

# 1N4728C - 1N4764C Z1110C - Z1300C

**V<sub>Z</sub> : 3.3 - 300 Volts**  
**P<sub>D</sub> : 1 Watt**

## FEATURES :

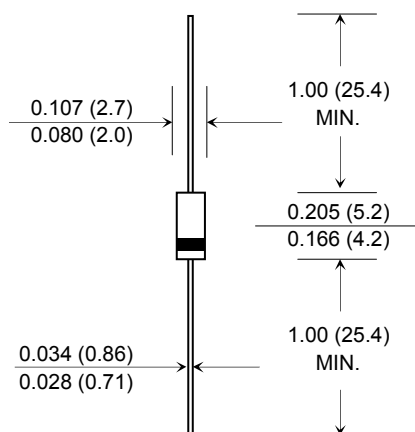
- \* Complete voltage range 3.3 to 300 Volts
- \* High peak reverse power dissipation
- \* High reliability
- \* Low leakage current
- \* **Pb / RoHS Free**

## 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



Dimensions in inches and ( millimeters )

## MAXIMUM RATINGS

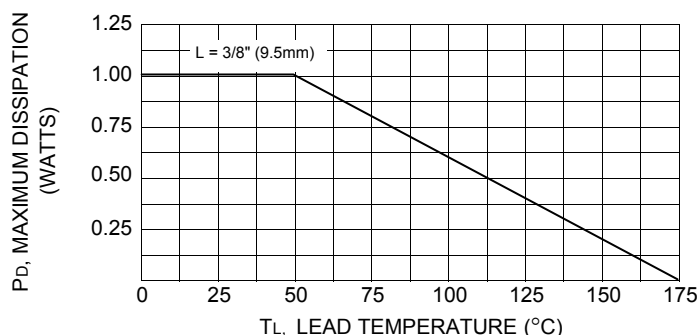
Rating at 25 °C ambient temperature unless otherwise specified.

| 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>STG</sub> | - 55 to + 175 | °C    |

### Notes :

- (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

Fig. 1 POWER TEMPERATURE DERATING CURVE



## 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 | Maximum Surge Current |
|---------|-----------------------|----------|-------------------------|-------------------|----------|---------------------------------|-------|--------------------------|-----------------------|
|         | $V_Z @ I_{ZT}$        | $I_{ZT}$ | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R @ V_R$                     |       | $I_{ZM}$                 | $I_{RM}^{(2)}$        |
|         | (V)                   | (mA)     | ( $\Omega$ )            | ( $\Omega$ )      | (mA)     | ( $\mu$ A)                      | (V)   | (mA)                     | (mA <sub>pk</sub> )   |
| 1N4728C | 3.3                   | 76.0     | 10                      | 400               | 1.0      | 100                             | 1.0   | 276                      | 1380                  |
| 1N4729C | 3.6                   | 69.0     | 10                      | 400               | 1.0      | 100                             | 1.0   | 252                      | 1260                  |
| 1N4730C | 3.9                   | 64.0     | 9.0                     | 400               | 1.0      | 50                              | 1.0   | 234                      | 1190                  |
| 1N4731C | 4.3                   | 58.0     | 9.0                     | 400               | 1.0      | 10                              | 1.0   | 217                      | 1070                  |
| 1N4732C | 4.7                   | 53.0     | 8.0                     | 500               | 1.0      | 10                              | 1.0   | 193                      | 970                   |
| 1N4733C | 5.1                   | 49.0     | 7.0                     | 550               | 1.0      | 10                              | 1.0   | 178                      | 890                   |
| 1N4734C | 5.6                   | 45.0     | 5.0                     | 600               | 1.0      | 10                              | 2.0   | 162                      | 810                   |
| 1N4735C | 6.2                   | 41.0     | 2.0                     | 700               | 1.0      | 10                              | 3.0   | 146                      | 730                   |
| 1N4736C | 6.8                   | 37.0     | 3.5                     | 700               | 1.0      | 50                              | 4.0   | 133                      | 660                   |
| 1N4737C | 7.5                   | 34.0     | 4.0                     | 700               | 0.5      | 50                              | 5.0   | 121                      | 605                   |
| 1N4738C | 8.2                   | 31.0     | 4.5                     | 700               | 0.5      | 50                              | 6.0   | 110                      | 550                   |
| 1N4739C | 9.1                   | 28.0     | 5.0                     | 700               | 0.5      | 50                              | 7.0   | 100                      | 500                   |
| 1N4740C | 10                    | 25.0     | 7.0                     | 700               | 0.25     | 50                              | 7.6   | 91                       | 454                   |
| 1N4741C | 11                    | 23.0     | 8.0                     | 700               | 0.25     | 50                              | 8.4   | 83                       | 414                   |
| 1N4742C | 12                    | 21.0     | 9.0                     | 700               | 0.25     | 5.0                             | 9.1   | 76                       | 380                   |
| 1N4743C | 13                    | 19.0     | 10                      | 700               | 0.25     | 5.0                             | 9.9   | 69                       | 344                   |
| 1N4744C | 15                    | 17.0     | 14                      | 700               | 0.25     | 5.0                             | 11.4  | 61                       | 305                   |
| 1N4745C | 16                    | 15.5     | 16                      | 700               | 0.25     | 5.0                             | 12.2  | 57                       | 285                   |
| 1N4746C | 18                    | 14.0     | 20                      | 750               | 0.25     | 5.0                             | 13.7  | 50                       | 250                   |
| 1N4747C | 20                    | 12.5     | 22                      | 750               | 0.25     | 5.0                             | 15.2  | 45                       | 225                   |
| 1N4748C | 22                    | 11.5     | 23                      | 750               | 0.25     | 5.0                             | 16.7  | 41                       | 205                   |
| 1N4749C | 24                    | 10.5     | 25                      | 750               | 0.25     | 5.0                             | 18.2  | 38                       | 190                   |
| 1N4750C | 27                    | 9.5      | 35                      | 750               | 0.25     | 5.0                             | 20.6  | 34                       | 170                   |
| 1N4751C | 30                    | 8.5      | 40                      | 1000              | 0.25     | 5.0                             | 22.8  | 30                       | 150                   |
| 1N4752C | 33                    | 7.5      | 45                      | 1000              | 0.25     | 5.0                             | 25.1  | 27                       | 135                   |
| 1N4753C | 36                    | 7.0      | 50                      | 1000              | 0.25     | 5.0                             | 27.4  | 25                       | 125                   |
| 1N4754C | 39                    | 6.5      | 60                      | 1000              | 0.25     | 5.0                             | 29.7  | 23                       | 115                   |
| 1N4755C | 43                    | 6.0      | 70                      | 1500              | 0.25     | 5.0                             | 32.7  | 22                       | 110                   |
| 1N4756C | 47                    | 5.5      | 80                      | 1500              | 0.25     | 5.0                             | 35.8  | 19                       | 95                    |
| 1N4757C | 51                    | 5.0      | 95                      | 1500              | 0.25     | 5.0                             | 38.8  | 18                       | 90                    |
| 1N4758C | 56                    | 4.5      | 110                     | 2000              | 0.25     | 5.0                             | 42.6  | 16                       | 80                    |
| 1N4759C | 62                    | 4.0      | 125                     | 2000              | 0.25     | 5.0                             | 47.1  | 14                       | 70                    |
| 1N4760C | 68                    | 3.7      | 150                     | 2000              | 0.25     | 5.0                             | 51.7  | 13                       | 65                    |
| 1N4761C | 75                    | 3.3      | 175                     | 2000              | 0.25     | 5.0                             | 56.0  | 12                       | 60                    |
| 1N4762C | 82                    | 3.0      | 200                     | 3000              | 0.25     | 5.0                             | 62.2  | 11                       | 55                    |
| 1N4763C | 91                    | 2.8      | 250                     | 3000              | 0.25     | 5.0                             | 69.2  | 10                       | 50                    |
| 1N4764C | 100                   | 2.5      | 350                     | 3000              | 0.25     | 5.0                             | 76.0  | 9.0                      | 45                    |
| Z1110C  | 110                   | 2.3      | 450                     | 4000              | 0.25     | 5.0                             | 83.6  | 8.6                      | 40                    |
| Z1120C  | 120                   | 2.0      | 550                     | 4500              | 0.25     | 5.0                             | 91.2  | 7.8                      | 37                    |
| Z1130C  | 130                   | 1.9      | 700                     | 5000              | 0.25     | 5.0                             | 98.8  | 7.0                      | 34                    |
| Z1150C  | 150                   | 1.7      | 1000                    | 6000              | 0.25     | 5.0                             | 114.0 | 6.4                      | 30                    |
| Z1160C  | 160                   | 1.6      | 1100                    | 6500              | 0.25     | 5.0                             | 121.6 | 5.8                      | 28                    |
| Z1180C  | 180                   | 1.4      | 1200                    | 7000              | 0.25     | 5.0                             | 136.8 | 5.2                      | 25                    |
| Z1200C  | 200                   | 1.2      | 1900                    | 9990              | 0.25     | 5.0                             | 152.0 | 4.7                      | 22                    |
| Z1240C  | 240                   | 0.93     | 1800                    | 8500              | 0.25     | 5.0                             | 182.4 | 3.8                      | 19                    |
| Z1250C  | 250                   | 0.90     | 2000                    | 9000              | 0.25     | 5.0                             | 190   | 3.6                      | 18                    |
| Z1270C  | 270                   | 0.82     | 2100                    | 9000              | 0.25     | 5.0                             | 205   | 3.3                      | 16                    |
| Z1300C  | 300                   | 0.75     | 2300                    | 9500              | 0.25     | 5.0                             | 228   | 3.0                      | 15                    |

### Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 2\%$ .
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on  $I_{ZT}$  per JEDEC Method