

# 1N4728AG ~ 1N4764AG

$V_Z$  : 3.3 to 100V

$P_D$  : 1.0 Watt

### FEATURES :

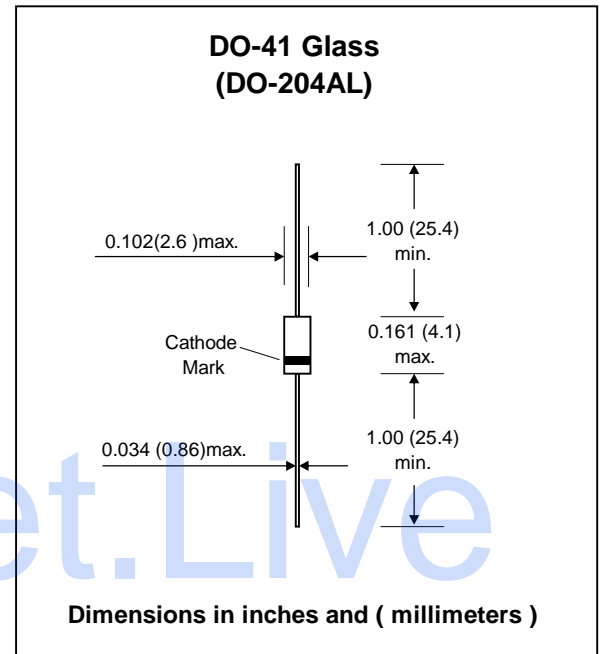
- Silicon planar power zener diodes.
- For use in stabilizing and clipping circuits with high power rating.
- Standard zener voltage tolerance is  $\pm 5\%$
- Other tolerances are available upon request.
- Pb / RoHS Free

### MECHANICAL DATA :

Case: DO-41 Glass Case

Weight: approx. 0.35g

## ZENER DIODES



### Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter                                  | Symbol          | Value              | Unit  |
|--|-----------------|--------------------|-------|
| Zener Current see Table "Characteristics"  |                 |                    |       |
| Maximum Forward Voltage at $I_F = 200$ mA. | $V_F$           | 1.2                | V     |
| Power Dissipation                          | $P_D$           | 1.0 <sup>(1)</sup> | W     |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 100 <sup>(1)</sup> | K / W |
| Junction temperature                       | $T_J$           | 175                | °C    |
| Storage temperature range                  | $T_S$           | -55 to + 175       | °C    |

**Note:**

(1) Valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Type No. | Nominal Zener Voltage <sup>(3)</sup> |          | Maximum Zener Impedance <sup>(1)</sup> |                   |          | Maximum Reverse Leakage Current |      | Maximum Regulator Current | Maximum Surge Current |
|----------|--------------------------------------|----------|--|-------------------|----------|---------------------------------|------|---------------------------|-----------------------|
|          | $V_Z @ I_{ZT}$                       | $I_{ZT}$ | $Z_{ZT} @ I_{ZT}$                      | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R @ V_R$                     |      | $I_{ZM}^{(2)}$            | $I_{RM}$              |
|          | (V)                                  | (mA)     | ( $\Omega$ )                           | ( $\Omega$ )      | (mA)     | ( $\mu$ A)                      | (V)  | (mA)                      | (mA)                  |
| 1N4728AG | 3.3                                  | 76.0     | 10                                     | 400               | 1.0      | 100                             | 1.0  | 276                       | 1380                  |
| 1N4729AG | 3.6                                  | 69.0     | 10                                     | 400               | 1.0      | 100                             | 1.0  | 252                       | 1260                  |
| 1N4730AG | 3.9                                  | 64.0     | 9.0                                    | 400               | 1.0      | 50                              | 1.0  | 234                       | 1190                  |
| 1N4731AG | 4.3                                  | 58.0     | 9.0                                    | 400               | 1.0      | 10                              | 1.0  | 217                       | 1070                  |
| 1N4732AG | 4.7                                  | 53.0     | 8.0                                    | 500               | 1.0      | 10                              | 1.0  | 193                       | 970                   |
| 1N4733AG | 5.1                                  | 49.0     | 7.0                                    | 550               | 1.0      | 10                              | 1.0  | 178                       | 890                   |
| 1N4734AG | 5.6                                  | 45.0     | 5.0                                    | 600               | 1.0      | 10                              | 2.0  | 162                       | 810                   |
| 1N4735AG | 6.2                                  | 41.0     | 2.0                                    | 700               | 1.0      | 10                              | 3.0  | 146                       | 730                   |
| 1N4736AG | 6.8                                  | 37.0     | 3.5                                    | 700               | 1.0      | 10                              | 4.0  | 133                       | 660                   |
| 1N4737AG | 7.5                                  | 34.0     | 4.0                                    | 700               | 0.5      | 10                              | 5.0  | 121                       | 605                   |
| 1N4738AG | 8.2                                  | 31.0     | 4.5                                    | 700               | 0.5      | 10                              | 6.0  | 110                       | 550                   |
| 1N4739AG | 9.1                                  | 28.0     | 5.0                                    | 700               | 0.5      | 10                              | 7.0  | 100                       | 500                   |
| 1N4740AG | 10                                   | 25.0     | 7.0                                    | 700               | 0.25     | 10                              | 7.6  | 91                        | 454                   |
| 1N4741AG | 11                                   | 23.0     | 8.0                                    | 700               | 0.25     | 5.0                             | 8.4  | 83                        | 414                   |
| 1N4742AG | 12                                   | 21.0     | 9.0                                    | 700               | 0.25     | 5.0                             | 9.1  | 76                        | 380                   |
| 1N4743AG | 13                                   | 19.0     | 10                                     | 700               | 0.25     | 5.0                             | 9.9  | 69                        | 344                   |
| 1N4744AG | 15                                   | 17.0     | 14                                     | 700               | 0.25     | 5.0                             | 11.4 | 61                        | 305                   |
| 1N4745AG | 16                                   | 15.5     | 16                                     | 700               | 0.25     | 5.0                             | 12.2 | 57                        | 285                   |
| 1N4746AG | 18                                   | 14.0     | 20                                     | 750               | 0.25     | 5.0                             | 13.7 | 50                        | 250                   |
| 1N4747AG | 20                                   | 12.5     | 22                                     | 750               | 0.25     | 5.0                             | 15.2 | 45                        | 225                   |
| 1N4748AG | 22                                   | 11.5     | 23                                     | 750               | 0.25     | 5.0                             | 16.7 | 41                        | 205                   |
| 1N4749AG | 24                                   | 10.5     | 25                                     | 750               | 0.25     | 5.0                             | 18.2 | 38                        | 190                   |
| 1N4750AG | 27                                   | 9.5      | 35                                     | 750               | 0.25     | 5.0                             | 20.6 | 34                        | 170                   |
| 1N4751AG | 30                                   | 8.5      | 40                                     | 1000              | 0.25     | 5.0                             | 22.8 | 30                        | 150                   |
| 1N4752AG | 33                                   | 7.5      | 45                                     | 1000              | 0.25     | 5.0                             | 25.1 | 27                        | 135                   |
| 1N4753AG | 36                                   | 7.0      | 50                                     | 1000              | 0.25     | 5.0                             | 27.4 | 25                        | 125                   |
| 1N4754AG | 39                                   | 6.5      | 60                                     | 1000              | 0.25     | 5.0                             | 29.7 | 23                        | 115                   |
| 1N4755AG | 43                                   | 6.0      | 70                                     | 1500              | 0.25     | 5.0                             | 32.7 | 22                        | 110                   |
| 1N4756AG | 47                                   | 5.5      | 80                                     | 1500              | 0.25     | 5.0                             | 35.8 | 19                        | 95                    |
| 1N4757AG | 51                                   | 5.0      | 95                                     | 1500              | 0.25     | 5.0                             | 38.8 | 18                        | 90                    |
| 1N4758AG | 56                                   | 4.5      | 110                                    | 2000              | 0.25     | 5.0                             | 42.6 | 16                        | 80                    |
| 1N4759AG | 62                                   | 4.0      | 125                                    | 2000              | 0.25     | 5.0                             | 47.1 | 14                        | 70                    |
| 1N4760AG | 68                                   | 3.7      | 150                                    | 2000              | 0.25     | 5.0                             | 51.7 | 13                        | 65                    |
| 1N4761AG | 75                                   | 3.3      | 175                                    | 2000              | 0.25     | 5.0                             | 56.0 | 12                        | 60                    |
| 1N4762AG | 82                                   | 3.0      | 200                                    | 3000              | 0.25     | 5.0                             | 62.2 | 11                        | 55                    |
| 1N4763AG | 91                                   | 2.8      | 250                                    | 3000              | 0.25     | 5.0                             | 69.2 | 10                        | 50                    |
| 1N4764AG | 100                                  | 2.5      | 350                                    | 3000              | 0.25     | 5.0                             | 76.0 | 9.0                       | 45                    |

### Notes:

- (1) The Zener impedance is derived from the 1kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ . Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions.
- (4) Standard Zener voltage tolerance is  $\pm 5\%$  tolerance. Other Zener voltages and tolerances are available upon request.