



Zener Diodes

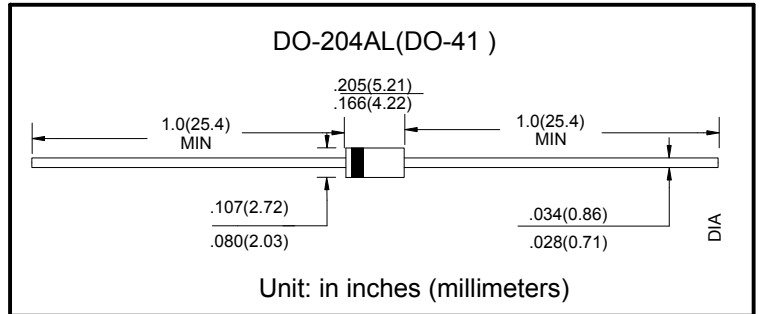
■ Features

- P_{tot} 1.0W
- V_z 3.3V-100V

■ Applications

- Stabilizing Voltage

■ External and internal structure



■ Limiting Values (Absolute Maximum Rating)

| Item | Symbol | Unit | Conditions | Limit |
|----------------------|--------|--------------------|--------------------|-------------|
| Power Dissipation | P_t | W | | 1.0 |
| Zener current | I_z | mA | | P_v / V_z |
| Forward Voltage | VF | V | $I_F=200\text{mA}$ | 1.5 |
| Junction Temperature | T_J | $^{\circ}\text{C}$ | | -55 to +150 |
| Storage Temperature | TSTG | $^{\circ}\text{C}$ | | -55 to +150 |

■ Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Part Number | V_z at I_{zT} | I_{zT} | Z_{zT} at I_{zT} | Z_{zK} at I_{zK} | I_{zK} | IR @ V_R | V_R | I_{zM} @ 50° |
|-------------|-------------------|----------|----------------------|----------------------|----------|-------------------|-------|-------------------------|
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | (mA) |
| 1N4736 | 6.8 | 37 | 3.5 | 700 | 1 | 10 | 4 | 133 |
| 1N4737 | 7.5 | 31 | 4 | 700 | 0.5 | 10 | 5 | 121 |
| 1N4738 | 8.2 | 31 | 4.5 | 700 | 0.5 | 10 | 6 | 110 |
| 1N4739 | 9.1 | 28 | 5 | 700 | 0.25 | 10 | 7 | 100 |
| 1N4740 | 10 | 25 | 7 | 700 | 0.25 | 10 | 7.6 | 91 |
| 1N4741 | 11 | 23 | 8 | 700 | 0.25 | 5 | 8.4 | 83 |
| 1N4742 | 12 | 21 | 9 | 700 | 0.25 | 5 | 9.1 | 76 |
| 1N4743 | 13 | 19 | 10 | 700 | 0.25 | 5 | 9.9 | 69 |
| 1N4744 | 15 | 17 | 14 | 700 | 0.25 | 5 | 11.4 | 61 |
| 1N4745 | 16 | 15.5 | 16 | 700 | 0.25 | 5 | 12.2 | 57 |
| 1N4746 | 18 | 14 | 20 | 750 | 0.25 | 5 | 13.7 | 50 |
| 1N4747 | 20 | 12.5 | 22 | 750 | 0.25 | 5 | 15.2 | 45 |
| 1N4748 | 22 | 11.5 | 23 | 750 | 0.25 | 5 | 16.7 | 41 |
| 1N4749 | 24 | 10.5 | 25 | 750 | 0.25 | 5 | 18.2 | 38 |
| 1N4750 | 27 | 9.5 | 35 | 750 | 0.25 | 5 | 20.6 | 34 |

■ Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Part Number | V_Z at I_{ZT} | I_{ZT} | Z_{ZT} at I_{ZT} | Z_{ZK} at I_{ZK} | I_{ZK} | I_R @ V_R | V_R | I_{ZM} @ 50° |
|-------------|-------------------|----------|----------------------|----------------------|----------|-------------------|-------|-------------------------|
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | (mA) |
| 1N4751 | 30 | 8.5 | 40 | 1000 | 0.25 | 5 | 22.8 | 30 |
| 1N4752 | 33 | 7.5 | 45 | 1000 | 0.25 | 5 | 25.1 | 27 |
| 1N4753 | 36 | 7 | 50 | 1000 | 0.25 | 5 | 27.4 | 25 |
| 1N4754 | 39 | 6.5 | 60 | 1000 | 0.25 | 5 | 29.7 | 23 |
| 1N4755 | 43 | 6 | 70 | 1500 | 0.25 | 5 | 32.7 | 22 |
| 1N4756 | 47 | 5.5 | 80 | 1500 | 0.25 | 5 | 35.8 | 19 |
| 1N4757 | 51 | 5 | 95 | 1500 | 0.25 | 5 | 38.8 | 18 |
| 1N4758 | 56 | 4.5 | 110 | 2000 | 0.25 | 5 | 42.6 | 16 |
| 1N4759 | 62 | 4 | 125 | 2000 | 0.25 | 5 | 47.1 | 14 |
| 1N4760 | 68 | 3.7 | 150 | 2000 | 0.25 | 5 | 51.7 | 13 |
| 1N4761 | 75 | 3.3 | 175 | 2000 | 0.25 | 5 | 56 | 12 |
| 1N4762 | 82 | 3 | 200 | 3000 | 0.25 | 5 | 62.2 | 11 |
| 1N4763 | 91 | 2.8 | 250 | 3000 | 0.25 | 5 | 69.2 | 10 |
| 1N4764 | 100 | 2.5 | 350 | 3000 | 0.25 | 5 | 76 | 9 |
| 1N4765 | 110 | 2.3 | 450 | 4000 | 0.25 | 5 | 83.6 | 7.2 |
| 1N4766 | 120 | 2 | 550 | 4500 | 0.25 | 5 | 91.2 | 7 |
| 1N4767 | 130 | 1.9 | 700 | 5000 | 0.25 | 5 | 98.8 | 6.0 |
| 1N4768 | 150 | 1.7 | 1000 | 6000 | 0.25 | 5 | 114.0 | 5.5 |
| 1N4769 | 160 | 1.6 | 1100 | 6500 | 0.25 | 5 | 121.6 | 5.2 |
| 1N4770 | 180 | 1.4 | 1200 | 7000 | 0.25 | 5 | 136.8 | 4.6 |
| 1N4771 | 200 | 1.2 | 1500 | 8000 | 0.25 | 5 | 152.0 | 4.0 |

注释:

标准型的齐纳电压值偏差为 10%；附加标“A”的特选型，其偏差为 5%

齐纳阻抗是来自 60 秒的交流电压，结果当交流电流的均方根值等于 10%的直流稳压电流 (I_{ZT} 或 I_{ZK}) %是 I_{ZT} 或 I_{ZK} 叠加

这里的最大齐纳电流值并非是绝对的，在实际稳态应用中，应保证电压和电流的乘积不超过额定功率值



■ Characteristics(Typical)

Fig 1: Admissible Power Dissipatio vs. Ambient temperature

