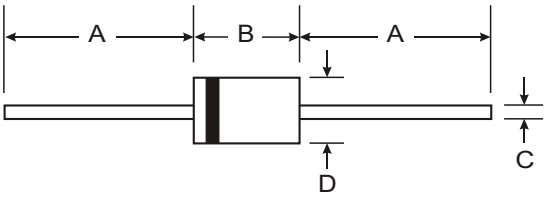
# 1N4728A - 1N4764A

## 1.0W ZENER DIODE

## Features

- 1.0 Watt Power Dissipation
- 3.3V - 100V Nominal Zener Voltage
- Standard $V_Z$ Tolerance is 5%




| DO-41 Glass | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 25.40 | — |
| **B** | — | 4.70 |
| **C** | — | 0.863 |
| **D** | — | 2.71 |
| **All Dimensions in mm** | | |

## Mechanical Data

- Case: DO-41, Glass
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Type Number
- Approx. Weight: 0.35 grams

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

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Zener Current (see Table page 2) | $I_Z$ | Pd / $V_Z$ | mA |
| Power Dissipation<br>Derate Above 50°C (Note 1) | $P_d$ | 1.0<br>6.67 | W<br>mW/°C |
| Thermal Resistance - Junction to Ambient Air | $R_{\theta JA}$ | 175 | °C/W |
| Forward Voltage @ $I_F$ = 200 mA | $V_F$ | 1.2 | V |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to + 200 | °C |

Note: 1. Valid provided that leads are kept at $T_L$ @ 50°C with lead length = 9.5mm (3/8") from case.

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胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

## Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

| Type Number | Nominal Zener Voltage (Note 2) | Test Current | Maximum Zener Impedance (Note 3) | | | Maximum Reverse Leakage Current | | Max Surge Current 8.3ms | Temperature Coefficient @ $I_{ZT}$ |
|---|---|---|---|---|---|---|---|---|---|
| | $V_Z$ @ $I_{ZT}$ | $I_{ZT}$ | $Z_{ZT}$ @ $I_{ZT}$ | $Z_{ZK}$ @ $I_{ZK}$ | $I_{ZK}$ | $I_R$ | @ $V_R$ | $I_{ZS}$ | |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (µA) | (V) | (mA) | %/°C |
| 1N4728A | 3.3 | 76 | 10 | 400 | 1.0 | 100 | 1.0 | 1380 | -0.08 to -0.05 |
| 1N4729A | 3.6 | 69 | 10 | 400 | 1.0 | 100 | 1.0 | 1260 | -0.08 to -0.05 |
| 1N4730A | 3.9 | 64 | 9.0 | 400 | 1.0 | 50 | 1.0 | 1190 | -0.07 to -0.02 |
| 1N4731A | 4.3 | 58 | 9.0 | 400 | 1.0 | 10 | 1.0 | 1070 | -0.07 to -0.01 |
| 1N4732A | 4.7 | 53 | 8.0 | 500 | 1.0 | 10 | 1.0 | 970 | -0.03 to +0.04 |
| 1N4733A | 5.1 | 49 | 7.0 | 550 | 1.0 | 10 | 1.0 | 890 | -0.01 to +0.04 |
| 1N4734A | 5.6 | 45 | 5.0 | 600 | 1.0 | 10 | 2.0 | 810 | 0 to +0.045 |
| 1N4735A | 6.2 | 41 | 2.0 | 700 | 1.0 | 10 | 3.0 | 730 | +0.01 to +0.055 |
| 1N4736A | 6.8 | 37 | 3.5 | 700 | 1.0 | 10 | 4.0 | 660 | +0.015 to +0.06 |
| 1N4737A | 7.5 | 34 | 4.0 | 700 | 0.5 | 10 | 5.0 | 605 | +0.02 to +0.065 |
| 1N4738A | 8.2 | 31 | 4.5 | 700 | 0.5 | 10 | 6.0 | 550 | 0.03 to 0.07 |
| 1N4739A | 9.1 | 28 | 5.0 | 700 | 0.5 | 10 | 7.0 | 500 | 0.035 to 0.075 |
| 1N4740A | 10 | 25 | 7.0 | 700 | 0.25 | 10 | 7.6 | 454 | 0.04 to 0.08 |
| 1N4741A | 11 | 23 | 8.0 | 700 | 0.25 | 5.0 | 8.4 | 414 | 0.045 to 0.08 |
| 1N4742A | 12 | 21 | 9.0 | 700 | 0.25 | 5.0 | 9.1 | 380 | 0.045 to 0.085 |
| 1N4743A | 13 | 19 | 10 | 700 | 0.25 | 5.0 | 9.9 | 344 | 0.05 to 0.085 |
| 1N4744A | 15 | 17 | 14 | 700 | 0.25 | 5.0 | 11.4 | 304 | 0.055 to 0.09 |
| 1N4745A | 16 | 15.5 | 16 | 700 | 0.25 | 5.0 | 12.2 | 285 | 0.055 to 0.09 |
| 1N4746A | 18 | 14 | 20 | 750 | 0.25 | 5.0 | 13.7 | 250 | 0.06 to 0.09 |
| 1N4747A | 20 | 12.5 | 22 | 750 | 0.25 | 5.0 | 15.2 | 225 | 0.06 to 0.09 |
| 1N4748A | 22 | 11.5 | 23 | 750 | 0.25 | 5.0 | 16.7 | 205 | 0.06 to 0.095 |
| 1N4749A | 24 | 10.5 | 25 | 750 | 0.25 | 5.0 | 18.2 | 190 | 0.06 to 0.095 |
| 1N4750A | 27 | 9.5 | 35 | 750 | 0.25 | 5.0 | 20.6 | 170 | 0.06 to 0.095 |
| 1N4751A | 30 | 8.5 | 40 | 1000 | 0.25 | 5.0 | 22.8 | 150 | 0.06 to 0.095 |
| 1N4752A | 33 | 7.5 | 45 | 1000 | 0.25 | 5.0 | 25.1 | 135 | 0.06 to 0.095 |
| 1N4753A | 36 | 7.0 | 50 | 1000 | 0.25 | 5.0 | 27.4 | 125 | 0.06 to 0.095 |
| 1N4754A | 39 | 6.5 | 60 | 1000 | 0.25 | 5.0 | 29.7 | 115 | 0.06 to 0.095 |
| 1N4755A | 43 | 6.0 | 70 | 1500 | 0.25 | 5.0 | 32.7 | 110 | 0.06 to 0.095 |
| 1N4756A | 47 | 5.5 | 80 | 1500 | 0.25 | 5.0 | 35.8 | 95 | 0.06 to 0.095 |
| 1N4757A | 51 | 5.0 | 95 | 1500 | 0.25 | 5.0 | 38.8 | 90 | 0.06 to 0.095 |
| 1N4758A | 56 | 4.5 | 110 | 2000 | 0.25 | 5.0 | 42.6 | 80 | 0.06 to 0.095 |
| 1N4759A | 62 | 4.0 | 125 | 2000 | 0.25 | 5.0 | 47.1 | 70 | 0.06 to 0.095 |
| 1N4760A | 68 | 3.7 | 150 | 2000 | 0.25 | 5.0 | 51.7 | 65 | 0.06 to 0.095 |
| 1N4761A | 75 | 3.3 | 175 | 2000 | 0.25 | 5.0 | 56.0 | 60 | 0.06 to 0.095 |
| 1N4762A | 82 | 3.0 | 200 | 3000 | 0.25 | 5.0 | 62.2 | 55 | — |
| 1N4763A | 91 | 2.8 | 250 | 3000 | 0.25 | 5.0 | 69.2 | 50 | — |
| 1N4764A | 100 | 2.5 | 350 | 3000 | 0.25 | 5.0 | 76.0 | 45 | — |

Notes: 2. Measured under thermal equilibrium and dc ($I_{ZT}$) test conditions.
3. The Zener impedance is derived from the 60 Hz ac voltage which results when an ac current having an rms value equal to 10% of the Zener current ($I_{ZT}$ or $I_{ZK}$) is superimposed on $I_{ZT}$ or $I_{ZK}$. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

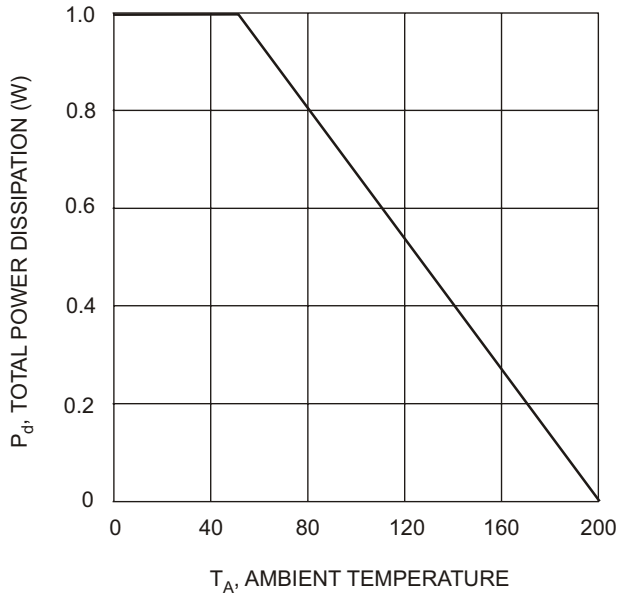


Fig.1 Power Dissipation vs Ambient Temperature

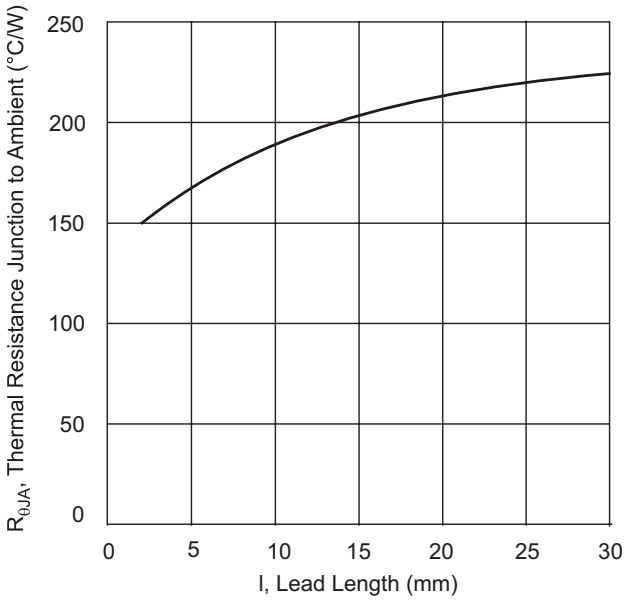


Fig. 2 Typical Thermal Resistance vs. Lead Length

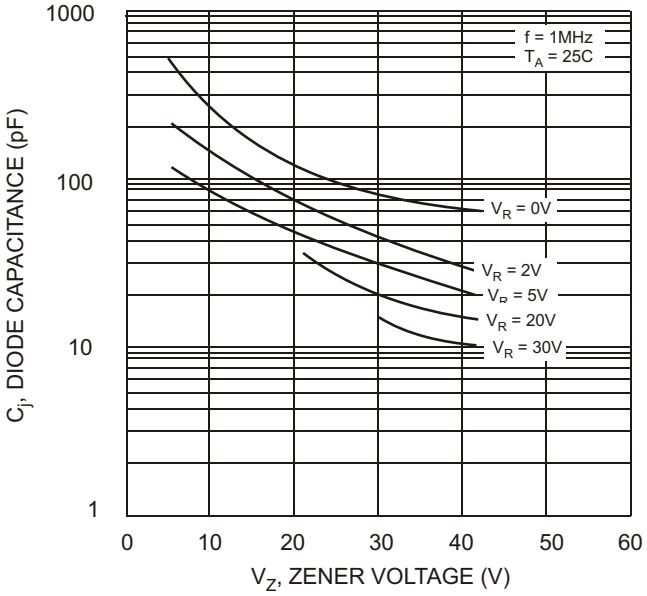


Fig.3, Junction Capacitance vs Zener Voltage

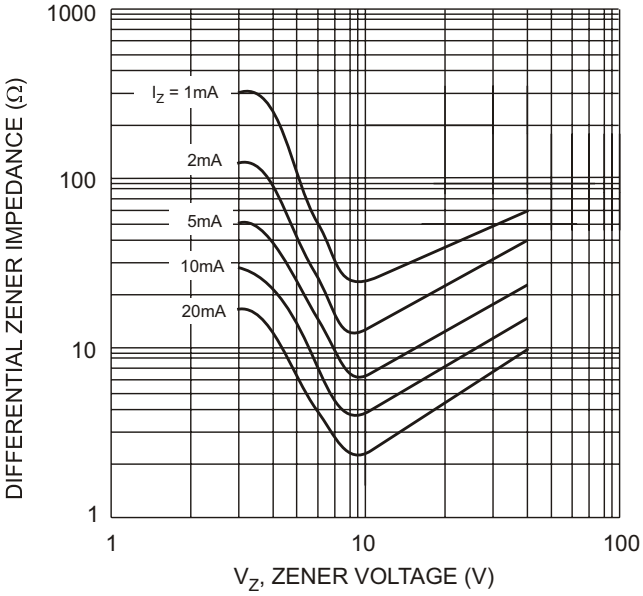


Fig. 4 Typical Zener Impedance vs. Zener Voltage