

# New Jersey Semi-Conductor Products, Inc.

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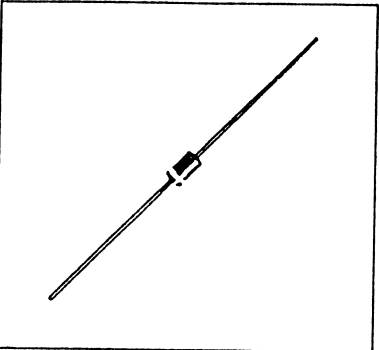
## 1N4728,A thru 1N4764,A

**ONE WATT HERMETICALLY SEALED  
 GLASS SILICON ZENER DIODES**

- Complete Voltage Range — 3.3 to 100 Volts
- DO-41 Package — Smaller than Conventional DO-7 Package
- Double Slug Type Construction
- Metallurgically Bonded Construction
- Nitride Passivated Die

**Designer's Data for "Worst Case" Conditions**  
 The Designers Data sheets permit the design of most circuits entirely from the information presented. Limit curves — representing boundaries on device characteristics — are given to facilitate "worst case" design.

**1.0 WATT  
 ZENER REGULATOR DIODES  
 3.3-100 VOLTS**



**\*MAXIMUM RATINGS**

| Rating  | Symbol                            | Value       | Unit          |
|---|-----------------------------------|-------------|---------------|
| DC Power Dissipation @ T <sub>A</sub> = 50°C<br>Derate above 50°C | P <sub>D</sub>                    | 1.0<br>6.67 | Watt<br>mW/°C |
| Operating and Storage Junction Temperature Range                  | T <sub>J</sub> , T <sub>stg</sub> | -65 to +200 | °C            |

**MECHANICAL CHARACTERISTICS**

**CASE:** Double slug type, hermetically sealed glass  
**MAXIMUM LEAD TEMPERATURE FOR SOLDERING PURPOSES:** 230°C, 1/16" from case for 10 seconds  
**FINISH:** All external surfaces are corrosion resistant with readily solderable leads.  
**POLARITY:** Cathode indicated by color band. When operated in zener mode, cathode will be positive with respect to anode.  
**MOUNTING POSITION:** Any

**\*ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted) V<sub>F</sub> = 1.2 V max, I<sub>F</sub> = 200 mA for all types.**

| JEDEC Type No. (Note 1) | Nominal Zener Voltage V <sub>Z</sub> @ I <sub>ZT</sub> Volts (Notes 2 and 3) | Test Current I <sub>ZT</sub> mA | Maximum Zener Impedance (Note 4)       |  |                    | Leakage Current       |                      | Surge Current @ T <sub>A</sub> = 25°C I <sub>S</sub> - mA (Note 5) |
|-------------------------|--|---------------------------------|--|--|--------------------|-----------------------|----------------------|--|
|                         |  |                                 | Z <sub>ZT</sub> @ I <sub>ZT</sub> Ohms | Z <sub>ZK</sub> @ I <sub>ZK</sub> Ohms | I <sub>ZK</sub> mA | I <sub>R</sub> μA Max | V <sub>R</sub> Volts |  |
| 1N4728                  | 3.3  | 76                              | 10                                     | 400                                    | 1.0                | 100                   | 1.0                  | 1380   |
| 1N4729                  | 3.6  | 69                              | 10                                     | 400                                    | 1.0                | 100                   | 1.0                  | 1260   |
| 1N4730                  | 3.9  | 64                              | 9.0                                    | 400                                    | 1.0                | 50                    | 1.0                  | 1190   |
| 1N4731                  | 4.3  | 58                              | 9.0                                    | 400                                    | 1.0                | 10                    | 1.0                  | 1070   |
| 1N4732                  | 4.7  | 53                              | 8.0                                    | 500                                    | 1.0                | 10                    | 1.0                  | 970  |
| 1N4733                  | 5.1  | 49                              | 7.0                                    | 550                                    | 1.0                | 10                    | 1.0                  | 890  |
| 1N4734                  | 5.6  | 45                              | 5.0                                    | 600                                    | 1.0                | 10                    | 2.0                  | 810  |
| 1N4735                  | 6.2  | 41                              | 2.0                                    | 700                                    | 1.0                | 10                    | 3.0                  | 730  |
| 1N4736                  | 6.8  | 37                              | 3.5                                    | 700                                    | 1.0                | 10                    | 4.0                  | 660  |
| 1N4737                  | 7.5  | 34                              | 4.0                                    | 700                                    | 0.5                | 10                    | 5.0                  | 605  |
| 1N4738                  | 8.2  | 31                              | 4.5                                    | 700                                    | 0.5                | 10                    | 6.0                  | 550  |
| 1N4739                  | 9.1  | 28                              | 5.0                                    | 700                                    | 0.5                | 10                    | 7.0                  | 500  |
| 1N4740                  | 10   | 25                              | 7.0                                    | 700                                    | 0.25               | 10                    | 7.6                  | 454  |
| 1N4741                  | 11   | 23                              | 8.0                                    | 700                                    | 0.25               | 5.0                   | 8.4                  | 414  |
| 1N4742                  | 12   | 21                              | 9.0                                    | 700                                    | 0.25               | 5.0                   | 9.1                  | 380  |
| 1N4743                  | 13   | 19                              | 10                                     | 700                                    | 0.25               | 5.0                   | 9.9                  | 344  |
| 1N4744                  | 15   | 17                              | 14                                     | 700                                    | 0.25               | 5.0                   | 11.4                 | 304  |
| 1N4745                  | 16   | 15.5                            | 16                                     | 700                                    | 0.25               | 5.0                   | 12.2                 | 285  |
| 1N4746                  | 18   | 14                              | 20                                     | 750                                    | 0.25               | 5.0                   | 13.7                 | 250  |
| 1N4747                  | 20   | 12.5                            | 22                                     | 750                                    | 0.25               | 5.0                   | 15.2                 | 225  |
| 1N4748                  | 22   | 11.5                            | 23                                     | 750                                    | 0.25               | 5.0                   | 16.7                 | 205  |
| 1N4749                  | 24   | 10.5                            | 25                                     | 750                                    | 0.25               | 5.0                   | 18.2                 | 190  |
| 1N4750                  | 27   | 9.5                             | 35                                     | 750                                    | 0.25               | 5.0                   | 20.6                 | 170  |
| 1N4751                  | 30   | 8.5                             | 40                                     | 1000                                   | 0.25               | 5.0                   | 22.8                 | 150  |
| 1N4752                  | 33   | 7.5                             | 45                                     | 1000                                   | 0.25               | 5.0                   | 25.1                 | 135  |
| 1N4753                  | 36   | 7.0                             | 50                                     | 1000                                   | 0.25               | 5.0                   | 27.4                 | 125  |
| 1N4754                  | 39   | 6.5                             | 60                                     | 1000                                   | 0.25               | 5.0                   | 29.7                 | 115  |
| 1N4755                  | 43   | 6.0                             | 70                                     | 1500                                   | 0.25               | 5.0                   | 32.7                 | 110  |
| 1N4756                  | 47   | 5.5                             | 80                                     | 1500                                   | 0.25               | 5.0                   | 35.8                 | 95   |
| 1N4757                  | 51   | 5.0                             | 95                                     | 1500                                   | 0.25               | 5.0                   | 38.8                 | 90   |
| 1N4758                  | 56   | 4.5                             | 110                                    | 2000                                   | 0.25               | 5.0                   | 42.6                 | 80   |
| 1N4759                  | 62   | 4.0                             | 125                                    | 2000                                   | 0.25               | 5.0                   | 47.1                 | 70   |
| 1N4760                  | 68   | 3.7                             | 150                                    | 2000                                   | 0.25               | 5.0                   | 51.7                 | 65   |
| 1N4761                  | 75   | 3.3                             | 175                                    | 2000                                   | 0.25               | 5.0                   | 56.0                 | 60   |
| 1N4762                  | 82   | 3.0                             | 200                                    | 3000                                   | 0.25               | 5.0                   | 62.2                 | 55   |
| 1N4763                  | 91   | 2.8                             | 250                                    | 3000                                   | 0.25               | 5.0                   | 69.2                 | 50   |
| 1N4764                  | 100  | 2.5                             | 350                                    | 3000                                   | 0.25               | 5.0                   | 76.0                 | 45   |



**NOTE 1 — Tolerance and Type Number Designation.** The JEDEC type numbers listed have a standard tolerance on the nominal zener voltage of ±10%. A standard tolerance of ±5% on individual units is also available and is indicated by suffixing "A" to the standard type number.

*C = 2% ± 0.1*