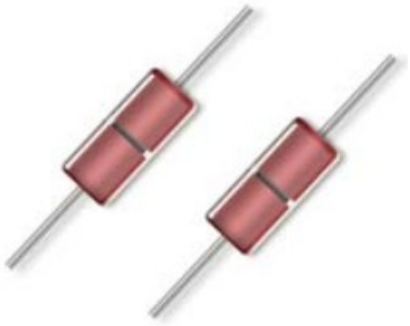
1N4099-1 thru 1N4135-1 &
1N4614-1 thru 1N4627-1

Low Noise Zener Diode Series

Rev. V4

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_A = +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_A = +25°C (unless otherwise specified)

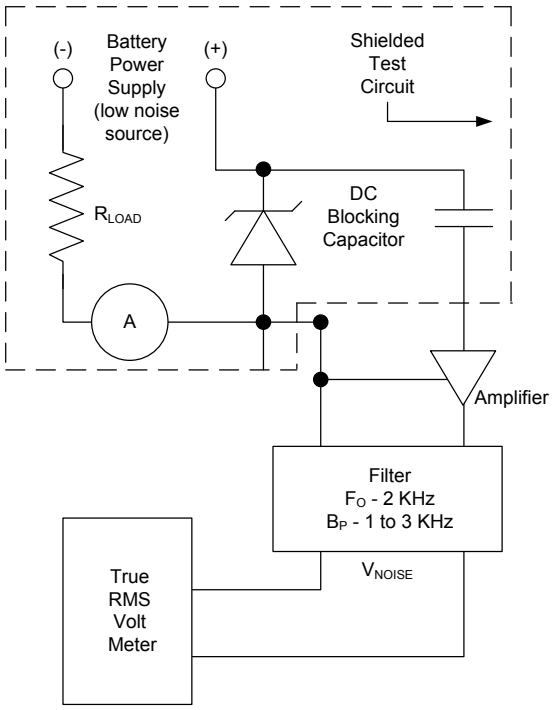
JEDEC TYPE No. (Note1)	Normal Zener Voltage VZ @ IZT	Zener Test Current IZT	Maximum Zener Impedance ZZT	Maximum Reverse Current IR @ VR		Maximum Noise Density ND @ IZT	Maximum Zener Current IZM
	Volts	µA	Ohms	µA	Volts	µV/Sqrt (Hz)	mA
1N4121-1	33	250	200	0.01	25.1	40	12
1N4122-1	36	250	200	0.01	27.4	40	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	1	120
1N4615-1	2	250	1250	2.5	1	1	110
1N4616-1	2.2	250	1300	2.0	1	1	100
1N4617-1	2.4	250	1400	1.0	1	1	95
1N4618-1	2.7	250	1500	0.5	1	1	90
1N4619-1	3	250	1600	0.4	1	1	87
1N4620-1	3.3	250	1650	3.5	1.5	1	85
1N4621-1	3.6	250	1700	3.5	2	1	83
1N4622-1	3.9	250	1650	2.5	2	1	80
1N4623-1	4.3	250	1600	2.0	2	1	77
1N4624-1	4.7	250	1550	5.0	3	1	75
1N4625-1	5.1	250	1500	5.0	3	2	70
1N4626-1	5.6	250	1400	5.0	4	4	65
1N4627-1	6.2	250	1200	5.0	5	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

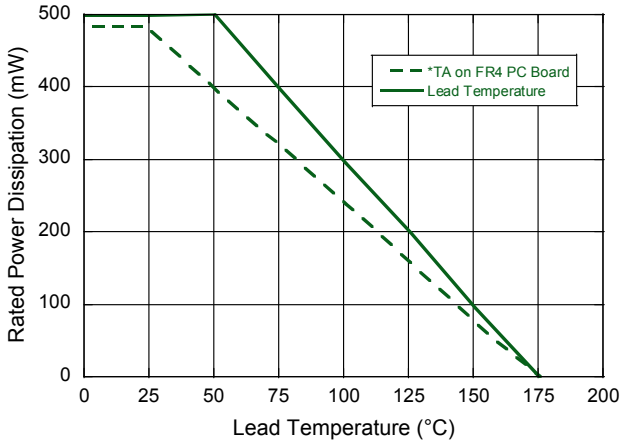
Circuit



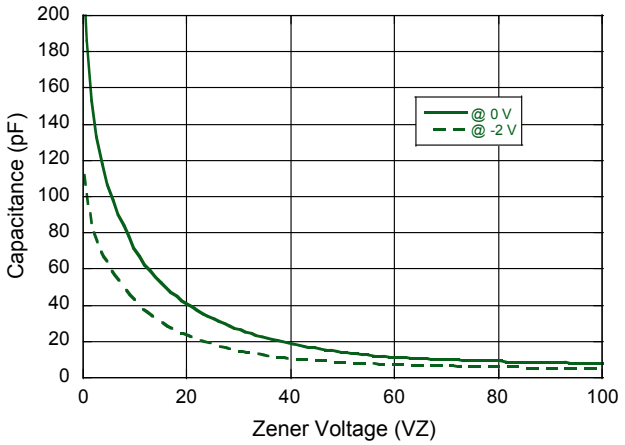
Noise Density (N_D), is specified in microvolt-rms per square-root-hertz. Actual measurement is performed using a 1 KHz to 3 KHz frequency bandpass filter at a constant Zener test current (I_{ZT}) at +25°C T_A. N_D is calculated from the formula.

Graphs

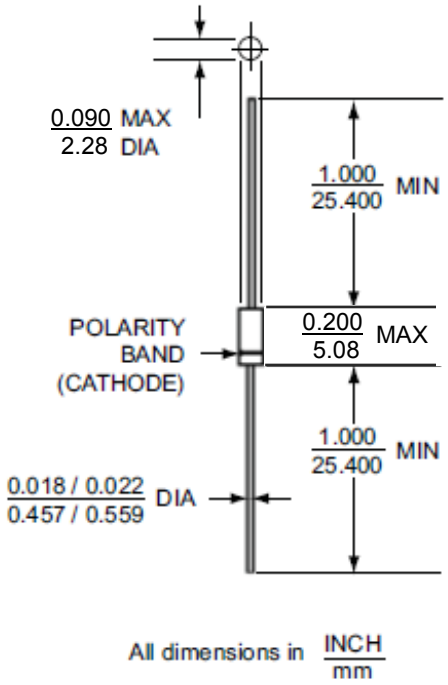
Power Derating vs. Lead Temperature



Capacitance vs. Zener Voltage



Outline Drawing



All dimensions in INCH / mm

LEADED DESIGN DATA

CASE: Hermetically sealed, DO – 35

LEAD MATERIAL: Copper clad steel

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ($R_{\theta JEC}$): 70 °C/W maximum at L = 0.375 in

THERMAL IMPEDANCE: ($Z_{\theta JX}$): 12 °C/W maximum

POLARITY: Cathode end is banded.

MOUNTING POSITION: Any