

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
- ◆ For bidirectional product, contact local Technical Sales office.

Mechanical Data

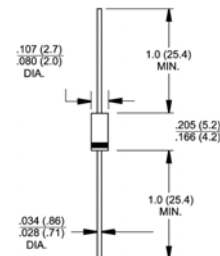
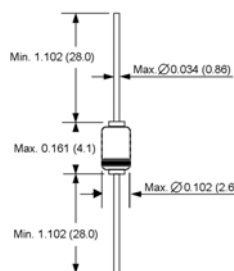
- ◆ Case: DO-41 Glass or DO-41 Plastic Case
- ◆ Weight: approx. 0.35g



DO-204AL (DO-41 Glass)



DO-204AL (DO-41)



Dimensions in inches and (millimeters) Dimensions in inches and (millimeters)

Note: Suffix: "-P" to order Molded Plastic Package
Suffix: "-G" to order Molded Glass Package

Maximum Ratings and Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameter | Symbol | Value | Unit |
|---|-----------------|--------------------|-----------------------------|
| Zener current | | See Next Page | |
| Power dissipation at $T_{amb}=50^{\circ}\text{C}$ | P_{tot} | 1.0 ⁽¹⁾ | W |
| Thermal resistance junction to ambient air | $R_{\theta JA}$ | 170 ⁽¹⁾ | $^{\circ}\text{C}/\text{W}$ |
| Junction temperature | T_j | 175 | $^{\circ}\text{C}$ |
| Storage temperature range | T_s | -65 to +175 | $^{\circ}\text{C}$ |

Notes: 1. Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature.

Electrical Characteristics

($T_A=25^\circ\text{C}$ unless otherwise noted) Maximum $V_z=1.2\text{V}$ at $I_z=200\text{mA}$

| Type number | Nominal zener voltage ⁽³⁾ at I_{ZT} V_z (Volts) | Test current I_{ZT} (mA) | Maximum zener impedance ⁽¹⁾ | | | Maximum reverse leakage current | | Surge current at $T_A=25^\circ\text{C}$ I_R (mA) | Maximum regulator current ⁽²⁾ at $T_A=50^\circ\text{C}$ I_{ZM} (mA) |
|-------------|--|-------------------------------|---|--------------------------|------------------------|---------------------------------|---------------------|---|---|
| | | | Z_{ZT} at I_{ZT} (Ω) | Z_{ZK} (Ω) | at I_{ZK} (mA) | I_R (μA) | at V_R (Volts) | | |
| 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. | 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. | 170 | 34 |
| 1N4751 | 30 | 8.5 | 40 | 1000 | 0.25 | 5 | 22. | 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. | 125 | 25 |
| 1N4754 | 39 | 6.5 | 60 | 1000 | 0.25 | 5 | 29. | 115 | 23 |
| 1N4755 | 43 | 6.0 | 70 | 1500 | 0.25 | 5 | 32. | 110 | 22 |
| 1N4756 | 47 | 5.5 | 80 | 1500 | 0.25 | 5 | 35. | 95 | 19 |

- 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 10 mm from case are kept at ambient temperature
 3. Measured under thermal equilibrium and DC test conditions

RATINGS AND CHARACTERISTIC CURVES

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

