



ZM4728 THRU ZM4764

SILICON PLANAR POWER ZENER DIODES

Features

Silicon Planar Power Zener Diodes

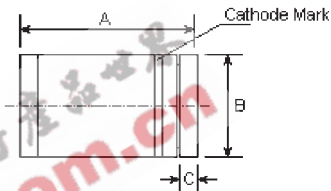
for use in stabilizing and clipping circuits with high power rating. Standard Zener voltage tolerance is $\pm 10\%$. Add suffix "A" for $\pm 5\%$ tolerance. Other tolerances available upon request.

These diodes are also available in DO-41 case with the type designation 1N4728 thru 1N4764.

These diodes are delivered taped.
Details see "Taping".

Weight approx. : 0.25g

MELF



| DIM | DIMENSIONS | | | | Note |
|-----|------------|-------|------|------|--------|
| | inches | | mm | | |
| | Min. | Max. | Min. | Max. | |
| A | 0.189 | 0.205 | 4.8 | 5.2 | |
| B | 0.092 | 0.100 | 2.35 | 2.55 | ϕ |
| C | 0.016 | - | 0.4 | - | |

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

| | Symbols | Values | Units |
|---|-----------|------------------|------------------|
| Zener current see Table "Characteristics" | | | |
| Power dissipation at $T_{amb}=25^\circ\text{C}$ | P_{tot} | 1 ⁽¹⁾ | W |
| Junction temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage temperature range | T_s | -65 to +175 | $^\circ\text{C}$ |

Note:

(1) Valid provided that electrodes are kept at ambient temperature.

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

| | Symbols | Min. | Typ. | Max. | Units |
|--|-----------|------|------|--------------------|-------|
| Thermal resistance junction to ambient Air | R_{thA} | - | - | 170 ⁽¹⁾ | K/W |
| Forward voltage at $I_F=200\text{mA}$ | V_F | - | - | 1.2 | V |

Note:

(1) Valid provided that electrodes are kept at ambient temperature.

| Type | Nominal Zener voltage range ³⁾ at I_{ZT} | Test current | Maximum Zener Impedance ¹⁾ | | | Maximum reverse leakage current | | Surge current at $T_A=25^\circ\text{C}$ | Maximum regulator current ²⁾ |
|--------|---|--------------|---------------------------------------|----------|-------------|---------------------------------|----------|---|---|
| | V_z | I_{ZT} | at I_{ZT} | Z_{ZK} | at I_{ZK} | I_R | at V_R | I_R | I_{ZM} |
| | V | mA | Ω | Ω | mA | μA | V | mA | mA |
| ZM4728 | 3.3 | 76 | 10 | 400 | 1.0 | 150 | 1 | 1375 | 275 |
| ZM4729 | 3.6 | 69 | 10 | 400 | 1.0 | 100 | 1 | 1260 | 252 |
| ZM4730 | 3.9 | 64 | 9 | 400 | 1.0 | 100 | 1 | 1190 | 234 |
| ZM4731 | 4.3 | 58 | 9 | 400 | 1.0 | 50 | 1 | 1070 | 217 |
| ZM4732 | 4.7 | 53 | 8 | 500 | 1.0 | 10 | 1 | 970 | 193 |
| ZM4733 | 5.1 | 49 | 7 | 550 | 1.0 | 10 | 1 | 890 | 178 |
| ZM4734 | 5.6 | 45 | 5 | 600 | 1.0 | 10 | 2 | 810 | 162 |
| ZM4735 | 6.2 | 41 | 2 | 700 | 1.0 | 10 | 3 | 730 | 146 |
| ZM4736 | 6.8 | 37 | 3.5 | 700 | 1.0 | 10 | 4 | 660 | 133 |
| ZM4737 | 7.5 | 34 | 4.0 | 700 | 0.5 | 10 | 5 | 605 | 121 |
| ZM4738 | 8.2 | 31 | 4.5 | 700 | 0.5 | 10 | 6 | 550 | 110 |
| ZM4739 | 9.1 | 28 | 5.0 | 700 | 0.5 | 10 | 7 | 500 | 100 |
| ZM4740 | 10 | 25 | 7 | 700 | 0.25 | 10 | 7.6 | 454 | 91 |
| ZM4741 | 11 | 23 | 8 | 700 | 0.25 | 5 | 8.4 | 414 | 83 |
| ZM4742 | 12 | 21 | 9 | 700 | 0.25 | 5 | 9.1 | 380 | 76 |
| ZM4743 | 13 | 19 | 10 | 700 | 0.25 | 5 | 9.9 | 344 | 69 |
| ZM4744 | 15 | 17 | 14 | 700 | 0.25 | 5 | 11.4 | 304 | 61 |
| ZM4745 | 16 | 15.5 | 16 | 700 | 0.25 | 5 | 12.2 | 285 | 57 |
| ZM4746 | 18 | 14 | 20 | 750 | 0.25 | 5 | 13.7 | 250 | 50 |
| ZM4747 | 20 | 12.5 | 22 | 750 | 0.25 | 5 | 15.2 | 225 | 45 |
| ZM4748 | 22 | 11.5 | 23 | 750 | 0.25 | 5 | 16.7 | 205 | 41 |
| ZM4749 | 24 | 10.5 | 25 | 750 | 0.25 | 5 | 18.2 | 190 | 38 |
| ZM4750 | 27 | 9.5 | 35 | 750 | 0.25 | 5 | 20.6 | 170 | 34 |
| ZM4751 | 30 | 8.5 | 40 | 1000 | 0.25 | 5 | 22.8 | 150 | 30 |
| ZM4752 | 33 | 7.5 | 45 | 1000 | 0.25 | 5 | 25.1 | 135 | 27 |
| ZM4753 | 36 | 7.0 | 50 | 1000 | 0.25 | 5 | 27.4 | 125 | 25 |
| ZM4754 | 39 | 6.5 | 60 | 1000 | 0.25 | 5 | 29.7 | 115 | 23 |
| ZM4755 | 43 | 6.0 | 70 | 1500 | 0.25 | 5 | 32.7 | 110 | 22 |
| ZM4756 | 47 | 5.5 | 80 | 1500 | 0.25 | 5 | 35.8 | 95 | 19 |
| ZM4757 | 51 | 5.0 | 95 | 1500 | 0.25 | 5 | 38.8 | 90 | 18 |
| ZM4758 | 56 | 4.5 | 110 | 2000 | 0.25 | 5 | 42.6 | 80 | 16 |
| ZM4759 | 62 | 4.0 | 125 | 2000 | 0.25 | 5 | 47.1 | 70 | 14 |
| ZM4760 | 68 | 3.7 | 150 | 2000 | 0.25 | 5 | 51.7 | 65 | 13 |
| ZM4761 | 75 | 3.3 | 175 | 2000 | 0.25 | 5 | 56.0 | 60 | 12 |
| ZM4762 | 82 | 3.0 | 200 | 3000 | 0.25 | 5 | 62.2 | 55 | 11 |
| ZM4763 | 91 | 2.8 | 250 | 3000 | 0.25 | 5 | 69.2 | 50 | 10 |
| ZM4764 | 100 | 2.5 | 350 | 3000 | 0.25 | 5 | 76.0 | 45 | 9 |

Notes:

(1) 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.

(2) Valid provided that electrodes are kept at ambient temperature.

(3) Measured under thermal equilibrium and DC test conditions.

RATINGS AND CHARACTERISTIC CURVES

Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept
at ambient temperature

