

# 1N4728 - 1N4764 Z1110 - Z1200

**V<sub>Z</sub> : 3.3 - 200 Volts**  
**P<sub>D</sub> : 1 Watt**

### FEATURES :

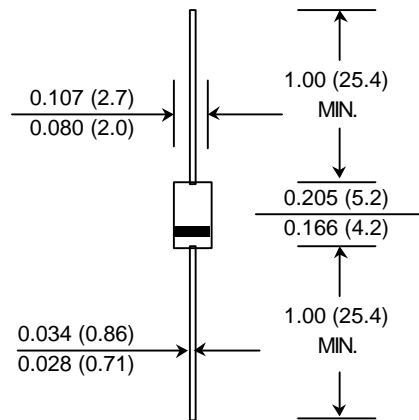
- \* Complete voltage range 3.3 to 200 Volts
- \* High peak reverse power dissipation
- \* High reliability
- \* Low leakage current

### MECHANICAL DATA

- \* Case : DO-41 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.339 gram

## SILICON ZENER DIODES

### DO - 41



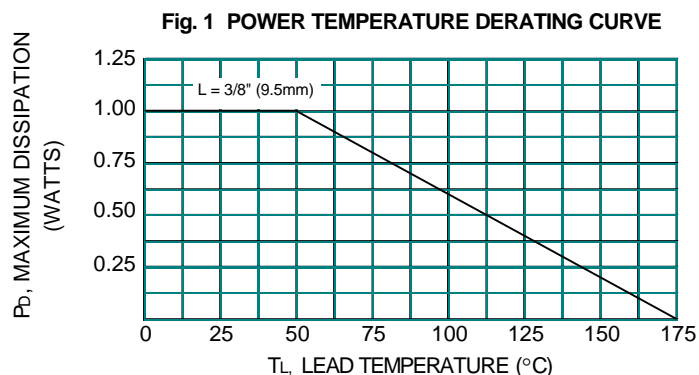
### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating   | Symbol           | Value         | Unit  |
|--|------------------|---------------|-------|
| DC Power Dissipation at T <sub>L</sub> = 50 °C (Note1)     | P <sub>D</sub>   | 1.0           | Watt  |
| Maximum Forward Voltage at I <sub>F</sub> = 200 mA         | V <sub>F</sub>   | 1.2           | Volts |
| Maximum Thermal Resistance Junction to Ambient Air (Note2) | R <sub>θJA</sub> | 170           | K / W |
| Junction Temperature Range                                 | T <sub>J</sub>   | - 55 to + 175 | °C    |
| Storage Temperature Range                                  | T <sub>S</sub>   | - 55 to + 175 | °C    |

#### Note :

- (1) T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body
- (2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.



## ELECTRICAL CHARACTERISTICS

Rating at = 25 °C ambient temperature unless otherwise specified

| TYPE   | Nominal Zener Voltage |      | Maximum Zener Impedance |           |      | Maximum Reverse Leakage Current |       | Maximum DC Zener Current |
|--------|-----------------------|------|-------------------------|-----------|------|---------------------------------|-------|--------------------------|
|        | Vz @ IzT              | IzT  | ZzT @ IzT               | Zzk @ Izk | Izk  | IR @ VR                         |       | IzM                      |
|        | (V)                   | (mA) | (Ω)                     | (Ω)       | (mA) | (μA)                            | (V)   | (mA)                     |
| 1N4728 | 3.3                   | 76.0 | 10                      | 400       | 1.0  | 100                             | 1.0   | 276                      |
| 1N4729 | 3.6                   | 69.0 | 10                      | 400       | 1.0  | 100                             | 1.0   | 252                      |
| 1N4730 | 3.9                   | 64.0 | 9.0                     | 400       | 1.0  | 50                              | 1.0   | 234                      |
| 1N4731 | 4.3                   | 58.0 | 9.0                     | 400       | 1.0  | 10                              | 1.0   | 217                      |
| 1N4732 | 4.7                   | 53.0 | 8.0                     | 500       | 1.0  | 10                              | 1.0   | 193                      |
| 1N4733 | 5.1                   | 49.0 | 7.0                     | 550       | 1.0  | 10                              | 1.0   | 178                      |
| 1N4734 | 5.6                   | 45.0 | 5.0                     | 600       | 1.0  | 10                              | 2.0   | 162                      |
| 1N4735 | 6.2                   | 41.0 | 2.0                     | 700       | 1.0  | 10                              | 3.0   | 146                      |
| 1N4736 | 6.8                   | 37.0 | 3.5                     | 700       | 1.0  | 50                              | 4.0   | 133                      |
| 1N4737 | 7.5                   | 34.0 | 4.0                     | 700       | 0.5  | 50                              | 5.0   | 121                      |
| 1N4738 | 8.2                   | 31.0 | 4.5                     | 700       | 0.5  | 50                              | 6.0   | 110                      |
| 1N4739 | 9.1                   | 28.0 | 5.0                     | 700       | 0.5  | 50                              | 7.0   | 100                      |
| 1N4740 | 10                    | 25.0 | 7.0                     | 700       | 0.25 | 50                              | 7.6   | 91                       |
| 1N4741 | 11                    | 23.0 | 8.0                     | 700       | 0.25 | 50                              | 8.4   | 83                       |
| 1N4742 | 12                    | 21.0 | 9.0                     | 700       | 0.25 | 5.0                             | 9.1   | 76                       |
| 1N4743 | 13                    | 19.0 | 10                      | 700       | 0.25 | 5.0                             | 9.9   | 69                       |
| 1N4744 | 15                    | 17.0 | 14                      | 700       | 0.25 | 5.0                             | 11.4  | 61                       |
| 1N4745 | 16                    | 15.5 | 16                      | 700       | 0.25 | 5.0                             | 12.2  | 57                       |
| 1N4746 | 18                    | 14.0 | 20                      | 750       | 0.25 | 5.0                             | 13.7  | 50                       |
| 1N4747 | 20                    | 12.5 | 22                      | 750       | 0.25 | 5.0                             | 15.2  | 45                       |
| 1N4748 | 22                    | 11.5 | 23                      | 750       | 0.25 | 5.0                             | 16.7  | 41                       |
| 1N4749 | 24                    | 10.5 | 25                      | 750       | 0.25 | 5.0                             | 18.2  | 38                       |
| 1N4750 | 27                    | 9.5  | 35                      | 750       | 0.25 | 5.0                             | 20.6  | 34                       |
| 1N4751 | 30                    | 8.5  | 40                      | 1000      | 0.25 | 5.0                             | 22.8  | 30                       |
| 1N4752 | 33                    | 7.5  | 45                      | 1000      | 0.25 | 5.0                             | 25.1  | 27                       |
| 1N4753 | 36                    | 7.0  | 50                      | 1000      | 0.25 | 5.0                             | 27.4  | 25                       |
| 1N4754 | 39                    | 6.5  | 60                      | 1000      | 0.25 | 5.0                             | 29.7  | 23                       |
| 1N4755 | 43                    | 6.0  | 70                      | 1500      | 0.25 | 5.0                             | 32.7  | 22                       |
| 1N4756 | 47                    | 5.5  | 80                      | 1500      | 0.25 | 5.0                             | 35.8  | 19                       |
| 1N4757 | 51                    | 5.0  | 95                      | 1500      | 0.25 | 5.0                             | 38.8  | 18                       |
| 1N4758 | 56                    | 4.5  | 110                     | 2000      | 0.25 | 5.0                             | 42.6  | 16                       |
| 1N4759 | 62                    | 4.0  | 125                     | 2000      | 0.25 | 5.0                             | 47.1  | 14                       |
| 1N4760 | 68                    | 3.7  | 150                     | 2000      | 0.25 | 5.0                             | 51.7  | 13                       |
| 1N4761 | 75                    | 3.3  | 175                     | 2000      | 0.25 | 5.0                             | 56.0  | 12                       |
| 1N4762 | 82                    | 3.0  | 200                     | 3000      | 0.25 | 5.0                             | 62.2  | 11                       |
| 1N4763 | 91                    | 2.8  | 250                     | 3000      | 0.25 | 5.0                             | 69.2  | 10                       |
| 1N4764 | 100                   | 2.5  | 350                     | 3000      | 0.25 | 5.0                             | 76.0  | 9.0                      |
| Z1110  | 110                   | 2.3  | 450                     | 4000      | 0.25 | 5.0                             | 83.6  | 8.6                      |
| Z1120  | 120                   | 2.0  | 550                     | 4500      | 0.25 | 5.0                             | 91.2  | 7.8                      |
| Z1130  | 130                   | 1.9  | 700                     | 5000      | 0.25 | 5.0                             | 98.8  | 7.0                      |
| Z1150  | 150                   | 1.7  | 1000                    | 6000      | 0.25 | 5.0                             | 114.0 | 6.4                      |
| Z1160  | 160                   | 1.6  | 1100                    | 6500      | 0.25 | 5.0                             | 121.6 | 5.8                      |
| Z1180  | 180                   | 1.4  | 1200                    | 7000      | 0.25 | 5.0                             | 136.8 | 5.2                      |
| Z1200  | 200                   | 1.2  | 1500                    | 8000      | 0.25 | 5.0                             | 152.0 | 4.7                      |

**Note :**

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 10\%$ .  
A standard tolerance of  $\pm 5\%$  on individual units is also available and is indicated by suffixing "A" to the standard type number.