

HD28110

20–1500Mhz Low Noise Amplifier

Features

- Frequency Range: 20 - 1500MHz
- Gain: 20dB
- P_{1dB} : +17dBm
- IP3: +35dBm
- Noise Figure: 1dB
- DC Power: 12V/70mA
- SMA Connector

Performance measured @ 500MHz

range from 20MHz to 1500MHz. Usable to 2000MHz.



Description

HD28110 is a 1dB Noise Figure Low Noise Amplifier operates with frequency

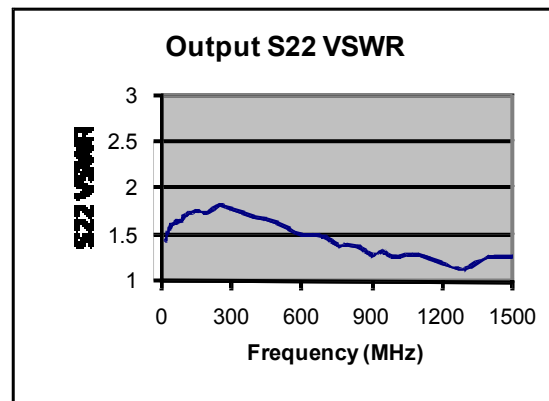
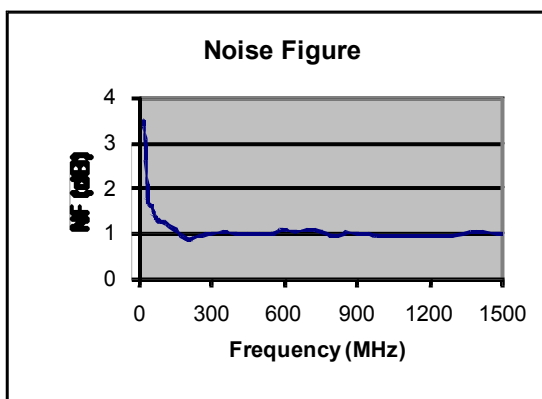
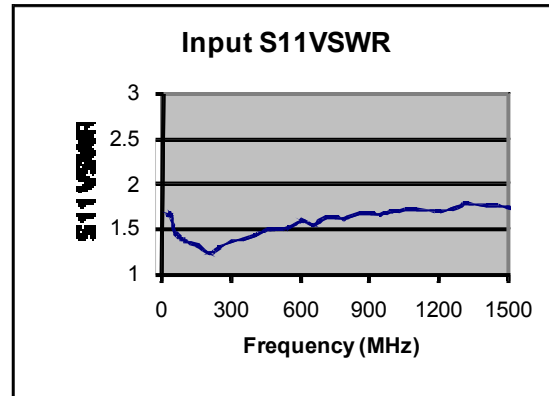
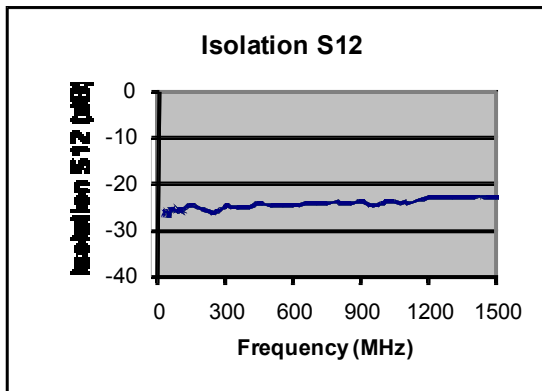
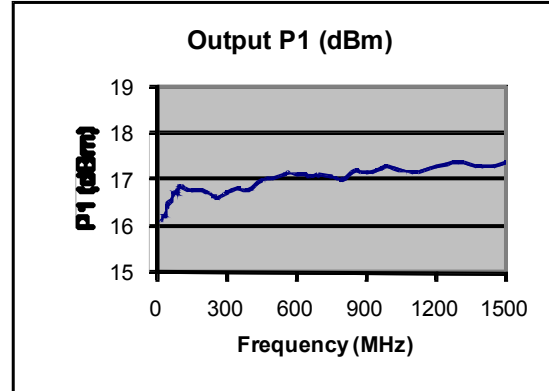
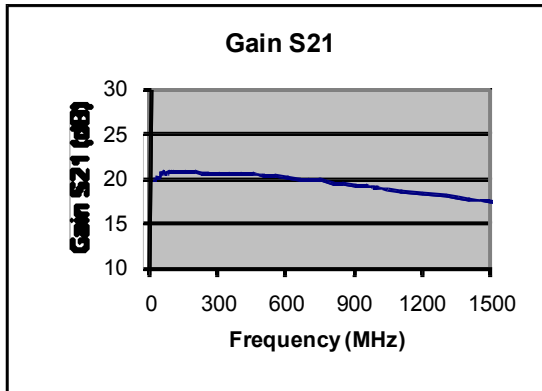
Electrical Specifications @ +25 °C, $Z_{in} = Z_{out} = 50 \Omega$, $V_{cc} = +12V$

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	20		1500
Gain $f = 20\text{MHz}$	dB		20.0	
$f = 100\text{MHz}$	dB		20.7	
$f = 500\text{MHz}$	dB		20.3	
$f = 1000\text{MHz}$	dB		19.0	
$f = 1500\text{MHz}$	dB		17.5	
Gain Flatness (20-1000MHz)	dB		± 1.0	
P_{1dB}	dBm		+17	
IP3	dBm		+35	
Noise Figure	dB		1.0	
Reverse Isolation	dB		-24	
VSWR Input VSWR			1.5:1	
Output VSWR			1.7:1	
DC Power Supply	V	9	12	18
Supply Current	mA		70	

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Typical Performance @ +25 °C



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Freq(MHz)	NF (dB)	S21 (dB)	S12 (dB)	S11(VSWR)	S22(VSWR)	P _{1dB} (dBm)	P _{sat} (dBm)
20	3.491	19.99	-27.03	1.653	1.446	+16.12	+20.94
30	2.893	20.05	-26.03	1.670	1.526	+16.21	+20.96
40	1.679	20.15	-26.65	1.659	1.575	+16.22	+21.03
50	1.584	20.52	-26.91	1.502	1.611	+16.47	+21.07
60	1.493	20.67	-25.41	1.451	1.631	+16.57	+21.06
70	1.324	20.64	-25.40	1.401	1.648	+16.70	+21.00
80	1.301	20.68	-25.86	1.384	1.661	+16.72	+21.06
90	1.269	20.69	-25.64	1.376	1.657	+16.72	+21.07
100	1.245	20.71	-25.79	1.355	1.697	+16.86	+21.00
150	1.061	20.86	-24.84	1.309	1.759	+16.78	+20.77
200	0.855	20.70	-25.74	1.236	1.747	+16.78	+20.63
250	0.952	20.50	-26.17	1.300	1.818	+16.64	+20.81
300	0.975	20.48	-25.06	1.362	1.785	+16.73	+20.89
350	1.019	20.48	-25.30	1.389	1.745	+16.82	+20.89
400	0.997	20.46	-25.08	1.423	1.707	+16.79	+20.90
450	1.007	20.46	-24.49	1.494	1.678	+17.01	+20.86
500	0.998	20.38	-24.87	1.496	1.639	+17.05	+20.87
550	0.992	20.31	-24.68	1.506	1.580	+17.14	+20.79
600	1.058	20.16	-24.86	1.593	1.516	+17.13	+20.85
650	1.027	20.00	-24.36	1.545	1.507	+17.11	+20.75
700	1.059	19.96	-24.33	1.616	1.494	+17.11	+20.76
750	1.032	19.82	-24.24	1.621	1.388	+17.07	+20.76
800	0.967	19.53	-24.09	1.619	1.399	+17.02	+20.63
850	1.010	19.50	-24.33	1.663	1.366	+17.21	+20.60
900	0.986	19.32	-24.05	1.665	1.286	+17.16	20.58
950	0.976	19.16	-24.55	1.664	1.320	+17.23	+20.53
1000	0.954	19.00	-24.11	1.696	1.269	+17.28	+20.52
1100	0.965	18.64	-24.14	1.721	1.291	+17.19	+20.25
1200	0.946	18.29	-23.04	1.695	1.197	+17.31	+20.27
1300	0.967	18.01	-23.15	1.768	1.131	+17.38	+20.46
1400	1.016	17.70	-22.84	1.754	1.261	+17.29	+20.50
1500	0.983	17.50	-22.85	1.736	1.271	+17.38	+20.47
1600	1.078	17.07	-22.86	1.651	1.315	+17.73	+20.13
1700	1.077	16.69	-22.27	1.669	1.382	+18.01	+19.94
1800	1.101	16.47	-21.99	1.637	1.425	+18.20	+19.98
1900	1.071	16.15	-22.12	1.644	1.571	+18.53	+19.86
2000	1.090	15.65	-22.10	1.563	1.671	+18.49	+19.52

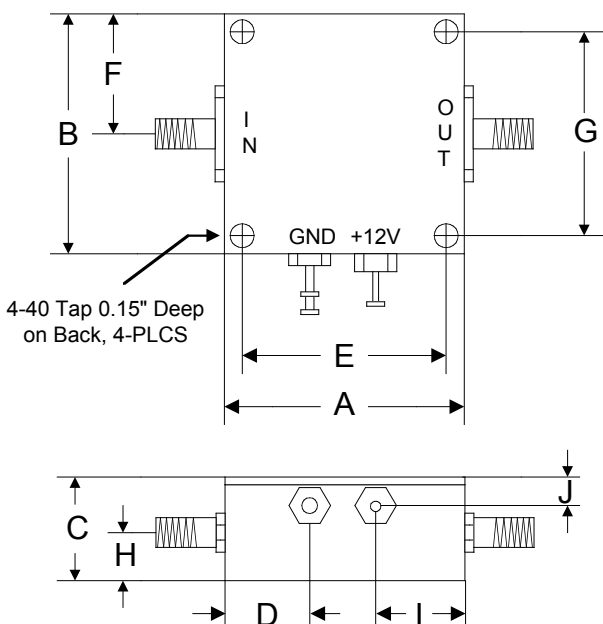
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Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+13dBm
Supply Voltage	+25V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.250	1.250	0.563	0.450	1.000	0.625	1.000	0.250	0.500	0.187
mm	31.75	31.75	14.29	11.43	25.40	15.88	25.40	6.35	12.70	4.76