

# 1N4728A - 1N4752A Series One Watt Zeners

## Absolute Maximum Ratings\*

TA = 25°C unless otherwise noted

Tolerance: A = 5%

| Parameter                                         | Value       | Units    |
|---------------------------------------------------|-------------|----------|
| Storage Temperature Range                         | -65 to +200 | °C       |
| Maximum Junction Operating Temperature            | + 200       | °C       |
| Lead Temperature (1/16" from case for 10 seconds) | + 230       | °C       |
| Total Device Dissipation                          | 1.0         | W        |
| Derate above 50°C                                 | 6.67        | m W / °C |
| Thermal resistance Junction to Lead               | 53.5        | °C/W     |
| Thermal resistance Junction to Ambient            | 100         | °C/W     |
| Surge Power**                                     | 10          | W        |

\*These ratings are limiting values above which the serviceability of the diode may be impaired.

\*\*Non-recurrent square wave PW= 8.3 ms, TA= 55 degrees C.

### NOTES:

1) These ratings are based on a maximum junction temperature of 200 degrees C.

2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.



DO-41

## Electrical Characteristics

TA = 25°C unless otherwise noted

| Device  | V <sub>Z</sub><br>(V) | Z <sub>Z</sub><br>(Ω) | @<br>I <sub>ZT</sub><br>(mA) | Z <sub>ZK</sub><br>(Ω) | @<br>I <sub>ZK</sub><br>(mA) | V <sub>R</sub><br>(V) | @<br>I <sub>R</sub><br>(μA) | I <sub>SURGE</sub><br>(mA) | I <sub>ZM</sub><br>(mA) |
|---------|-----------------------|-----------------------|------------------------------|------------------------|------------------------------|-----------------------|-----------------------------|----------------------------|-------------------------|
| 1N4728A | 3.3                   | 10                    | 76                           | 400                    | 1.0                          | 1.0                   | 100                         | 1,380                      | 276                     |
| 1N4729A | 3.6                   | 10                    | 69                           | 400                    | 1.0                          | 1.0                   | 100                         | 1,260                      | 252                     |
| 1N4730A | 3.9                   | 9.0                   | 64                           | 400                    | 1.0                          | 1.0                   | 50                          | 1,190                      | 234                     |
| 1N4731A | 4.3                   | 9.0                   | 58                           | 400                    | 1.0                          | 1.0                   | 10                          | 1,070                      | 217                     |
| 1N4732A | 4.7                   | 8.0                   | 53                           | 500                    | 1.0                          | 1.0                   | 10                          | 970                        | 193                     |
| 1N4733A | 5.1                   | 7.0                   | 49                           | 550                    | 1.0                          | 1.0                   | 10                          | 890                        | 178                     |
| 1N4734A | 5.6                   | 5.0                   | 45                           | 600                    | 1.0                          | 2.0                   | 10                          | 810                        | 162                     |
| 1N4735A | 6.2                   | 2.0                   | 41                           | 700                    | 1.0                          | 3.0                   | 10                          | 730                        | 146                     |
| 1N4736A | 6.8                   | 3.5                   | 37                           | 700                    | 1.0                          | 4.0                   | 10                          | 660                        | 133                     |
| 1N4737A | 7.5                   | 4.0                   | 34                           | 700                    | 0.5                          | 5.0                   | 10                          | 605                        | 121                     |
| 1N4738A | 8.2                   | 4.5                   | 31                           | 700                    | 0.5                          | 6.0                   | 10                          | 550                        | 110                     |
| 1N4739A | 9.1                   | 5.0                   | 28                           | 700                    | 0.5                          | 7.0                   | 10                          | 500                        | 100                     |
| 1N4740A | 10                    | 7.0                   | 25                           | 700                    | 0.25                         | 7.6                   | 10                          | 454                        | 91                      |
| 1N4741A | 11                    | 8.0                   | 23                           | 700                    | 0.25                         | 8.4                   | 5.0                         | 414                        | 83                      |
| 1N4742A | 12                    | 9.0                   | 21                           | 700                    | 0.25                         | 9.1                   | 5.0                         | 380                        | 76                      |
| 1N4743A | 13                    | 10                    | 19                           | 700                    | 0.25                         | 9.9                   | 5.0                         | 344                        | 69                      |
| 1N4744A | 15                    | 14                    | 17                           | 700                    | 0.25                         | 11.4                  | 5.0                         | 304                        | 61                      |
| 1N4745A | 16                    | 16                    | 15.5                         | 700                    | 0.25                         | 12.2                  | 5.0                         | 285                        | 57                      |
| 1N4746A | 18                    | 20                    | 14                           | 750                    | 0.25                         | 13.7                  | 5.0                         | 250                        | 50                      |
| 1N4747A | 20                    | 22                    | 12.5                         | 750                    | 0.25                         | 15.2                  | 5.0                         | 225                        | 45                      |
| 1N4748A | 22                    | 23                    | 11.5                         | 750                    | 0.25                         | 16.7                  | 5.0                         | 205                        | 41                      |
| 1N4749A | 24                    | 25                    | 10.5                         | 750                    | 0.25                         | 18.2                  | 5.0                         | 190                        | 38                      |
| 1N4750A | 27                    | 35                    | 9.5                          | 750                    | 0.25                         | 20.6                  | 5.0                         | 170                        | 34                      |
| 1N4751A | 30                    | 40                    | 8.5                          | 1,000                  | 0.25                         | 22.8                  | 5.0                         | 150                        | 30                      |
| 1N4752A | 33                    | 45                    | 7.5                          | 1,000                  | 0.25                         | 25.1                  | 5.0                         | 135                        | 27                      |

V<sub>F</sub> Forward Voltage = 1.2 V Maximum @ I<sub>F</sub> = 200 mA for all 1N4700 series

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