



TIGER ELECTRONIC CO.,LTD

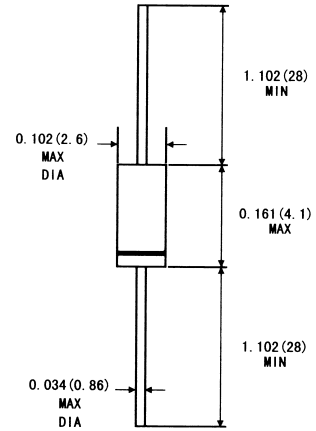
1N4728 THRU 1N4764

1W SILICON PLANAR ZENER DIODES

FEATURES

- . Silicon planar power zener diodes
- For use in stabilizing and clipping circuits with high power rating.
- . Standards Zener voltage toerance is $\pm 10\%$
- Add suffix "A" for $\pm 5\%$ tolerance Other tolerance available upon request

DO-41(GLASS)



Dimensions in inches and (millimeters)

MECHANICAL DATA

- . **Case:** DO-41 glass case
- . **weight:** Approx. 0.35 gram

ABSOLUTE MAXIMUM RATINGS(LIMITING VALUES)($T_A=25^\circ\text{C}$)

| | Symbols | Value | Units |
|---|-----------|-----------------|------------------|
| Zener current see table "Characteristics" | | | |
| Power dissipation at $T_A=25^\circ\text{C}$ | P_{tot} | 1 ¹⁾ | mW |
| Junction temperature | T_J | 175 | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -65 to +175 | $^\circ\text{C}$ |

1) Valid provided that a distance of 8mm from case are kept at ambient temperature

ELECTRCAL CHARACTERISTICS($T_A=25^\circ\text{C}$)

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

1) Valid provided that a distance at 8mm from case are kept at ambient temperature



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| Type | Nominal Zener Voltage ³⁾ | Test Current | Maximum Zener Impedance ¹⁾ | | | Maximum reverse leakage current | | Surge current | Maximum regulator Current ²⁾ | |
|--------|-------------------------------------|--------------|---------------------------------------|----------------------|-------------------|---------------------------------|---------------|---------------------------|---|-----|
| | at I_{ZT} V_Z V | I_{ZT} mA | at I_{ZT} Z_{ZT} Ω | Z_{ZK} Ω | at I_{ZK} mA | I_R μ A | at V_R V | at $T_A=0.25$ I_R mA | I_{ZM} mA | |
| 1N4728 | 3.3 | 76 | 10 | 400 | 1.0 | 100 | 1.0 | 1380 | 276 | |
| 1N4729 | 3.6 | 69 | 10 | | | | 1.0 | 1260 | 252 | |
| 1N4730 | 3.9 | 64 | 9 | | | | 1.0 | 1190 | 234 | |
| 1N4731 | 4.3 | 58 | 9 | 500 | | 10 | 1.0 | 1070 | 217 | |
| 1N4732 | 4.7 | 53 | 8 | | | | 1.0 | 970 | 193 | |
| 1N4733 | 5.1 | 49 | 7 | | | | 1.0 | 890 | 178 | |
| 1N4734 | 5.6 | 45 | 5 | 600 | 5.0 | | 2.0 | 810 | 162 | |
| 1N4735 | 6.2 | 41 | 2 | | | | 3.0 | 730 | 146 | |
| 1N4736 | 6.8 | 37 | 3.5 | | | | 4.0 | 660 | 133 | |
| 1N4737 | 7.5 | 34 | 4.0 | 700 | | 0.25 | 5 | 5.0 | 605 | 121 |
| 1N4738 | 8.2 | 31 | 4.5 | | | | | 6.0 | 550 | 110 |
| 1N4739 | 9.1 | 28 | 5.0 | | | | | 7.0 | 500 | 100 |
| 1N4740 | 10 | 25 | 7 | 750 | 5 | | | 7.6 | 454 | 91 |
| 1N4741 | 11 | 23 | 8 | | | | | 8.4 | 414 | 83 |
| 1N4742 | 12 | 21 | 9 | | | | | 9.1 | 380 | 76 |
| 1N4743 | 13 | 19 | 10 | 1000 | | 5 | 9.9 | 344 | 69 | |
| 1N4744 | 15 | 17 | 14 | | | | 11.4 | 304 | 61 | |
| 1N4745 | 16 | 15.5 | 16 | | | | 12.2 | 285 | 57 | |
| 1N4746 | 18 | 14 | 20 | 1500 | 5 | | 13.7 | 250 | 50 | |
| 1N4747 | 20 | 12.5 | 22 | | | | 15.2 | 225 | 45 | |
| 1N4748 | 22 | 11.5 | 23 | | | | 16.7 | 205 | 41 | |
| 1N4749 | 24 | 10.5 | 25 | 2000 | | 5 | 18.2 | 190 | 38 | |
| 1N4750 | 27 | 9.5 | 35 | | | | 20.6 | 170 | 34 | |
| 1N4751 | 30 | 8.5 | 40 | | | | 22.8 | 150 | 30 | |
| 1N4752 | 33 | 7.5 | 45 | 1000 | 5 | | 25.1 | 135 | 27 | |
| 1N4753 | 36 | 7.0 | 50 | | | | 27.4 | 125 | 25 | |
| 1N4754 | 39 | 6.5 | 60 | | | | 29.7 | 115 | 23 | |
| 1N4755 | 43 | 6.0 | 70 | 1500 | | 5 | 32.7 | 110 | 22 | |
| 1N4756 | 47 | 5.5 | 80 | | | | 35.8 | 95 | 19 | |
| 1N4757 | 51 | 5.0 | 95 | | | | 38.8 | 90 | 18 | |
| 1N4758 | 56 | 4.5 | 110 | 2000 | 5 | | 42.6 | 80 | 16 | |
| 1N4759 | 62 | 4.0 | 125 | | | | 47.1 | 70 | 14 | |
| 1N4760 | 68 | 3.7 | 150 | | | | 51.7 | 65 | 13 | |
| 1N4761 | 75 | 3.3 | 175 | 3000 | | 5 | 56.0 | 60 | 12 | |
| 1N4762 | 82 | 3.0 | 200 | | | | 62.2 | 55 | 11 | |
| 1N4763 | 91 | 2.8 | 250 | | | | 69.2 | 50 | 10 | |
| 1N4764 | 100 | 2.5 | 350 | 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 at a distance of 10mm from case
are kept at ambient temperature)

