

# 1N4728A - 1N4758A

## Zener Diodes

Tolerance = 5%



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

### Absolute Maximum Ratings \*

T<sub>a</sub> = 25°C unless otherwise noted

| Symbol                            | Parameter                                            | Value       | Units |
|-----------------------------------|------------------------------------------------------|-------------|-------|
| P <sub>D</sub>                    | Power Dissipation<br>@ TL ≤ 50°C, Lead Length = 3/8" | 1.0         | W     |
|                                   | Derate above 50°C                                    | 6.67        | mW/°C |
| T <sub>J</sub> , T <sub>STG</sub> | Operating and Storage Temperature Range              | -65 to +200 | °C    |

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

### Electrical Characteristics

T<sub>a</sub> = 25°C unless otherwise noted

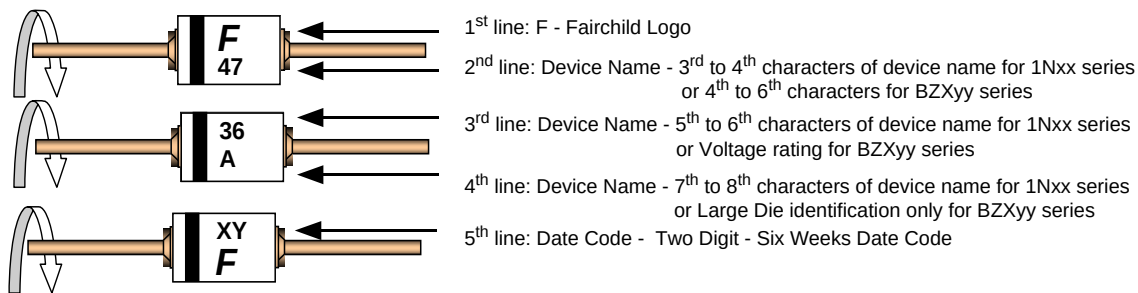
| Device  | V <sub>Z</sub> (V) @ I <sub>Z</sub> (Note 1) |      |       | Test Current<br>I <sub>Z</sub> (mA) | Max. Zener Impedance                   |                                          |                         | Leakage Current        |                       |
|---------|----------------------------------------------|------|-------|-------------------------------------|----------------------------------------|------------------------------------------|-------------------------|------------------------|-----------------------|
|         | Min.                                         | Typ. | Max.  |                                     | Z <sub>Z</sub> @ I <sub>Z</sub><br>(Ω) | Z <sub>ZK</sub> @<br>I <sub>ZK</sub> (Ω) | I <sub>ZK</sub><br>(mA) | I <sub>R</sub><br>(μA) | V <sub>R</sub><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                   |

| 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>( $\mu$ A) | $V_R$<br>(V) |
| 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         |
| 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         |

**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     |

## Top Mark Information (Continued)



## General Requirements:

- 1.0 Cathode 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 8<sup>th</sup> 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.
- 13.0 All device markings must be based on Fairchild device specification.



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