



Micro Commercial Components  
21201 Itasca Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

# 1N4728 THRU 1N4764

## Features

- Hermetic Glass Package
- Silicon Planar Zener Diodes
- These diodes are also available in the MELF case with type designation DL4728 thru DL4764.

## Mechanical Data

- Case: DO-41 Molded Glass
- Polarity: is indicated by cathode band.
- Weight: 0.378 grams (Approx.)

## Maximum Ratings

- Operating Temperature:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Storage Temperature:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- For capacitive load, derate current by 20%

Electrical Characteristics @  $25^{\circ}\text{C}$  Unless Otherwise Specified

|                                           |                 |                                |                           |
|-------------------------------------------|-----------------|--------------------------------|---------------------------|
| DC Power Dissipation                      | $P_d$           | 1.0W                           | $T_A=100^{\circ}\text{C}$ |
| Peak Forward Surge Current                | $I_{FSM}$       | See Page 2                     |                           |
| Thermal Resistance                        | $R_{\theta JA}$ | $100^{\circ}\text{C/W}$        | Note 1                    |
| Power Derating from $100^{\circ}\text{C}$ | $P_{tot}$       | $10\text{mW}/^{\circ}\text{C}$ |                           |

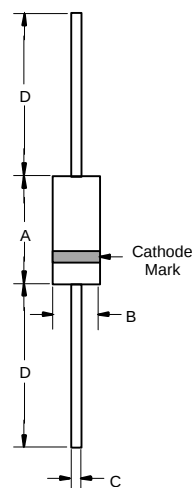
**Note:** (1) Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature.

1.0 Watt

Zener Diode

3.3 to 100 Volts

DO-41G



| DIMENSIONS |        |       |       |      |          |
|------------|--------|-------|-------|------|----------|
| DIM        | INCHES |       | MM    |      | NOTE     |
|            | MIN    | MAX   | MIN   | MAX  |          |
| A          | 0.166  | 0.205 | 4.10  | 7.60 |          |
| B          | 0.080  | 0.107 | 2.00  | 3.60 | Diameter |
| C          | 0.026  | 0.034 | 0.70  | 0.90 | Diameter |
| D          | 1.000  | ----  | 25.40 | ---- |          |

# 1N4728 thru 1N4764



## Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted). Maximum V<sub>F</sub> = 1.2V at I<sub>F</sub> = 200mA

| MCC<br>PART<br>NUMBER | ZENER<br>VOLTAGE<br>V <sub>Z</sub> | TEST<br>CURRENT<br>I <sub>ZT</sub> | MAXIMUM<br>DYNAMIC<br>IMPEDANCE<br>Z <sub>ZT</sub> @ I <sub>ZT</sub> | MAXIMUM<br>REVERSE<br>CURRENT<br>I <sub>R</sub> @ V <sub>R</sub> | TEST<br>VOLTAGE<br>V <sub>R</sub> | MAXIMUM<br>REGULATOR<br>CURRENT<br>I <sub>ZM</sub><br>T <sub>A</sub> = 50°C | MAXIMUM<br>KNEE<br>IMPEDANCE<br>Z <sub>ZK</sub> @ I <sub>ZK</sub> | TEST<br>CURRENT<br>I <sub>ZK</sub> | MAXIMUM<br>SURGE<br>CURRENT<br>I <sub>S</sub> | MAXIMUM<br>TEMPERATURE<br>COEFFICIENT<br>@I <sub>ZT</sub> |
|-----------------------|------------------------------------|------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------|-----------------------------------------------|-----------------------------------------------------------|
|                       | VOLTS                              | mA                                 | OHMS                                                                 | μA                                                               | VOLTS                             | mA                                                                          | OHMS                                                              | mA                                 | mA                                            | %/°C                                                      |
| 1N4728                | 3.3                                | 76                                 | 10                                                                   | 100                                                              | 1                                 | 276                                                                         | 400                                                               | 1.0                                | 1380                                          | -0.08                                                     |
| 1N4729                | 3.6                                | 69                                 | 10                                                                   | 100                                                              | 1                                 | 252                                                                         | 400                                                               | 1.0                                | 1260                                          | -0.08                                                     |
| 1N4730                | 3.9                                | 64                                 | 9                                                                    | 50                                                               | 1                                 | 234                                                                         | 400                                                               | 1.0                                | 1190                                          | -0.07                                                     |
| 1N4731                | 4.3                                | 58                                 | 9                                                                    | 10                                                               | 1                                 | 217                                                                         | 400                                                               | 1.0                                | 1070                                          | -0.07                                                     |
| 1N4732                | 4.7                                | 53                                 | 8                                                                    | 10                                                               | 1                                 | 193                                                                         | 500                                                               | 1.0                                | 970                                           | -0.03 to +0.04                                            |
| 1N4733                | 5.1                                | 49                                 | 7                                                                    | 10                                                               | 1                                 | 178                                                                         | 550                                                               | 1.0                                | 890                                           | -0.03 to +0.04                                            |
| 1N4734                | 5.6                                | 45                                 | 5                                                                    | 10                                                               | 2                                 | 162                                                                         | 600                                                               | 1.0                                | 810                                           | 0.045                                                     |
| 1N4735                | 6.2                                | 41                                 | 2                                                                    | 10                                                               | 3                                 | 146                                                                         | 700                                                               | 1.0                                | 730                                           | 0.055                                                     |
| 1N4736                | 6.8                                | 37                                 | 3.5                                                                  | 10                                                               | 4                                 | 133                                                                         | 700                                                               | 1.0                                | 660                                           | 0.06                                                      |
| 1N4737                | 7.5                                | 34                                 | 4.0                                                                  | 10                                                               | 5                                 | 121                                                                         | 700                                                               | 0.5                                | 605                                           | 0.065                                                     |
| 1N4738                | 8.2                                | 31                                 | 4.5                                                                  | 10                                                               | 6                                 | 110                                                                         | 700                                                               | 0.5                                | 550                                           | 0.07                                                      |
| 1N4739                | 9.1                                | 28                                 | 5.0                                                                  | 10                                                               | 7                                 | 100                                                                         | 700                                                               | 0.5                                | 500                                           | 0.075                                                     |
| 1N4740                | 10                                 | 25                                 | 7                                                                    | 10                                                               | 7.6                               | 91                                                                          | 700                                                               | 0.25                               | 454                                           | 0.08                                                      |
| 1N4741                | 11                                 | 23                                 | 8                                                                    | 5                                                                | 8.4                               | 83                                                                          | 700                                                               | 0.25                               | 414                                           | 0.08                                                      |
| 1N4742                | 12                                 | 21                                 | 9                                                                    | 5                                                                | 9.1                               | 76                                                                          | 700                                                               | 0.25                               | 380                                           | 0.085                                                     |
| 1N4743                | 13                                 | 19                                 | 10                                                                   | 5                                                                | 9.9                               | 69                                                                          | 700                                                               | 0.25                               | 344                                           | 0.085                                                     |
| 1N4744                | 15                                 | 17                                 | 14                                                                   | 5                                                                | 11.4                              | 61                                                                          | 700                                                               | 0.25                               | 304                                           | 0.09                                                      |
| 1N4745                | 16                                 | 15.5                               | 16                                                                   | 5                                                                | 12.2                              | 57                                                                          | 700                                                               | 0.25                               | 285                                           | 0.09                                                      |
| 1N4746                | 18                                 | 14                                 | 20                                                                   | 5                                                                | 13.7                              | 50                                                                          | 750                                                               | 0.25                               | 250                                           | 0.09                                                      |
| 1N4747                | 20                                 | 12.5                               | 22                                                                   | 5                                                                | 15.2                              | 45                                                                          | 750                                                               | 0.25                               | 225                                           | 0.09                                                      |
| 1N4748                | 22                                 | 11.5                               | 23                                                                   | 5                                                                | 16.7                              | 41                                                                          | 750                                                               | 0.25                               | 205                                           | 0.095                                                     |
| 1N4749                | 24                                 | 10.5                               | 25                                                                   | 5                                                                | 18.2                              | 38                                                                          | 750                                                               | 0.25                               | 190                                           | 0.095                                                     |
| 1N4750                | 27                                 | 9.5                                | 35                                                                   | 5                                                                | 20.6                              | 34                                                                          | 750                                                               | 0.25                               | 170                                           | 0.095                                                     |
| 1N4751                | 30                                 | 8.5                                | 40                                                                   | 5                                                                | 22.8                              | 30                                                                          | 1000                                                              | 0.25                               | 150                                           | 0.095                                                     |
| 1N4752                | 33                                 | 7.5                                | 45                                                                   | 5                                                                | 25.1                              | 27                                                                          | 1000                                                              | 0.25                               | 135                                           | 0.095                                                     |
| 1N4753                | 36                                 | 7.0                                | 50                                                                   | 5                                                                | 27.4                              | 25                                                                          | 1000                                                              | 0.25                               | 125                                           | 0.095                                                     |
| 1N4754                | 39                                 | 6.5                                | 60                                                                   | 5                                                                | 29.7                              | 23                                                                          | 1000                                                              | 0.25                               | 115                                           | 0.095                                                     |
| 1N4755                | 43                                 | 6.0                                | 70                                                                   | 5                                                                | 32.7                              | 22                                                                          | 1500                                                              | 0.25                               | 110                                           | 0.095                                                     |
| 1N4756                | 47                                 | 5.5                                | 80                                                                   | 5                                                                | 35.8                              | 19                                                                          | 1500                                                              | 0.25                               | 95                                            | 0.095                                                     |
| 1N4757                | 51                                 | 5.0                                | 95                                                                   | 5                                                                | 38.8                              | 18                                                                          | 1500                                                              | 0.25                               | 90                                            | 0.095                                                     |
| 1N4758                | 56                                 | 4.5                                | 110                                                                  | 5                                                                | 42.6                              | 16                                                                          | 2000                                                              | 0.25                               | 80                                            | 0.095                                                     |
| 1N4759                | 62                                 | 4.0                                | 125                                                                  | 5                                                                | 47.1                              | 14                                                                          | 2000                                                              | 0.25                               | 70                                            | 0.095                                                     |
| 1N4760                | 68                                 | 3.7                                | 150                                                                  | 5                                                                | 51.7                              | 13                                                                          | 2000                                                              | 0.25                               | 65                                            | 0.095                                                     |
| 1N4761                | 75                                 | 3.3                                | 175                                                                  | 5                                                                | 56.0                              | 12                                                                          | 2000                                                              | 0.25                               | 60                                            | 0.095                                                     |
| 1N4762                | 82                                 | 3.0                                | 200                                                                  | 5                                                                | 62.2                              | 11                                                                          | 3000                                                              | 0.25                               | 55                                            | -----                                                     |
| 1N4763                | 91                                 | 2.8                                | 250                                                                  | 5                                                                | 69.2                              | 10                                                                          | 3000                                                              | 0.25                               | 50                                            | -----                                                     |
| 1N4764                | 100                                | 2.5                                | 350                                                                  | 5                                                                | 76.0                              | 9                                                                           | 3000                                                              | 0.25                               | 45                                            | -----                                                     |

- Note**
- 1: The JEDEC type number shown with an A suffix have a 5% tolerance on nominal zener voltage. No suffix signifies a 10% tolerance, C signifies 2%, and D suffix signifies 1% tolerance.
  - 2: 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 DC Zener current(I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and eliminate unstable units.
  - 3: The reverse surge current is measured at 25°C ambient using a 1/2 square wave or equivalent sine wave pulse 1/120 second duration superimposed on I<sub>ZT</sub>.
  - 4: Voltage measurements to be performed 90 seconds after application of DC current.

*Ratings and  
Characteristic Curves* ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Admissible power dissipation  
versus ambient temperature**

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

