Certificate Number: Q10561

Certificate Number: E17276

# ZM4728A - ZM4764A

## ZENER DIODES

**$V_Z$ :** 3.3 to 100V
**$P_D$ :** 1W

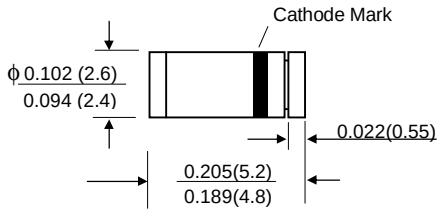
### FEATURES :

- Silicon planar power zener diodes
- For use in stabilizing and clipping circuits with higher power rating.
- Standard zener voltage tolerance is ± 5%.
- Other zener voltages and tolerances are available upon request.
- These diodes are also available in the DO-41 case with type designation 1N4728A ... 1N4764A
- Pb / RoHS Free

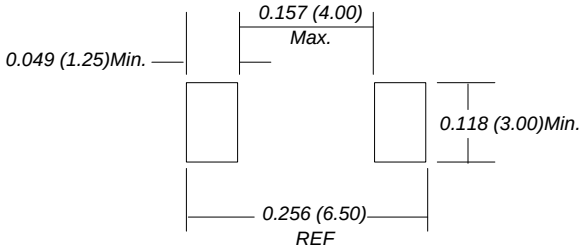
### MECHANICAL DATA :

* Case : MELF Glass Case
* Weight : 0.25 g (approximately)

**MELF**




**Mounting Pad Layout**




**Dimensions in inches and ( millimeters )**

## Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Zener Current see Table "Characteristics" | | | |
| Maximum Forward Voltage at $I_F$ = 200 mA. | $V_F$ | 1.2 | V |
| Power Dissipation | $P_D$ | 1[1)] | W |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 170[(1)] | °C/W |
| Junction temperature | $T_J$ | -65 to + 200 | °C |
| Storage temperature range | $T_S$ | -65 to + 200 | °C |

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

# ELECTRICAL CHARACTERISTICS

(Ta = 25 °C unless otherwise noted)

| Type | Nominal Zener Voltage | | Maximum Zener Impedance(1) | | | Maximum Reverse Leakage Current | | Maximum DC Zener Current |
|---|---|---|---|---|---|---|---|---|
| | $V_Z$ @ $I_{ZT}$ | $I_{ZT}$ | $Z_{ZT}$ @ $I_{ZT}$ | $Z_{ZK}$ @ $I_{ZK}$ | $I_{ZK}$ | $I_R$ @ $V_R$ | | $I_{ZM}$(2) |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | (mA) |
| **ZM4728A** | 3.3 | 76.0 | 10 | 400 | 1.0 | 100 | 1.0 | 276 |
| **ZM4729A** | 3.6 | 69.0 | 10 | 400 | 1.0 | 100 | 1.0 | 252 |
| **ZM4730A** | 3.9 | 64.0 | 9.0 | 400 | 1.0 | 50 | 1.0 | 234 |
| **ZM4731A** | 4.3 | 58.0 | 9.0 | 400 | 1.0 | 10 | 1.0 | 217 |
| **ZM4732A** | 4.7 | 53.0 | 8.0 | 500 | 1.0 | 10 | 1.0 | 193 |
| **ZM4733A** | 5.1 | 49.0 | 7.0 | 550 | 1.0 | 10 | 1.0 | 178 |
| **ZM4734A** | 5.6 | 45.0 | 5.0 | 600 | 1.0 | 10 | 2.0 | 162 |
| **ZM4735A** | 6.2 | 41.0 | 2.0 | 700 | 1.0 | 10 | 3.0 | 146 |
| **ZM4736A** | 6.8 | 37.0 | 3.5 | 700 | 1.0 | 10 | 4.0 | 133 |
| **ZM4737A** | 7.5 | 34.0 | 4.0 | 700 | 0.5 | 10 | 5.0 | 121 |
| **ZM4738A** | 8.2 | 31.0 | 4.5 | 700 | 0.5 | 10 | 6.0 | 110 |
| **ZM4739A** | 9.1 | 28.0 | 5.0 | 700 | 0.5 | 10 | 7.0 | 100 |
| **ZM4740A** | 10 | 25.0 | 7.0 | 700 | 0.25 | 10 | 7.6 | 91 |
| **ZM4741A** | 11 | 23.0 | 8.0 | 700 | 0.25 | 5.0 | 8.4 | 83 |
| **ZM4742A** | 12 | 21.0 | 9.0 | 700 | 0.25 | 5.0 | 9.1 | 76 |
| **ZM4743A** | 13 | 19.0 | 10 | 700 | 0.25 | 5.0 | 9.9 | 69 |
| **ZM4744A** | 15 | 17.0 | 14 | 700 | 0.25 | 5.0 | 11.4 | 61 |
| **ZM4745A** | 16 | 15.5 | 16 | 700 | 0.25 | 5.0 | 12.2 | 57 |
| **ZM4746A** | 18 | 14.0 | 20 | 750 | 0.25 | 5.0 | 13.7 | 50 |
| **ZM4747A** | 20 | 12.5 | 22 | 750 | 0.25 | 5.0 | 15.2 | 45 |
| **ZM4748A** | 22 | 11.5 | 23 | 750 | 0.25 | 5.0 | 16.7 | 41 |
| **ZM4749A** | 24 | 10.5 | 25 | 750 | 0.25 | 5.0 | 18.2 | 38 |
| **ZM4750A** | 27 | 9.5 | 35 | 750 | 0.25 | 5.0 | 20.6 | 34 |
| **ZM4751A** | 30 | 8.5 | 40 | 1000 | 0.25 | 5.0 | 22.8 | 30 |
| **ZM4752A** | 33 | 7.5 | 45 | 1000 | 0.25 | 5.0 | 25.1 | 27 |
| **ZM4753A** | 36 | 7.0 | 50 | 1000 | 0.25 | 5.0 | 27.4 | 25 |
| **ZM4754A** | 39 | 6.5 | 60 | 1000 | 0.25 | 5.0 | 29.7 | 23 |
| **ZM4755A** | 43 | 6.0 | 70 | 1500 | 0.25 | 5.0 | 32.7 | 22 |
| **ZM4756A** | 47 | 5.5 | 80 | 1500 | 0.25 | 5.0 | 35.8 | 19 |
| **ZM4757A** | 51 | 5.0 | 95 | 1500 | 0.25 | 5.0 | 38.8 | 18 |
| **ZM4758A** | 56 | 4.5 | 110 | 2000 | 0.25 | 5.0 | 42.6 | 16 |
| **ZM4759A** | 62 | 4.0 | 125 | 2000 | 0.25 | 5.0 | 47.1 | 14 |
| **ZM4760A** | 68 | 3.7 | 150 | 2000 | 0.25 | 5.0 | 51.7 | 13 |
| **ZM4761A** | 75 | 3.3 | 175 | 2000 | 0.25 | 5.0 | 56.0 | 12 |
| **ZM4762A** | 82 | 3.0 | 200 | 3000 | 0.25 | 5.0 | 62.2 | 11 |
| **ZM4763A** | 91 | 2.8 | 250 | 3000 | 0.25 | 5.0 | 69.2 | 10 |
| **ZM4764A** | 100 | 2.5 | 350 | 3000 | 0.25 | 5.0 | 76.0 | 9.0 |

**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) The type number listed have a standard tolerance on the nominal zener voltage of ± 5%.