dissipation | P_D | 1000 | mW |
| Operating junction temperature | T_J | 15 | °C |
| Storage temperature range | T_{STG} | -65 to + 150 | °C |

Note:1. Valid provided that electrodes are kept at ambient temperature.

Electrical Specification ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Part Number | Nominal Zener voltage | Test current | Maximum dynamic impedance resistance | | | Maximum reverse leakage current | | Max Surge current |
|-------------|-----------------------|--------------|--------------------------------------|-----------------------------|----------|---------------------------------|--------------------|-------------------|
| | $V_Z @ I_{ZT}$ | I_{ZT} | $Z_{ZT} \text{ at } I_{ZT}$ | $Z_{ZK} \text{ at } I_{ZK}$ | I_{ZK} | IR | Test voltage V_R | $I_{RM}^{(2)}$ |
| | V | mA | Ω | Ω | mA | μA | V | mA |
| 1SMA4728A | 3.3 | 76 | 10 | 400 | 1 | 100 | 1 | 1380 |
| 1SMA4729A | 3.6 | 69 | 10 | 400 | 1 | 100 | 1 | 1260 |
| 1SMA4730A | 3.9 | 64 | 9 | 400 | 1 | 50 | 1 | 1190 |
| 1SMA4731A | 4.3 | 58 | 9 | 400 | 1 | 10 | 1 | 1070 |
| 1SMA4732A | 4.7 | 53 | 8 | 500 | 1 | 10 | 1 | 970 |
| 1SMA4733A | 5.1 | 49 | 7 | 550 | 1 | 10 | 1 | 890 |
| 1SMA4734A | 5.6 | 45 | 5 | 600 | 1 | 10 | 2 | 810 |
| 1SMA4735A | 6.2 | 41 | 2 | 700 | 1 | 10 | 3 | 730 |
| 1SMA4736A | 6.8 | 37 | 3.5 | 700 | 1 | 10 | 4 | 660 |

RATINGS AND CHARACTERISTIC CURVES

Electrical Specification ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Part Number | Nominal Zener voltage | Test current | Maximum dynamic impedance resistance | | | Maximum reverse leakage current | | Max Surge current |
|-------------|-------------------------|--------------|--------------------------------------|----------------------|----------|---------------------------------|--------------------|-------------------|
| | $V_Z^{(1)}$ at I_{ZT} | I_{ZT} | Z_{ZT} at I_{ZT} | Z_{ZK} at I_{ZK} | I_{ZK} | IR | Test voltage V_R | $I_{RM}^{(2)}$ |
| | V | mA | Ω | Ω | mA | μA | V | mA |
| 1SMA4737A | 7.5 | 34 | 4 | 700 | 0.5 | 10 | 5 | 605 |
| 1SMA4738A | 8.2 | 31 | 4.5 | 700 | 0.5 | 10 | 6 | 550 |
| 1SMA4739A | 9.1 | 28 | 5 | 700 | 0.5 | 10 | 7 | 500 |
| 1SMA4740A | 10 | 25 | 7 | 700 | 0.25 | 10 | 7.6 | 454 |
| 1SMA4741A | 11 | 23 | 8 | 700 | 0.25 | 5 | 8.4 | 414 |
| 1SMA4742A | 12 | 21 | 9 | 700 | 0.25 | 5 | 9.1 | 380 |
| 1SMA4743A | 13 | 19 | 10 | 700 | 0.25 | 5 | 9.9 | 344 |
| 1SMA4744A | 15 | 17 | 14 | 700 | 0.25 | 5 | 11.4 | 304 |
| 1SMA4745A | 16 | 15.5 | 16 | 700 | 0.25 | 5 | 12.2 | 285 |
| 1SMA4746A | 18 | 14 | 20 | 750 | 0.25 | 5 | 13.7 | 250 |
| 1SMA4747A | 20 | 12.5 | 22 | 750 | 0.25 | 5 | 15.2 | 225 |
| 1SMA4748A | 22 | 11.5 | 23 | 750 | 0.25 | 5 | 16.7 | 205 |
| 1SMA4749A | 24 | 10.5 | 25 | 750 | 0.25 | 5 | 18.2 | 190 |
| 1SMA4750A | 27 | 9.5 | 35 | 750 | 0.25 | 5 | 20.6 | 170 |
| 1SMA4751A | 30 | 8.5 | 40 | 1000 | 0.25 | 5 | 22.8 | 150 |
| 1SMA4752A | 33 | 7.5 | 45 | 1000 | 0.25 | 5 | 25.1 | 135 |
| 1SMA4753A | 36 | 7 | 50 | 1000 | 0.25 | 5 | 27.4 | 125 |
| 1SMA4754A | 39 | 6.5 | 60 | 1000 | 0.25 | 5 | 29.7 | 115 |
| 1SMA4755A | 43 | 6 | 70 | 1500 | 0.25 | 5 | 32.7 | 110 |
| 1SMA4756A | 47 | 5.5 | 80 | 1500 | 0.25 | 5 | 35.8 | 95 |
| 1SMA4757A | 51 | 5 | 95 | 1500 | 0.25 | 5 | 38.8 | 90 |
| 1SMA4758A | 56 | 4.5 | 110 | 2000 | 0.25 | 5 | 42.6 | 80 |
| 1SMA4759A | 62 | 4 | 125 | 2000 | 0.25 | 5 | 47.1 | 70 |
| 1SMA4760A | 68 | 3.7 | 150 | 2000 | 0.25 | 5 | 51.7 | 65 |
| 1SMA4761A | 75 | 3.3 | 175 | 2000 | 0.25 | 5 | 56 | 60 |
| 1SMA4762A | 82 | 3.0 | 200 | 3000 | 0.25 | 5 | 62.2 | 55 |
| 1SMA4763A | 91 | 2.8 | 250 | 3000 | 0.25 | 5 | 69.2 | 50 |
| 1SMA4764A | 100 | 2.5 | 350 | 3000 | 0.25 | 5 | 76.0 | 45 |

Notes:

1. Based on dc-measurement at thermal equilibrium
2. Surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per JEDEC method

RATINGS AND CHARACTERISTIC CURVES

Electrical Specification ($T_A=25^\circ\text{C}$ unless otherwise specified)

FIG1: Maximum Continuous Power Dissipation

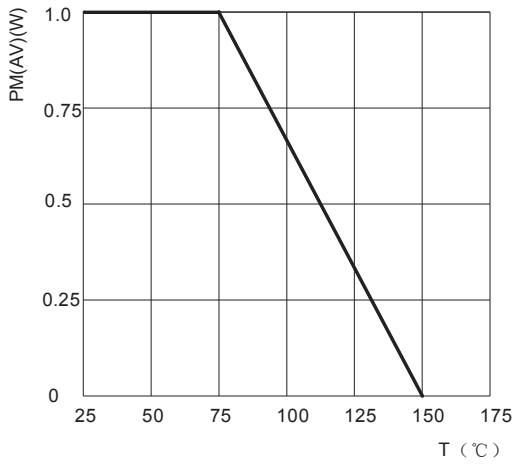


FIG2: Typical Zener Impedance

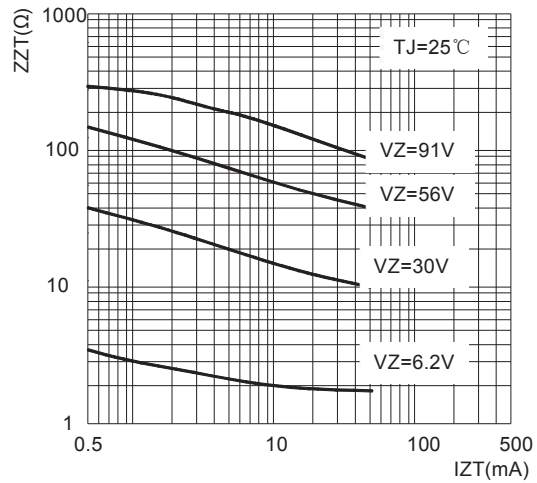


FIG3: Typical Temperature Coefficients

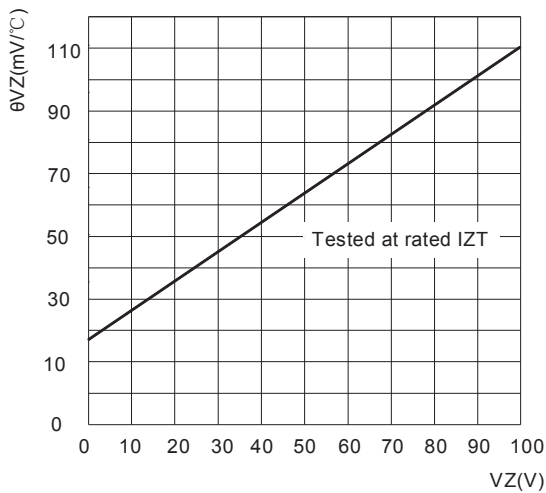


FIG4: Typical Instantaneous Forward Characteristics

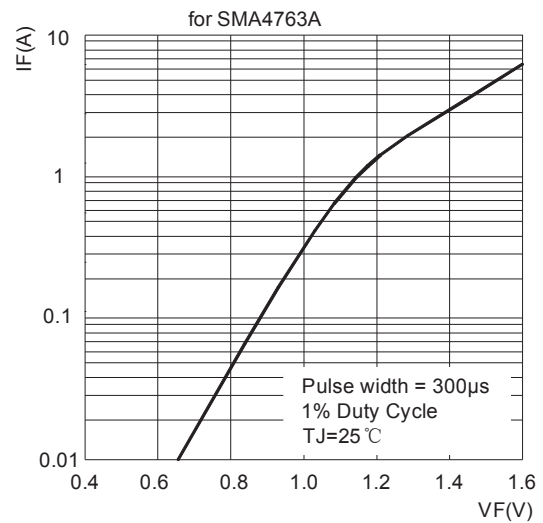


FIG5: Typical Reverse Characteristics

