

# 1N4728A - 1N4764A

## Zeners



**DO-41 Glass case**  
COLOR BAND DENOTES CATHODE

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol         | Parameter   | Value       | Units                |
|----------------|---|-------------|----------------------|
| $P_D$          | Power Dissipation<br>@ $T_L \leq 50^\circ\text{C}$ , Lead Length = 3/8" | 1.0         | W                    |
|                | Derate above $50^\circ\text{C}$   | 6.67        | mW/ $^\circ\text{C}$ |
| $T_J, T_{STG}$ | Operating and Storage Temperature Range                                 | -65 to +200 | $^\circ\text{C}$     |

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

### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

| Device  | $V_Z$ (V) @ $I_Z$ (Note 1) |      |       | Test Current<br>$I_Z$ (mA) | Max. Zener Impedance          |                                     |                  | Leakage Current            |              |
|---------|----------------------------|------|-------|----------------------------|-------------------------------|-------------------------------------|------------------|----------------------------|--------------|
|         | Min.                       | Typ. | Max.  |                            | $Z_Z$ @ $I_Z$<br>( $\Omega$ ) | $Z_{ZK}$ @<br>$I_{ZK}$ ( $\Omega$ ) | $I_{ZK}$<br>(mA) | $I_R$<br>( $\mu\text{A}$ ) | $V_R$<br>(V) |
| 1N4728A | 3.315                      | 3.3  | 3.465 | 76                         | 10                            | 400                                 | 1                | 100                        | 1            |
| 1N4729A | 3.42                       | 3.6  | 3.78  | 69                         | 10                            | 400                                 | 1                | 100                        | 1            |
| 1N4730A | 3.705                      | 3.9  | 4.095 | 64                         | 9                             | 400                                 | 1                | 50                         | 1            |
| 1N4731A | 4.085                      | 4.3  | 4.515 | 58                         | 9                             | 400                                 | 1                | 10                         | 1            |
| 1N4732A | 4.465                      | 4.7  | 4.935 | 53                         | 8                             | 500                                 | 1                | 10                         | 1            |
| 1N4733A | 4.845                      | 5.1  | 5.355 | 49                         | 7                             | 550                                 | 1                | 10                         | 1            |
| 1N4734A | 5.32                       | 5.6  | 5.88  | 45                         | 5                             | 600                                 | 1                | 10                         | 2            |
| 1N4735A | 5.89                       | 6.2  | 6.51  | 41                         | 2                             | 700                                 | 1                | 10                         | 3            |
| 1N4736A | 6.46                       | 6.8  | 7.14  | 37                         | 3.5                           | 700                                 | 1                | 10                         | 4            |
| 1N4737A | 7.125                      | 7.5  | 7.875 | 34                         | 4                             | 700                                 | 0.5              | 10                         | 5            |
| 1N4738A | 7.79                       | 8.2  | 8.61  | 31                         | 4.5                           | 700                                 | 0.5              | 10                         | 6            |
| 1N4739A | 8.645                      | 9.1  | 9.555 | 28                         | 5                             | 700                                 | 0.5              | 10                         | 7            |
| 1N4740A | 9.5                        | 10   | 10.5  | 25                         | 7                             | 700                                 | 0.25             | 10                         | 7.6          |
| 1N4741A | 10.45                      | 11   | 11.55 | 23                         | 8                             | 700                                 | 0.25             | 5                          | 8.4          |
| 1N4742A | 11.4                       | 12   | 12.6  | 21                         | 9                             | 700                                 | 0.25             | 5                          | 9.1          |
| 1N4743A | 12.35                      | 13   | 13.65 | 19                         | 10                            | 700                                 | 0.25             | 5                          | 9.9          |
| 1N4744A | 14.25                      | 15   | 15.75 | 17                         | 14                            | 700                                 | 0.25             | 5                          | 11.4         |
| 1N4745A | 15.2                       | 16   | 16.8  | 15.5                       | 16                            | 700                                 | 0.25             | 5                          | 12.2         |
| 1N4746A | 17.1                       | 18   | 18.9  | 14                         | 20                            | 750                                 | 0.25             | 5                          | 13.7         |
| 1N4747A | 19                         | 20   | 21    | 12.5                       | 22                            | 750                                 | 0.25             | 5                          | 15.2         |

**Electrical Characteristics**  $T_C = 25^\circ\text{C}$  unless otherwise noted

| Device  | $V_Z$ (V) @ $I_Z$ (Note 1) |      |       | Test Current<br>$I_Z$ (mA) | Max. Zener Impedance          |                                     |                  | Leakage Current            |              |
|---------|----------------------------|------|-------|----------------------------|-------------------------------|-------------------------------------|------------------|----------------------------|--------------|
|         | Min.                       | Typ. | Max.  |                            | $Z_Z$ @ $I_Z$<br>( $\Omega$ ) | $Z_{ZK}$ @<br>$I_{ZK}$ ( $\Omega$ ) | $I_{ZK}$<br>(mA) | $I_R$<br>( $\mu\text{A}$ ) | $V_R$<br>(V) |
| 1N4748A | 20.9                       | 22   | 23.1  | 11.5                       | 23                            | 750                                 | 0.25             | 5                          | 16.7         |
| 1N4749A | 22.8                       | 24   | 25.2  | 10.5                       | 25                            | 750                                 | 0.25             | 5                          | 18.2         |
| 1N4750A | 25.65                      | 27   | 28.35 | 9.5                        | 35                            | 750                                 | 0.25             | 5                          | 20.6         |
| 1N4751A | 28.5                       | 30   | 31.5  | 8.5                        | 40                            | 1000                                | 0.25             | 5                          | 22.8         |
| 1N4752A | 31.35                      | 33   | 34.65 | 7.5                        | 45                            | 1000                                | 0.25             | 5                          | 25.1         |
| 1N4753A | 34.2                       | 36   | 37.8  | 7                          | 50                            | 1000                                | 0.25             | 5                          | 27.4         |
| 1N4754A | 37.05                      | 39   | 40.95 | 6.5                        | 60                            | 1000                                | 0.25             | 5                          | 29.7         |
| 1N4755A | 40.85                      | 43   | 45.15 | 6                          | 70                            | 1500                                | 0.25             | 5                          | 32.7         |
| 1N4756A | 44.65                      | 47   | 49.35 | 5.5                        | 80                            | 1500                                | 0.25             | 5                          | 35.8         |
| 1N4757A | 48.45                      | 51   | 53.55 | 5                          | 95                            | 1500                                | 0.25             | 5                          | 38.8         |
| 1N4758A | 53.2                       | 56   | 58.8  | 4.5                        | 110                           | 2000                                | 0.25             | 5                          | 42.6         |
| 1N4759A | 58.9                       | 62   | 65.1  | 4                          | 125                           | 2000                                | 0.25             | 5                          | 47.1         |
| 1N4760A | 64.6                       | 68   | 71.4  | 3.7                        | 150                           | 2000                                | 0.25             | 5                          | 51.7         |
| 1N4761A | 71.25                      | 75   | 78.75 | 3.3                        | 175                           | 2000                                | 0.25             | 5                          | 56           |
| 1N4762A | 77.9                       | 82   | 86.1  | 3                          | 200                           | 3000                                | 0.25             | 5                          | 62.2         |
| 1N4763A | 86.45                      | 91   | 95.55 | 2.8                        | 250                           | 3000                                | 0.25             | 5                          | 69.2         |
| 1N4764A | 95                         | 100  | 105   | 2.5                        | 350                           | 3000                                | 0.25             | 5                          | 76           |

**Notes:**

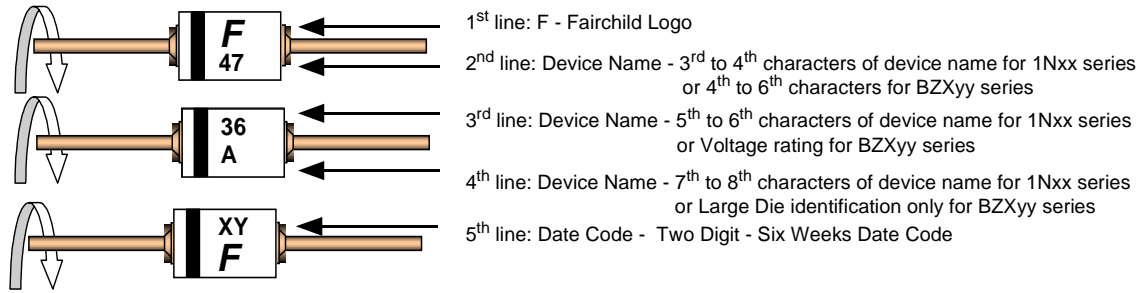
1. Zener Voltage ( $V_Z$ )

The zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature ( $T_L$ ) at  $30^\circ\text{C} \pm 1^\circ\text{C}$  and 3/8" lead length.

## Top Mark Information

| Device  | Line 1 | Line 2 | Line 3 | Line 4 | Line 5 |
|---------|--------|--------|--------|--------|--------|
| 1N4728A | LOGO   | 47     | 28     | A      | XY     |
| 1N4729A | LOGO   | 47     | 29     | A      | XY     |
| 1N4730A | LOGO   | 47     | 30     | A      | XY     |
| 1N4731A | LOGO   | 47     | 31     | A      | XY     |
| 1N4732A | LOGO   | 47     | 32     | A      | XY     |
| 1N4733A | LOGO   | 47     | 33     | A      | XY     |
| 1N4734A | LOGO   | 47     | 34     | A      | XY     |
| 1N4735A | LOGO   | 47     | 35     | A      | XY     |
| 1N4736A | LOGO   | 47     | 36     | A      | XY     |
| 1N4737A | LOGO   | 47     | 37     | A      | XY     |
| 1N4738A | LOGO   | 47     | 38     | A      | XY     |
| 1N4739A | LOGO   | 47     | 39     | A      | XY     |
| 1N4740A | LOGO   | 47     | 40     | A      | XY     |
| 1N4741A | LOGO   | 47     | 41     | A      | XY     |
| 1N4742A | LOGO   | 47     | 42     | A      | XY     |
| 1N4743A | LOGO   | 47     | 43     | A      | XY     |
| 1N4744A | LOGO   | 47     | 44     | A      | XY     |
| 1N4745A | LOGO   | 47     | 45     | A      | XY     |
| 1N4746A | LOGO   | 47     | 46     | A      | XY     |
| 1N4747A | LOGO   | 47     | 47     | A      | XY     |
| 1N4748A | LOGO   | 47     | 48     | A      | XY     |
| 1N4749A | LOGO   | 47     | 49     | A      | XY     |
| 1N4750A | LOGO   | 47     | 50     | A      | XY     |
| 1N4751A | LOGO   | 47     | 51     | A      | XY     |
| 1N4752A | LOGO   | 47     | 52     | A      | XY     |
| 1N4753A | LOGO   | 47     | 53     | A      | XY     |
| 1N4754A | LOGO   | 47     | 54     | A      | XY     |
| 1N4755A | LOGO   | 47     | 55     | A      | XY     |
| 1N4756A | LOGO   | 47     | 56     | A      | XY     |
| 1N4757A | LOGO   | 47     | 57     | A      | XY     |
| 1N4758A | LOGO   | 47     | 58     | A      | XY     |
| 1N4759A | LOGO   | 47     | 59     | A      | XY     |
| 1N4760A | LOGO   | 47     | 60     | A      | XY     |
| 1N4761A | LOGO   | 47     | 61     | A      | XY     |
| 1N4762A | LOGO   | 47     | 62     | A      | XY     |
| 1N4763A | LOGO   | 47     | 63     | A      | XY     |
| 1N4764A | LOGO   | 47     | 64     | A      | XY     |

## Top Mark Information (Continued)



### General Requirements:

- 1.0 Cathod Band
- 2.0 First Line: F - Fairchild Logo
- 3.0 Second Line: Device name - For 1Nxx series: 3<sup>rd</sup> to 4<sup>th</sup> characters of the device name.  
For BZxx series: 4<sup>th</sup> to 6<sup>th</sup> characters of the device name.
- 4.0 Third Line: Device name - For 1Nxx series: 5<sup>th</sup> to 6<sup>th</sup> characters of the device name.  
For BZXyy series: Voltage rating
- 5.0 Third Line: Device name - For 1Nxx series: 7<sup>th</sup> to 8<sup>th</sup> characters of the device name.  
(the 8th character is the large die identification)  
For BZXyy series: Large Die Identification character
- 6.0 Fourth Line: Date Code - Two Digit - Six Weeks Date Code  
Where: X represents the last digit of the calendar year  
Y represents the Six weeks numeric code
- 7.0 Devices shall be marked as required in the device specification (PID or FSC Test Spec).
- 8.0 Maximum no. of marking lines: 5
- 9.0 Maximum no. of digits per line: 3
- 10.0 FSC logo must be 20 % taller than the alphanumeric marking and should occupy the 2 characters of the specified line.
- 11.0 Marking Font: Arial (Except FSC Logo)
- 12.0 First character of each marking line must be aligned vertically

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| Bottomless™                          | FPS™                | LittleFET™             | PowerEdge™                   | SuperFET™              |
| CoolFET™                             | FRFET™              | MICROCOUPLER™          | PowerSaver™                  | SuperSOT™-3            |
| CROSSVOLT™                           | GlobalOptoisolator™ | MicroFET™              | PowerTrench <sup>®</sup>     | SuperSOT™-6            |
| DOME™                                | GTO™                | MicroPak™              | QFET <sup>®</sup>            | SuperSOT™-8            |
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Rev. I15