

June 2007

# 1N4728A - 1N4758A Zener Diodes





**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 @ 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

 $<sup>^{\</sup>star}$  These ratings are limiting values above which the serviceability of the diode may be impaired.

## $\textbf{Electrical Characteristics} \quad \textbf{T}_{a} = 25^{\circ} \text{C unless otherwise noted}$

	V <sub>Z</sub> (V) @ I <sub>Z</sub> (Note 1)			Test Current	Max. Zener Impedance			Leakage Current	
Device	Min.	Тур.	Max.	I <sub>Z</sub> (mA)	Z <sub>Z</sub> @ I <sub>Z</sub> (Ω)	Z <sub>ZK</sub> @ I <sub>ZK</sub> (Ω)	I <sub>ZK</sub> (mA)	I <sub>R</sub> (μ <b>A</b> )	V <sub>R</sub> (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

	V <sub>Z</sub> (V) @ I <sub>Z</sub> (Note 1)			Test Current	Max. Zener Impedance			Leakage Current	
Device	Min.	Тур.	Max.	I <sub>Z</sub> (mA)	Z <sub>Z</sub> @ I <sub>Z</sub> (Ω)	Z <sub>ZK</sub> @ I <sub>ZK</sub> (Ω)	I <sub>ZK</sub> (mA)	I <sub>R</sub> (μ <b>A</b> )	V <sub>R</sub> (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 1N4749A 1N4750A 1N4751A 1N4752A	20.9 22.8 25.65 28.5 31.35	22 24 27 30 33	23.1 25.2 28.35 31.5 34.65	11.5 10.5 9.5 8.5 7.5	23 25 35 40 45	750 750 750 1000 1000	0.25 0.25 0.25 0.25 0.25	5 5 5 5 5	16.7 18.2 20.6 22.8 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

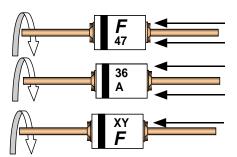
1. Zener Voltage ( $V_Z$ )

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

# **Top Mark Information**

Device	Line 1	Line 2	Line 3	Line 4	Line 5
1N4728A	LOGO	47	28	А	XY
1N4729A	LOGO	47	29	Α	XY
1N4730A	LOGO	47	30	Α	XY
1N4731A	LOGO	47	31	Α	XY
1N4732A	LOGO	47	32	Α	XY
1N4733A	LOGO	47	33	А	XY
1N4734A	LOGO	47	34	Α	XY
1N4735A	LOGO	47	35	Α	XY
1N4736A	LOGO	47	36	Α	XY
1N4737A	LOGO	47	37	Α	XY
1N4738A	LOGO	47	38	А	XY
1N4739A	LOGO	47	39	Α	XY
1N4740A	LOGO	47	40	Α	XY
1N4741A	LOGO	47	41	Α	XY
1N4742A	LOGO	47	42	Α	XY
1N4743A	LOGO	47	43	Α	XY
1N4744A	LOGO	47	44	Α	XY
1N4745A	LOGO	47	45	Α	XY
1N4746A	LOGO	47	46	Α	XY
1N4747A	LOGO	47	47	Α	XY
1N4748A	LOGO	47	48	Α	XY
1N4749A	LOGO	47	49	Α	XY
1N4750A	LOGO	47	50	Α	XY
1N4751A	LOGO	47	51	Α	XY
1N4752A	LOGO	47	52	Α	XY
1N4753A	LOGO	47	53	А	XY
1N4754A	LOGO	47	54	Α	XY
1N4755A	LOGO	47	55	Α	XY
1N4756A	LOGO	47	56	Α	XY
1N4757A	LOGO	47	57	А	XY
IN4758A	LOGO	47	58	A	XY

### **Top Mark Information** (Continued)



1st line: F - Fairchild Logo

 $2^{nd}$  line: Device Name -  $3^{rd}$  to  $4^{th}$  characters of device name for 1Nxx series or  $4^{th}$  to  $6^{th}$  characters for BZXyy series

3<sup>rd</sup> line: Device Name - 5<sup>th</sup> to 6<sup>th</sup> characters of device name for 1Nxx series or Voltage rating for BZXyy series

4<sup>th</sup> line: Device Name - 7<sup>th</sup> to 8<sup>th</sup> characters of device name for 1Nxx series or Large Die identification only for BZXyy series

5<sup>th</sup> line: Date Code - Two Digit - Six Weeks Date Code

#### **General Requirements:**

1.0 Cathode Band

2.0 First Line: F - Fairchild Logo

3.0 Second Line: Device name - For 1Nxx series:  $3^{rd}$  to  $4^{th}$  characters of the device name. For BZxx series:  $4^{th}$  to  $6^{th}$  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.

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- 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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EnSignaTM OCXProTM SuperFETTM
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