DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

1N4099UR-1N4135UR, 1N4614UR-1N4627UR

500mW LOW NOISE ZENER DIODES SURFACE MOUNT

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Junction and Storage Temperatures:	-65°C to +200°C
DC Power Dissipation:	500mW
Power Derating:	4.0mW/°C above 50°C in DO-35
Forward Voltage @ 200mA: **@ 100mA:**	1.1 Volts 1N4099-1N4135 1.0 Volts 1N4614-1N4627

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Part number	Nominal Zener Voltage V_Z @ I_{ZT} (Note 1)	Zener Test Current I_{ZT}	Maximum Zener Impedance Z_{ZT} (Note 2)	Maximum Reverse Current I_Z @ V_R		Maximum Noise Density N_D @ I_{ZT}	Maximum Zener Current I_{ZM} (Note 3)	Maximum Temp. Coeff. Of Zener Voltage α_{VZ}
	Volts	µA	Ohms	µA	Volts	µV/√HZ	mA	%/°C
1N4614UR	1.8	250	1200	7.5	1	1	120	-0.075
1N4615UR	2.0	250	1250	5.0	1	1	110	-0.075
1N4616UR	2.2	250	1300	4.0	1	1	100	-0.075
1N4617UR	2.4	250	1400	2.0	1	1	95	-0.075
1N4618UR	2.7	250	1500	1.0	1	1	90	-0.075
1N4619UR	3.0	250	1600	0.8	1	1	87	-0.075
1N4620UR	3.3	250	1650	7.5	1.5	1	85	-0.075
1N4621UR	3.6	250	1700	7.5	2	1	83	-0.065
1N4622UR	3.9	250	1650	5.0	2	1	80	-0.060
1N4623UR	4.3	250	1600	4.0	2	1	77	-0.050
1N4624UR	4.7	250	1550	10.0	3	1	75	-0.050+0.020
1N4625UR	5.1	250	1500	10.0	3	2	70	-0.045+0.030
1N4626UR	5.6	250	1400	10.0	4	4	65	-0.020+0.040
1N4627UR	6.2	250	1200	10.0	5	5	61	-0.010+0.050
1N4099UR	6.8	250	200	10.0	5.17	40	56	0.060
1N4100UR	7.5	250	200	10.0	5.70	40	51	0.065
1N4101UR	8.2	250	200	1.0	6.24	40	46	0.070
1N4102UR	8.7	250	200	1.0	6.61	40	44	0.075
1N4103UR	9.1	250	200	1.0	6.92	40	42	0.080
1N4104UR	10	250	200	1.0	7.60	40	38	0.080
1N4105UR	11	250	200	.05	8.44	40	35	0.080
1N4106UR	12	250	200	.05	9.12	40	32	0.080
1N4107UR	13	250	200	.05	9.87	40	29	0.080

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	Volts	µA	Ohms	µA	Volts	µV/√HZ	mA	%/°C
1N4108UR	14	250	200	.05	10.65	40	27	0.085
1N4109UR	15	250	100	.05	11.40	40	25	0.085
1N4110UR	16	250	100	.05	12.15	40	24	0.085
1N4111UR	17	250	100	.05	12.92	40	22	0.090
1N4112UR	18	250	100	.05	13.67	40	21	0.090
1N4113UR	19	250	150	.05	14.44	40	20	0.090
1N4114UR	20	250	150	.01	15.20	40	19	0.090
1N4115UR	22	250	150	.01	16.72	40	17	0.090
1N4116UR	24	250	150	.01	18.25	40	16	0.090
1N4117UR	25	250	150	.01	19.00	40	15	0.090
1N4118UR	27	250	150	.01	20.45	40	14	0.090
1N4119UR	28	250	200	.01	21.28	40	14	0.095
1N4120UR	30	250	200	.01	22.80	40	13	0.095
1N4121UR	33	250	200	.01	25.08	40	12	0.095
1N4122UR	36	250	200	.01	27.38	40	11	0.095
1N4123UR	39	250	200	.01	29.65	40	9.8	0.095
1N4124UR	43	250	250	.01	32.65	40	8.9	0.095
1N4125UR	47	250	250	.01	35.75	40	8.1	0.095
1N4126UR	51	250	300	.01	38.76	40	7.5	0.100
1N4127UR	56	250	300	.01	42.60	40	6.7	0.100
1N4128UR	60	250	400	.01	45.60	40	6.4	0.100
1N4129UR	62	250	500	.01	47.10	40	6.1	0.100
1N4130UR	68	250	700	.01	51.68	40	5.6	0.100
1N4131UR	75	250	700	.01	57.00	40	5.1	0.100
1N4132UR	82	250	800	.01	62.32	40	4.6	0.100
1N4133UR	87	250	1000	.01	66.12	40	4.4	0.100
1N4134UR	91	250	1200	.01	69.16	40	4.2	0.100
1N4135UR	100	250	1500	.01	76.00	40	3.8	0.100

Note 1: No suffix shows a standard tolerance of +/- 5% on the nominal zener voltage. Also available in 2% and 1% tolerance, suffix C and D respectively. V_Z is measured with the diode in thermal equilibrium in 25°C still air.

Note 2: Zener impedance is derived by superimposing on I_{ZT}, a 60Hz rms a.c. current equal to 10% of I_{ZT} (25µA a.c.)

Note 3: Based upon 400mW maximum power dissipation at 75°Clead temperature, allowance has been made for the higher voltage associated with operation at higher currents.

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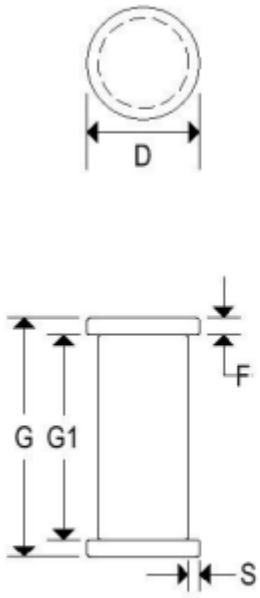
MECHANICAL CHARACTERISTICS

Case:	SOD-80
Marking	Alpha-numeric
Polarity:	Cathode band



	SOD-80			
	Inches		Millimeters	
	Min	Max	Min	Max
D	0.055	0.067	1.397	1.702
F	-	0.022	-	0.559
G	0.130	0.146	3.302	3.708
G1	0.100 REF		2.540 REF	
S	0.001	-	0.025	-

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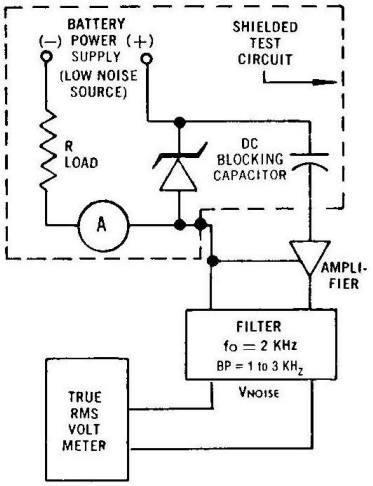

FIGURE 2 NOISE DENSITY MEASUREMENT CIRCUIT

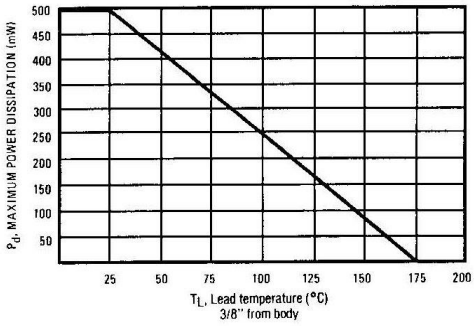

FIGURE 3 POWER DERATING CURVE

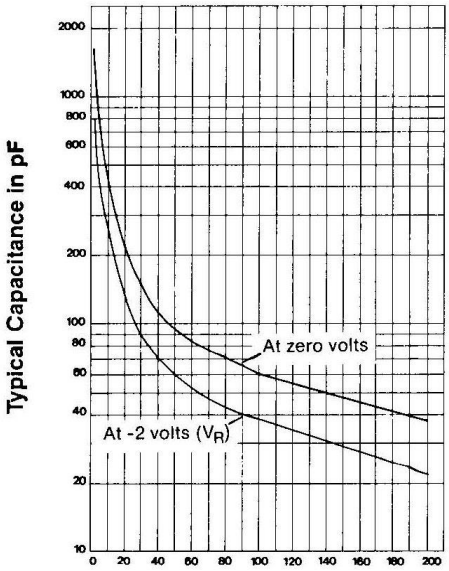

FIGURE 4

CAPACITANCE VS. ZENER VOLTAGE
(TYPICAL)