



# 1N4728 THRU 1N4764

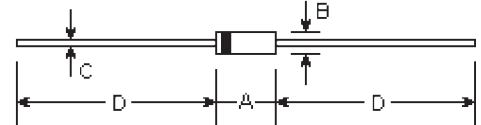
## SILICON PLANAR POWER ZENER DIODES

### Features

#### Silicon Planar Power Zener Diodes

for use in stabilizing and clipping circuits with high power rating. Standard Zener voltage tolerance is  $\pm 10\%$ . Add suffix "A" for  $\pm 5\%$  tolerance. Other tolerances available upon request.

#### DO-41



| DIMENSIONS |        |       |      |      |
|------------|--------|-------|------|------|
| DIM        | inches |       | mm   |      |
|            | Min.   | Max.  | Min. | Max. |
| A          | -      | 0.169 | -    | 4.3  |
| B          | -      | 0.110 | -    | 2.8  |
| C          | -      | 0.031 | -    | 0.8  |
| D          | 1.102  | -     | 28.0 | -    |

### Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

|                                                 | Symbols   | Values          | Units            |
|-------------------------------------------------|-----------|-----------------|------------------|
| Zener current see Table "Characteristics"       |           |                 |                  |
| Power dissipation at $T_{amb}=25^\circ\text{C}$ | $P_{tot}$ | 1 <sup>1)</sup> | W                |
| Junction temperature                            | $T_j$     | 200             | $^\circ\text{C}$ |
| Storage temperature range                       | $T_s$     | -65 to +200     | $^\circ\text{C}$ |

Note:

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

### Characteristics at $T_{amb}=25^\circ\text{C}$

|                                            | Symbols   | Min. | Typ. | Max.              | Units |
|--------------------------------------------|-----------|------|------|-------------------|-------|
| Thermal resistance junction to ambient Air | $R_{thA}$ | -    | -    | 170 <sup>1)</sup> | K/W   |
| Forward voltage at $I_F=200\text{mA}$      | $V_F$     | -    | -    | 1.2               | V     |

Note:

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

| Type   | Zener voltage range <sup>3)</sup> |          | Maximum Zener Impedance <sup>1)</sup> |          |      | Reverse leakage current |      | Surge current at $T_A=25^{\circ}\text{C}$ | Maximum regulator current <sup>2)</sup> |
|--------|-----------------------------------|----------|---------------------------------------|----------|------|-------------------------|------|-------------------------------------------|-----------------------------------------|
|        | $V_{Znom}$                        | $I_{ZT}$ | $r_{zT}$ and $r_{zk}$ at $I_{ZK}$     |          |      | $I_R$ at $V_R$          |      | $I_R$                                     | $I_{ZM}$                                |
|        | V                                 | mA       | $\Omega$                              | $\Omega$ | mA   | $\mu\text{A}$           | V    | mA                                        | mA                                      |
| 1N4728 | 3.3                               | 76       | 10                                    | 400      | 1.0  | 150                     | 1    | 1375                                      | 275                                     |
| 1N4729 | 3.6                               | 69       | 10                                    | 400      | 1.0  | 100                     | 1    | 1260                                      | 252                                     |
| 1N4730 | 3.9                               | 64       | 9                                     | 400      | 1.0  | 100                     | 1    | 1190                                      | 234                                     |
| 1N4731 | 4.3                               | 58       | 9                                     | 400      | 1.0  | 50                      | 1    | 1070                                      | 217                                     |
| 1N4732 | 4.7                               | 53       | 8                                     | 500      | 1.0  | 10                      | 1    | 970                                       | 193                                     |
| 1N4733 | 5.1                               | 49       | 7                                     | 550      | 1.0  | 10                      | 1    | 890                                       | 178                                     |
| 1N4734 | 5.6                               | 45       | 5                                     | 600      | 1.0  | 10                      | 2    | 810                                       | 162                                     |
| 1N4735 | 6.2                               | 41       | 2                                     | 700      | 1.0  | 10                      | 3    | 730                                       | 146                                     |
| 1N4736 | 6.8                               | 37       | 3.5                                   | 700      | 1.0  | 10                      | 4    | 660                                       | 133                                     |
| 1N4737 | 7.5                               | 34       | 4.0                                   | 700      | 0.5  | 10                      | 5    | 605                                       | 121                                     |
| 1N4738 | 8.2                               | 31       | 4.5                                   | 700      | 0.5  | 10                      | 6    | 550                                       | 110                                     |
| 1N4739 | 9.1                               | 28       | 5.0                                   | 700      | 0.5  | 10                      | 7    | 500                                       | 100                                     |
| 1N4740 | 10                                | 25       | 7                                     | 700      | 0.25 | 10                      | 7.6  | 454                                       | 91                                      |
| 1N4741 | 11                                | 23       | 8                                     | 700      | 0.25 | 5                       | 8.4  | 414                                       | 83                                      |
| 1N4742 | 12                                | 21       | 9                                     | 700      | 0.25 | 5                       | 9.1  | 380                                       | 76                                      |
| 1N4743 | 13                                | 19       | 10                                    | 700      | 0.25 | 5                       | 9.9  | 344                                       | 69                                      |
| 1N4744 | 15                                | 17       | 14                                    | 700      | 0.25 | 5                       | 11.4 | 304                                       | 61                                      |
| 1N4745 | 16                                | 15.5     | 16                                    | 700      | 0.25 | 5                       | 12.2 | 285                                       | 57                                      |
| 1N4746 | 18                                | 14       | 20                                    | 750      | 0.25 | 5                       | 13.7 | 250                                       | 50                                      |
| 1N4747 | 20                                | 12.5     | 22                                    | 750      | 0.25 | 5                       | 15.2 | 225                                       | 45                                      |
| 1N4748 | 22                                | 11.5     | 23                                    | 750      | 0.25 | 5                       | 16.7 | 205                                       | 41                                      |
| 1N4749 | 24                                | 10.5     | 25                                    | 750      | 0.25 | 5                       | 18.2 | 190                                       | 38                                      |
| 1N4750 | 27                                | 9.5      | 35                                    | 750      | 0.25 | 5                       | 20.6 | 170                                       | 34                                      |
| 1N4751 | 30                                | 8.5      | 40                                    | 1000     | 0.25 | 5                       | 22.8 | 150                                       | 30                                      |
| 1N4752 | 33                                | 7.5      | 45                                    | 1000     | 0.25 | 5                       | 25.1 | 135                                       | 27                                      |
| 1N4753 | 36                                | 7.0      | 50                                    | 1000     | 0.25 | 5                       | 27.4 | 125                                       | 25                                      |
| 1N4754 | 39                                | 6.5      | 60                                    | 1000     | 0.25 | 5                       | 29.7 | 115                                       | 23                                      |
| 1N4755 | 43                                | 6.0      | 70                                    | 1500     | 0.25 | 5                       | 32.7 | 110                                       | 22                                      |
| 1N4756 | 47                                | 5.5      | 80                                    | 1500     | 0.25 | 5                       | 35.8 | 95                                        | 19                                      |
| 1N4757 | 51                                | 5.0      | 95                                    | 1500     | 0.25 | 5                       | 38.8 | 90                                        | 18                                      |
| 1N4758 | 56                                | 4.5      | 110                                   | 2000     | 0.25 | 5                       | 42.6 | 80                                        | 16                                      |
| 1N4759 | 62                                | 4.0      | 125                                   | 2000     | 0.25 | 5                       | 47.1 | 70                                        | 14                                      |
| 1N4760 | 68                                | 3.7      | 150                                   | 2000     | 0.25 | 5                       | 51.7 | 65                                        | 13                                      |
| 1N4761 | 75                                | 3.3      | 175                                   | 2000     | 0.25 | 5                       | 56.0 | 60                                        | 12                                      |
| 1N4762 | 82                                | 3.0      | 200                                   | 3000     | 0.25 | 5                       | 62.2 | 55                                        | 11                                      |
| 1N4763 | 91                                | 2.8      | 250                                   | 3000     | 0.25 | 5                       | 69.2 | 50                                        | 10                                      |
| 1N4764 | 100                               | 2.5      | 350                                   | 3000     | 0.25 | 5                       | 76.0 | 45                                        | 9                                       |

Notes:

- (1) The Zener Impedance is derived from the 60 Hz 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 leads at a distance of 8 mm from case are kept at ambient temperature.
- (3) Measured under thermal equilibrium and DC test conditions.

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## RATINGS AND CHARACTERISTIC CURVES

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### Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient  
temperature at a distance of 10 mm from case.

