

# 1N5333A - 1N5388A

# SILICON ZENER DIODES

**$V_Z$  : 3.3 - 200 Volts**

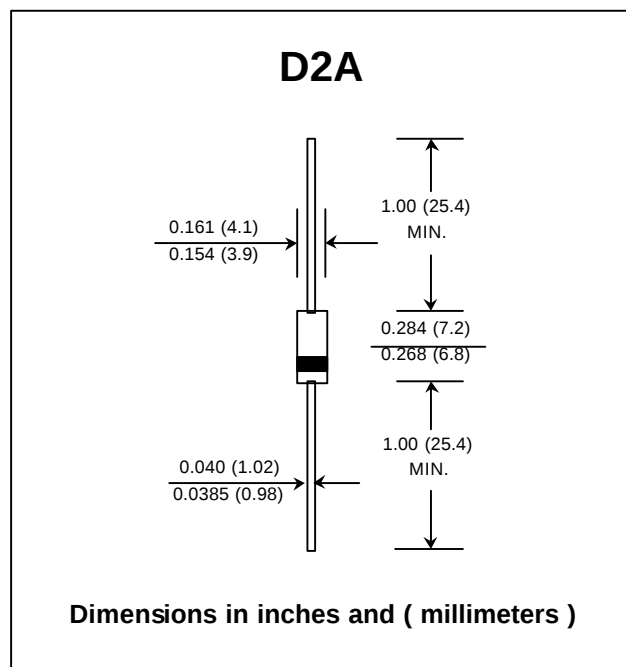
**$P_D$  : 5 Watts**

## FEATURES :

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

## MECHANICAL DATA

- \* Case : D2A 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 : 0.645 gram



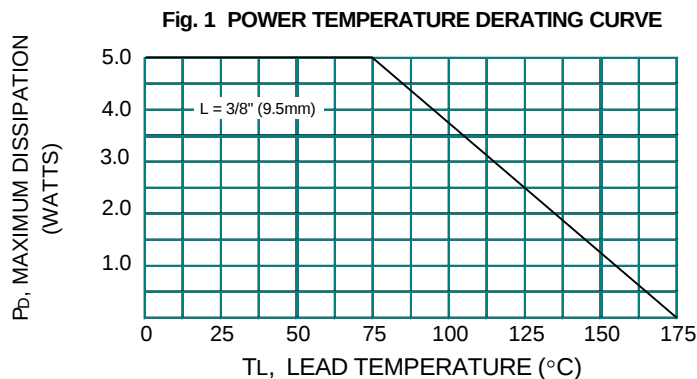
## MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                                     | Symbol          | Value         | Unit             |
|------------------------------------------------------------|-----------------|---------------|------------------|
| DC Power Dissipation at $T_L = 75^\circ\text{C}$ (Note1)   | $P_D$           | 5.0           | Watts            |
| Maximum Forward Voltage at $I_F = 200\text{ mA}$           | $V_F$           | 1.2           | Volts            |
| Maximum Thermal Resistance Junction to Ambient Air (Note2) | $R_{\theta JA}$ | 45            | K / W            |
| Junction Temperature Range                                 | $T_J$           | - 55 to + 175 | $^\circ\text{C}$ |
| Storage Temperature Range                                  | $T_S$           | - 55 to + 175 | $^\circ\text{C}$ |

### Note :

- (1)  $T_L$  = 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.





Certificate Number: Q10561



Certificate Number: E17276

## 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 |
|---------|----------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------|---------------------------------|------|--------------------------|
|         | V <sub>Z</sub> @ I <sub>ZT</sub> | I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> |      | I <sub>ZM</sub>          |
|         | (V)                              | (mA)            | (Ω)                               | (Ω)                               | (mA)            | (μA)                            | (V)  | (mA)                     |
| 1N5333A | 3.3                              | 380             | 3.0                               | 400                               | 1.0             | 300                             | 1.0  | 1440                     |
| 1N5334A | 3.6                              | 350             | 2.5                               | 500                               | 1.0             | 150                             | 1.0  | 1320                     |
| 1N5335A | 3.9                              | 320             | 2.0                               | 500                               | 1.0             | 50                              | 1.0  | 1220                     |
| 1N5336A | 4.3                              | 290             | 2.0                               | 500                               | 1.0             | 10                              | 1.0  | 1100                     |
| 1N5337A | 4.7                              | 260             | 2.0                               | 450                               | 1.0             | 5.0                             | 1.0  | 1010                     |
| 1N5338A | 5.1                              | 240             | 1.5                               | 400                               | 1.0             | 1.0                             | 1.0  | 930                      |
| 1N5339A | 5.6                              | 220             | 1.0                               | 400                               | 1.0             | 1.0                             | 2.0  | 856                      |
| 1N5340A | 6.0                              | 200             | 1.0                               | 300                               | 1.0             | 1.0                             | 3.0  | 790                      |
| 1N5341A | 6.2                              | 200             | 1.0                               | 200                               | 1.0             | 150                             | 4.0  | 765                      |
| 1N5342A | 6.8                              | 175             | 1.0                               | 200                               | 1.0             | 150                             | 4.9  | 700                      |
| 1N5343A | 7.5                              | 175             | 1.5                               | 200                               | 1.0             | 150                             | 5.4  | 630                      |
| 1N5344A | 8.2                              | 150             | 1.5                               | 200                               | 1.0             | 150                             | 5.9  | 580                      |
| 1N5345A | 8.7                              | 150             | 2.0                               | 200                               | 1.0             | 150                             | 6.3  | 545                      |
| 1N5346A | 9.1                              | 150             | 2.0                               | 150                               | 1.0             | 150                             | 6.6  | 520                      |
| 1N5347A | 10                               | 125             | 2.0                               | 125                               | 1.0             | 150                             | 7.2  | 475                      |
| 1N5348A | 11                               | 125             | 2.5                               | 125                               | 1.0             | 50                              | 8.0  | 430                      |
| 1N5349A | 12                               | 100             | 2.5                               | 125                               | 1.0             | 2.0                             | 8.6  | 395                      |
| 1N5350A | 13                               | 100             | 2.5                               | 100                               | 1.0             | 1.0                             | 9.4  | 365                      |
| 1N5351A | 14                               | 100             | 2.5                               | 75                                | 1.0             | 1.0                             | 10.1 | 340                      |
| 1N5352A | 15                               | 75              | 2.5                               | 75                                | 1.0             | 1.0                             | 10.8 | 315                      |
| 1N5353A | 16                               | 75              | 2.5                               | 75                                | 1.0             | 1.0                             | 11.5 | 295                      |
| 1N5354A | 17                               | 70              | 2.5                               | 75                                | 1.0             | 0.5                             | 12.2 | 280                      |
| 1N5355A | 18                               | 65              | 2.5                               | 75                                | 1.0             | 0.5                             | 13.0 | 265                      |
| 1N5356A | 19                               | 65              | 3.0                               | 75                                | 1.0             | 0.5                             | 13.7 | 250                      |
| 1N5357A | 20                               | 65              | 3.0                               | 75                                | 1.0             | 0.5                             | 14.4 | 237                      |
| 1N5358A | 22                               | 50              | 3.5                               | 75                                | 1.0             | 0.5                             | 15.8 | 216                      |
| 1N5359A | 24                               | 50              | 3.5                               | 100                               | 1.0             | 0.5                             | 17.3 | 198                      |
| 1N5360A | 25                               | 50              | 4.0                               | 110                               | 1.0             | 0.5                             | 18.0 | 190                      |
| 1N5361A | 27                               | 50              | 5.0                               | 120                               | 1.0             | 0.5                             | 19.4 | 176                      |
| 1N5362A | 28                               | 50              | 6.0                               | 130                               | 1.0             | 0.5                             | 20.1 | 170                      |
| 1N5363A | 30                               | 40              | 8.0                               | 140                               | 1.0             | 0.5                             | 21.6 | 158                      |
| 1N5364A | 33                               | 40              | 10                                | 150                               | 1.0             | 0.5                             | 23.8 | 144                      |
| 1N5365A | 36                               | 30              | 11                                | 160                               | 1.0             | 0.5                             | 25.9 | 132                      |
| 1N5366A | 39                               | 30              | 14                                | 170                               | 1.0             | 0.5                             | 28.1 | 122                      |
| 1N5367A | 43                               | 30              | 20                                | 190                               | 1.0             | 0.5                             | 31.0 | 110                      |
| 1N5368A | 47                               | 25              | 25                                | 210                               | 1.0             | 0.5                             | 33.8 | 100                      |
| 1N5369A | 51                               | 25              | 27                                | 230                               | 1.0             | 0.5                             | 36.7 | 93.0                     |
| 1N5370A | 56                               | 20              | 35                                | 280                               | 1.0             | 0.5                             | 40.3 | 86.0                     |
| 1N5371A | 60                               | 20              | 40                                | 350                               | 1.0             | 0.5                             | 43.0 | 79.0                     |
| 1N5372A | 62                               | 20              | 42                                | 400                               | 1.0             | 0.5                             | 44.6 | 76.0                     |
| 1N5373A | 68                               | 20              | 44                                | 500                               | 1.0             | 0.5                             | 49.0 | 70.0                     |
| 1N5374A | 75                               | 20              | 45                                | 620                               | 1.0             | 0.5                             | 54.0 | 63.0                     |
| 1N5375A | 82                               | 15              | 65                                | 720                               | 1.0             | 0.5                             | 59.0 | 58.0                     |
| 1N5376A | 87                               | 15              | 75                                | 760                               | 1.0             | 0.5                             | 63.0 | 54.5                     |
| 1N5377A | 91                               | 15              | 75                                | 760                               | 1.0             | 0.5                             | 65.5 | 52.5                     |
| 1N5378A | 100                              | 12              | 90                                | 800                               | 1.0             | 0.5                             | 72.0 | 47.5                     |
| 1N5379A | 110                              | 12              | 125                               | 1000                              | 1.0             | 0.5                             | 79.2 | 43.0                     |
| 1N5380A | 120                              | 10              | 170                               | 1150                              | 1.0             | 0.5                             | 86.4 | 39.5                     |
| 1N5381A | 130                              | 10              | 190                               | 1250                              | 1.0             | 0.5                             | 93.2 | 36.6                     |
| 1N5382A | 140                              | 8.0             | 230                               | 1500                              | 1.0             | 0.5                             | 101  | 34.0                     |
| 1N5383A | 150                              | 8.0             | 330                               | 1500                              | 1.0             | 0.5                             | 108  | 31.6                     |
| 1N5384A | 160                              | 8.0             | 350                               | 1650                              | 1.0             | 0.5                             | 115  | 29.4                     |
| 1N5385A | 170                              | 8.0             | 380                               | 1750                              | 1.0             | 0.5                             | 122  | 28.0                     |
| 1N5386A | 180                              | 5.0             | 430                               | 1750                              | 1.0             | 0.5                             | 130  | 26.4                     |
| 1N5387A | 190                              | 5.0             | 450                               | 1850                              | 1.0             | 0.5                             | 137  | 25.0                     |
| 1N5388A | 200                              | 5.0             | 480                               | 1850                              | 1.0             | 0.5                             | 144  | 23.6                     |

Note : (1) Suffix " A " indicates ± 10.0% tolerance, suffix "