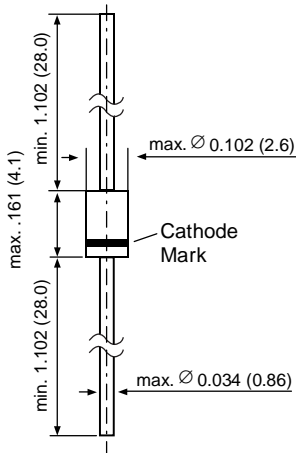


1N4728 THRU 1N4764

ZENER DIODES

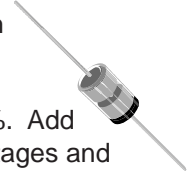
DO-41 Glass



Dimensions in inches and (millimeters)

FEATURES

- ◆ Silicon Planar Power Zener Diodes
- ◆ For use in stabilizing and clipping circuits with high power rating.
- ◆ Standard Zener voltage tolerance is $\pm 10\%$. Add suffix "A" for $\pm 5\%$ tolerance. Other Zener voltages and tolerances are available upon request.
- ◆ These diodes are also available in the MELF case with type designation ZM4728 thru ZM4764



MECHANICAL DATA

Case: DO-41 Glass Case

Weight: approx. 0.35 g

MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOL | VALUE | UNIT |
|---|-----------|--------------------|--------------------|
| Zener Current (see Table "Characteristics") | | | |
| Power Dissipation at $T_{amb} = 25^{\circ}\text{C}$ | P_{tot} | 1.0 ⁽¹⁾ | Watts |
| Junction Temperature | T_j | 175 | $^{\circ}\text{C}$ |
| Storage Temperature Range | T_s | - 65 to +175 | $^{\circ}\text{C}$ |

Characteristics at $T_{amb} = 25^{\circ}\text{C}$

| | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|---|------------|------|------|--------------------|-----------------------------|
| Thermal Resistance Junction to Ambient Air | R_{thJA} | - | - | 170 ⁽¹⁾ | $^{\circ}\text{C}/\text{W}$ |
| Forward Voltage at $I_F = 200\text{ mA}$ | V_F | - | - | 1.2 | Volts |

NOTES:

(1) Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature

1N4728 THRU 1N4764

ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| Type | Nominal Zener voltage ⁽³⁾ at I_{ZT} V_z V | Test current I_{ZT} mA | Maximum Zener impedance ⁽¹⁾ | | | Maximum reverse leakage current | | Surge current at $T_A = 25^\circ\text{C}$ I_{RM} mA | Maximum regulator current ⁽²⁾ I_{ZM} mA |
|--------|--|--------------------------|--|-------------------|----------------|---------------------------------|------------|---|--|
| | | | Z_{ZT} at I_{ZT} Ω | Z_{ZK} Ω | at I_{ZK} mA | I_R μA | at V_R V | | |
| 1N4728 | 3.3 | 76 | 10 | 400 | 1.0 | 100 | 1 | 1380 | 276 |
| 1N4729 | 3.6 | 69 | 10 | 400 | 1.0 | 100 | 1 | 1260 | 252 |
| 1N4730 | 3.9 | 64 | 9 | 400 | 1.0 | 50 | 1 | 1190 | 234 |
| 1N4731 | 4.3 | 58 | 9 | 400 | 1.0 | 10 | 1 | 1070 | 217 |
| 1N4732 | 4.7 | 53 | 8 | 500 | 1.0 | 10 | 1 | 970 | 193 |
| 1N4733 | 5.1 | 49 | 7 | 550 | 1.0 | 10 | 1 | 890 | 178 |
| 1N4734 | 5.6 | 45 | 5 | 600 | 1.0 | 10 | 2 | 810 | 162 |
| 1N4735 | 6.2 | 41 | 2 | 700 | 1.0 | 10 | 3 | 730 | 146 |
| 1N4736 | 6.8 | 37 | 3.5 | 700 | 1.0 | 10 | 4 | 660 | 133 |
| 1N4737 | 7.5 | 34 | 4.0 | 700 | 0.5 | 10 | 5 | 605 | 121 |
| 1N4738 | 8.2 | 31 | 4.5 | 700 | 0.5 | 10 | 6 | 550 | 110 |
| 1N4739 | 9.1 | 28 | 5.0 | 700 | 0.5 | 10 | 7 | 500 | 100 |
| 1N4740 | 10 | 25 | 7 | 700 | 0.25 | 10 | 7.6 | 454 | 91 |
| 1N4741 | 11 | 23 | 8 | 700 | 0.25 | 5 | 8.4 | 414 | 83 |
| 1N4742 | 12 | 21 | 9 | 700 | 0.25 | 5 | 9.1 | 380 | 76 |
| 1N4743 | 13 | 19 | 10 | 700 | 0.25 | 5 | 9.9 | 344 | 69 |
| 1N4744 | 15 | 17 | 14 | 700 | 0.25 | 5 | 11.4 | 304 | 61 |
| 1N4745 | 16 | 15.5 | 16 | 700 | 0.25 | 5 | 12.2 | 285 | 57 |
| 1N4746 | 18 | 14 | 20 | 750 | 0.25 | 5 | 13.7 | 250 | 50 |
| 1N4747 | 20 | 12.5 | 22 | 750 | 0.25 | 5 | 15.2 | 225 | 45 |
| 1N4748 | 22 | 11.5 | 23 | 750 | 0.25 | 5 | 16.7 | 205 | 41 |
| 1N4749 | 24 | 10.5 | 25 | 750 | 0.25 | 5 | 18.2 | 190 | 38 |
| 1N4750 | 27 | 9.5 | 35 | 750 | 0.25 | 5 | 20.6 | 170 | 34 |
| 1N4751 | 30 | 8.5 | 40 | 1000 | 0.25 | 5 | 22.8 | 150 | 30 |
| 1N4752 | 33 | 7.5 | 45 | 1000 | 0.25 | 5 | 25.1 | 135 | 27 |
| 1N4753 | 36 | 7.0 | 50 | 1000 | 0.25 | 5 | 27.4 | 125 | 25 |
| 1N4754 | 39 | 6.5 | 60 | 1000 | 0.25 | 5 | 29.7 | 115 | 23 |
| 1N4755 | 43 | 6.0 | 70 | 1500 | 0.25 | 5 | 32.7 | 110 | 22 |
| 1N4756 | 47 | 5.5 | 80 | 1500 | 0.25 | 5 | 35.8 | 95 | 19 |
| 1N4757 | 51 | 5.0 | 95 | 1500 | 0.25 | 5 | 38.8 | 90 | 18 |
| 1N4758 | 56 | 4.5 | 110 | 2000 | 0.25 | 5 | 42.6 | 80 | 16 |
| 1N4759 | 62 | 4.0 | 125 | 2000 | 0.25 | 5 | 47.1 | 70 | 14 |
| 1N4760 | 68 | 3.7 | 150 | 2000 | 0.25 | 5 | 51.7 | 65 | 13 |
| 1N4761 | 75 | 3.3 | 175 | 2000 | 0.25 | 5 | 56.0 | 60 | 12 |
| 1N4762 | 82 | 3.0 | 200 | 3000 | 0.25 | 5 | 62.2 | 55 | 11 |
| 1N4763 | 91 | 2.8 | 250 | 3000 | 0.25 | 5 | 69.2 | 50 | 10 |
| 1N4764 | 100 | 2.5 | 350 | 3000 | 0.25 | 5 | 76.0 | 45 | 9 |

NOTES:

- (1) The Zener impedance is derived from the 1KHz 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
- (2) Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions

RATINGS AND CHARACTERISTIC CURVES 1N4728 THRU 1N4764

Admissible power dissipation versus ambient temperature

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

