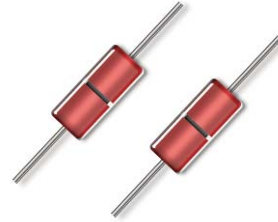


Low Noise Zener Diode Series

1N4099-1 thru 1N4135-1 and 1N4614-1 thru 1N4627-1



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.

Maximum Ratings

Operating & Storage Temperature: -65 to +175°C
 Thermal Resistance: 250°C/W
 Steady-State Power: 0.5 watts
 Forward Voltage @200 MA: 1.1 V

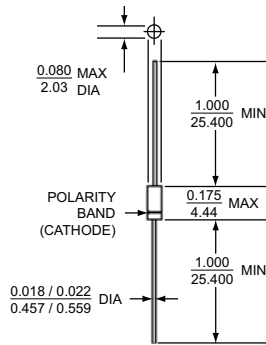
Electrical Specifications @ +25 °C (Unless Otherwise Specified)

JEDEC TYPE No. (Note 1)	Normal Zener Voltage	Zener Test Current	Maximum Zener Impedance	Maximum Reverse Current		Maximum Noise Density	Maximum Zener Current
	$V_z @ I_{ZT}$	I_{ZT}	Z_{ZT}	$I_R @ V_R$	$I_R @ V_R$	$N_D @ I_{ZT}$	I_{ZM}
	Volts	μA	Ohms	μA	Volts	$\mu V / \sqrt{Hz}$	mA
1N4614	1.8	250	1200	7.5	1	1	120
1N4615	2.0	250	1250	5.0	1	1	110
1N4616	2.2	250	1300	4.0	1	1	100
1N4617	2.4	250	1400	2.0	1	1	95
1N4618	2.7	250	1500	1.0	1	1	90
1N4619	3.0	250	1600	0.8	1	1	87
1N4620	3.3	250	1650	7.5	1.5	1	85
1N4621	3.6	250	1700	7.5	2	1	83
1N4622	3.9	250	1650	5.0	2	1	80
1N4623	4.3	250	1600	4.0	2	1	77
1N4624	4.7	250	1550	10.0	2	1	75
1N4625	5.1	250	1500	10.0	3	2	70
1N4626	5.6	250	1400	10.0	4	4	65
1N4627	6.2	250	1200	10.0	5	5	61
1N4099	6.8	250	200	10.0	5.17	40	56
1N4100	7.5	250	200	10.0	5.70	40	51
1N4101	8.2	250	200	1.0	6.24	40	46
1N4102	8.7	250	200	1.0	6.61	40	44
1N4103	9.1	250	200	1.0	6.92	40	42
1N4104	10	250	200	1.0	7.60	40	38
1N4105	11	250	200	0.05	8.44	40	35
1N4106	12	250	200	0.05	8.12	40	32
1N4107	13	250	200	0.05	9.857	40	29
1N4108	14	250	200	0.05	10.65	40	27
1N4109	15	250	100	0.05	11.40	40	25
1N4110	16	250	100	0.05	12.15	40	24
1N4111	17	250	100	0.05	12.92	40	22
1N4112	18	250	100	0.05	13.67	40	21
1N4113	19	250	150	0.05	14.44	40	20
1N4114	20	250	150	0.01	15.20	40	19
1N4115	22	250	150	0.01	16.72	40	17
1N4116	24	250	150	0.01	18.25	40	16
1N4117	25	250	150	0.01	19.00	40	15
1N4118	27	250	150	0.01	20.45	40	14
1N4119	29	250	200	0.01	21.28	40	14
1N4120	30	250	200	0.01	22.80	40	13
1N4121	33	250	200	0.01	25.08	40	12
1N4122	36	250	200	0.01	27.38	40	11
1N4123	39	250	200	0.01	29.65	40	9.8
1N4124	43	250	250	0.01	32.65	40	8.9
1N4125	47	250	250	0.01	35.75	40	8.1
1N4126	51	250	300	0.01	38.76	40	7.5
1N4127	56	250	300	0.01	42.60	40	6.7
1N4128	60	250	400	0.01	45.60	40	6.4
1N4129	62	250	500	0.01	47.10	40	6.1
1N4130	68	250	700	0.01	51.68	40	5.6
1N4131	75	250	700	0.01	57.00	40	5.1
1N4132	82	250	800	0.01	62.32	40	4.6
1N4133	87	250	1000	0.01	66.12	40	4.4
1N4134	91	250	1200	0.01	69.16	40	4.2
1N4135	100	250	1500	0.01	76.00	40	3.0

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



Outline Drawing



All dimensions in $\frac{\text{INCH}}{\text{mm}}$

1N4099-1 thru 1N4135-1 and 1N4614-1 thru 1N4627-1

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

Circuits & Graphs

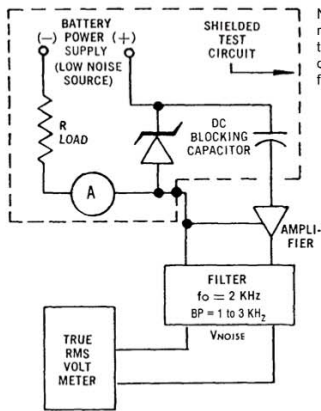


FIGURE 1
NOISE DENSITY MEASUREMENT CIRCUIT

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 ambient temperature. N_D is calculated from the formula.

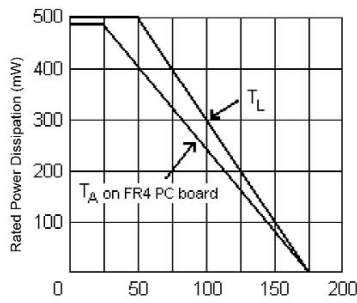


FIGURE 2 – POWER DERATING CURVE

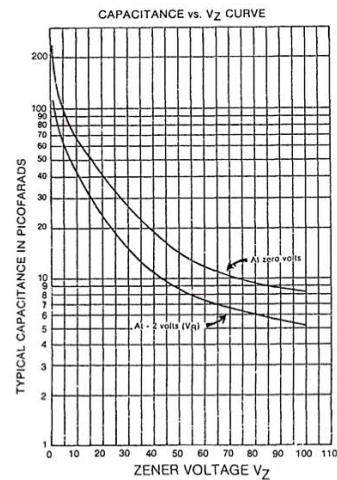


FIGURE 3
CAPACITANCE vs. ZENER VOLTAGE (TYPICAL)

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.