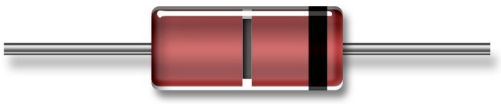
1N4099-1 thru 1N4135-1 &
1N4614-1 thru 1N4627-1

Low Noise Zener Diode Series

Rev. V6

Features

- Available in JAN, JANTX, JANTXV and JANS per MIL-PRF-19500/435
- Tight tolerances available in plus or minus 2% or 1% with C or D suffix respectively.
- 500 mW power handling
- Hermetically sealed axial-leaded glass DO-35 package.
- Also available in DO-213 MELF style package.



Electrical Specifications: T_C = +25°C (unless otherwise specified)

JEDEC TYPE No. (Note1)	Normal Zener Voltage VZ @ IZT	Zener Test Current IZT	Maximum Zener Impedance ZZT	Maximum Reverse Current IR @ VR		Maximum Noise Density ND @ IZT	Maximum Zener Current IZM
	Volts	µA	Ohms	µA	Volts	µV/Sqrt (Hz)	mA
1N4099-1	6.8	250	200	1.0	5.2	40	56
1N4100-1	7.5	250	200	1.0	5.7	40	51
1N4101-1	8.2	250	200	0.5	6.3	40	46
1N4102-1	8.7	250	200	0.5	6.7	40	44
1N4103-1	9.1	250	200	0.5	7.0	40	42
1N4104-1	10	250	200	0.5	7.6	40	38
1N4105-1	11	250	200	0.05	8.5	40	35
1N4106-1	12	250	200	0.05	9.2	40	32
1N4107-1	13	250	200	0.05	9.9	40	29
1N4108-1	14	250	200	0.05	10.7	40	27
1N4109-1	15	250	100	0.05	11.4	40	25
1N4110-1	16	250	100	0.05	12.2	40	24
1N4111-1	17	250	100	0.05	13.0	40	22
1N4112-1	18	250	100	0.05	13.7	40	21
1N4113-1	19	250	150	0.05	14.5	40	20
1N4114-1	20	250	150	0.01	15.2	40	19
1N4115-1	22	250	150	0.01	16.8	40	17
1N4116-1	24	250	150	0.01	18.3	40	16
1N4117-1	25	250	150	0.01	19.0	40	15
1N4118-1	27	250	150	0.01	20.5	40	14
1N4119-1	28	250	200	0.01	21.3	40	14
1N4120-1	30	250	200	0.01	22.8	40	13

(Continued next page)

Electrical Specifications: T_C = +25°C (unless otherwise specified)

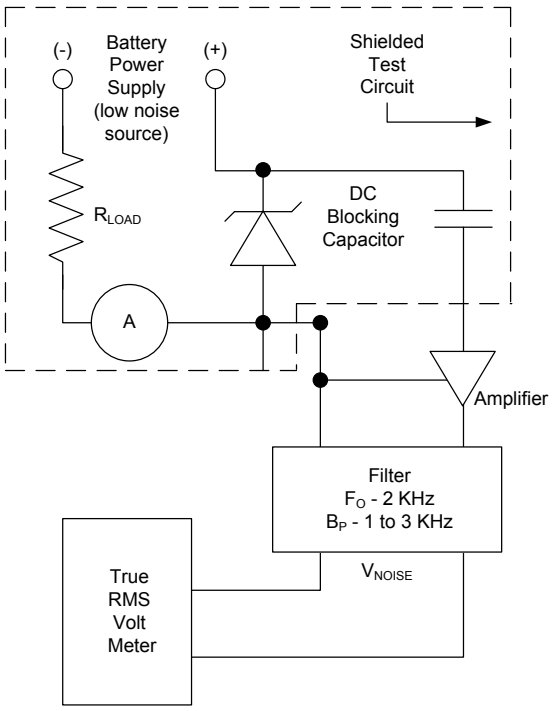
JEDEC TYPE No. (Note1)	Normal Zener Voltage VZ @ IZT	Zener Test Current IZT	Maximum Zener Impedance ZZT	Maximum Reverse Current IR @ VR		Maximum Noise Density ND @ IZT	Maximum Zener Current IZM
	Volts	µA	Ohms	µA	Volts	µV/Sqrt (Hz)	mA
1N4121-1	33	250	200	0.01	25.1	40	12
1N4122-1	36	250	200	0.01	27.4	40	11
1N4123-1	39	250	200	0.01	29.7	40	9.8
1N4124-1	43	250	250	0.01	32.7	40	8.9
1N4125-1	47	250	250	0.01	35.8	40	8.1
1N4126-1	51	250	300	0.01	38.8	40	7.5
1N4127-1	56	250	300	0.01	42.6	40	6.7
1N4128-1	60	250	400	0.01	45.6	40	6.4
1N4129-1	62	250	500	0.01	47.1	40	6.1
1N4130-1	68	250	700	0.01	51.7	40	5.6
1N4131-1	75	250	700	0.01	57.0	40	5.1
1N4132-1	82	250	800	0.01	62.4	40	4.6
1N4133-1	87	250	1000	0.01	66.2	40	4.4
1N4134-1	91	250	1200	0.01	69.2	40	4.2
1N4135-1	100	250	1500	0.01	76.0	40	3.8
1N4614-1	1.8	250	1200	3.5	1.0	1	120
1N4615-1	2	250	1250	2.5	1.0	1	110
1N4616-1	2.2	250	1300	2.0	1.0	1	100
1N4617-1	2.4	250	1400	1.0	1.0	1	95
1N4618-1	2.7	250	1500	0.5	1.0	1	90
1N4619-1	3	250	1600	0.4	1.0	1	87
1N4620-1	3.3	250	1650	3.5	1.5	1	85
1N4621-1	3.6	250	1700	3.5	2.0	1	83
1N4622-1	3.9	250	1650	2.5	2.0	1	80
1N4623-1	4.3	250	1600	2.0	2.0	1	77
1N4624-1	4.7	250	1550	5.0	3.0	1	75
1N4625-1	5.1	250	1500	5.0	3.0	2	70
1N4626-1	5.6	250	1400	5.0	4.0	4	65
1N4627-1	6.2	250	1200	5.0	5.0	5	61

1. The JEDEC type numbers shown with no suffix have a standard tolerance of +5% on the nominal Zener voltage; suffix C is used to identify +2%: and suffix D is used identify +1% tolerance. Vz is measured with the diode in thermal equilibrium in 25°C still air.

Absolute Maximum Ratings

Parameter	Absolute Maximum
Steady State Power Dissipation	0.5 W
Forward Voltage	1.1 V @ 200 mA
Thermal Resistance	250°C/W
Operating & Storage Temperature	-65°C to +175°C

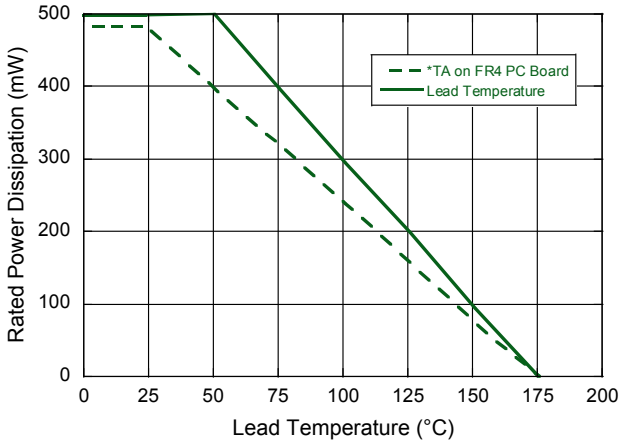
Circuit



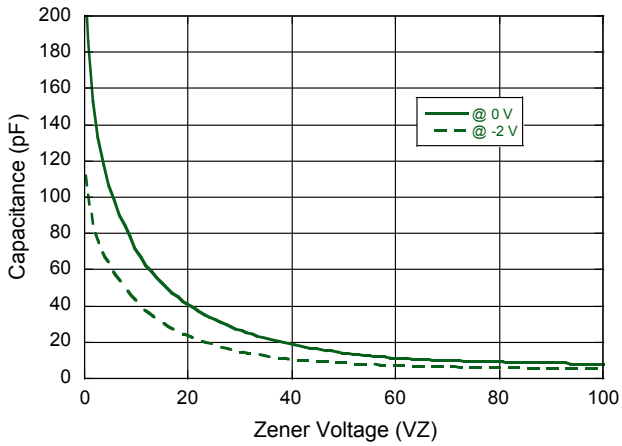
Noise Density (N_D), is specified in microvolt-rms per square-root-hertz. Actual measurement is performed using a 1 KHz to 3 KHz frequency bandpass filter at a constant Zener test current (I_{ZT}) at +25°C T_A. N_D is calculated from the formula.

Graphs

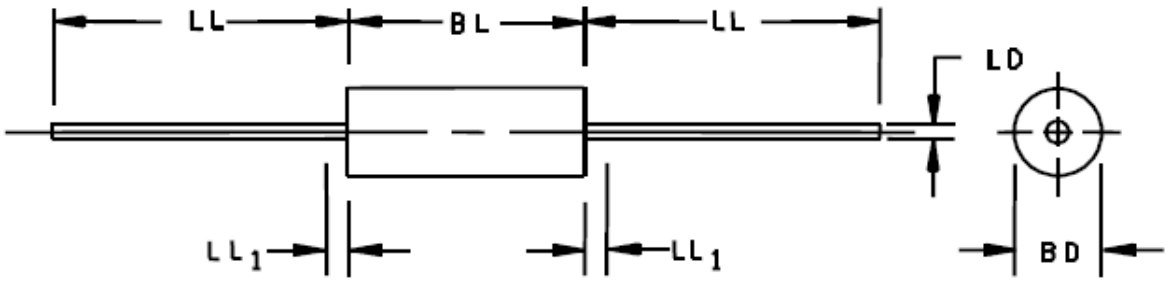
Power Derating vs. Lead Temperature



Capacitance vs. Zener Voltage



Outline Drawing (DO-35)



Ltr	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BD	.056	.090	1.42	2.29	3
BL	.140	.200	3.56	5.08	3
LD	.018	.022	0.46	0.56	
LL	1.000	1.500	25.40	38.10	
LL_1		.050		1.27	4

NOTES:
1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. Package contour optional within BD and length BL. Heat slugs, if any, shall be included within this cylinder but shall not be subject to minimum limit of BD. The BL dimension shall include the entire body including slugs.
4. Within this zone lead, diameter may vary to allow for lead finishes and irregularities other than heat slugs.
5. In accordance with ASME Y14.5M, diameters are equivalent to ϕx symbology.