

LNA Series

30KHz – 600MHz Low Noise Amplifier

Features

- Frequency Range: 30KHz-600MHz
- Gain: 50dB
- P_{1dB}: +13.5dBm
- IP3: +25dBm
- Noise Figure: 2.2dB
- DC Power: 15V/85mA
- SMA Connector

Performance measured @ 300MHz

Description

LNA-650 is a 50dB gain wideband Low Noise Amplifier operates with frequency range from 30KHz to 600MHz.

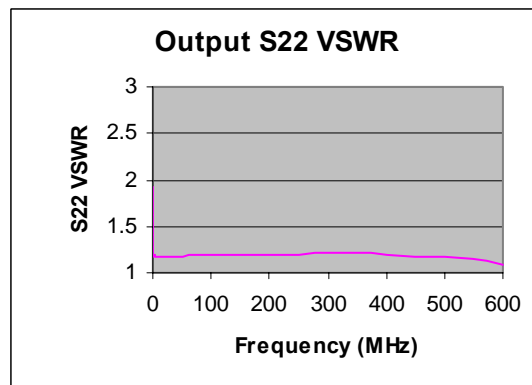
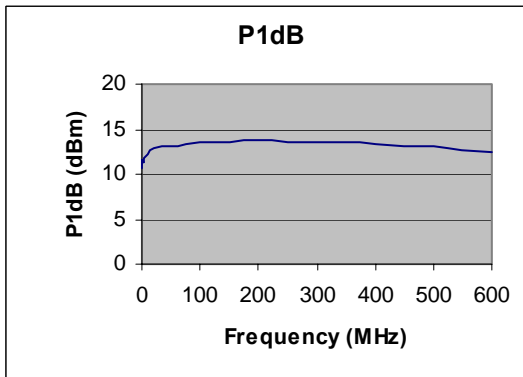
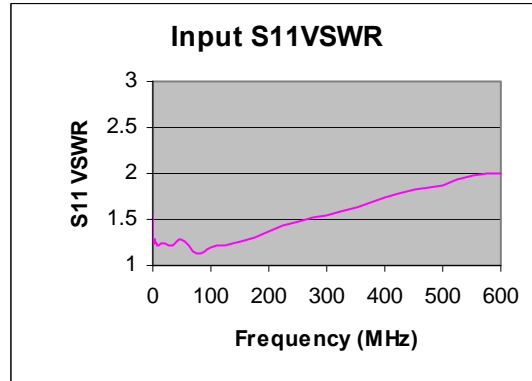
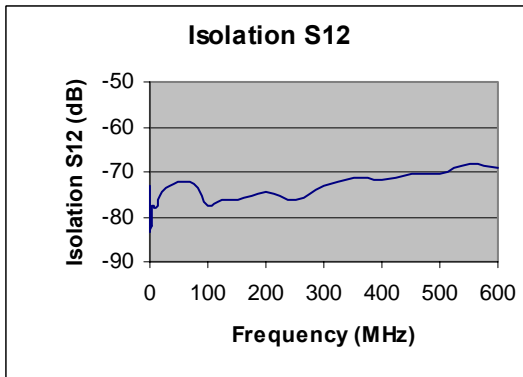
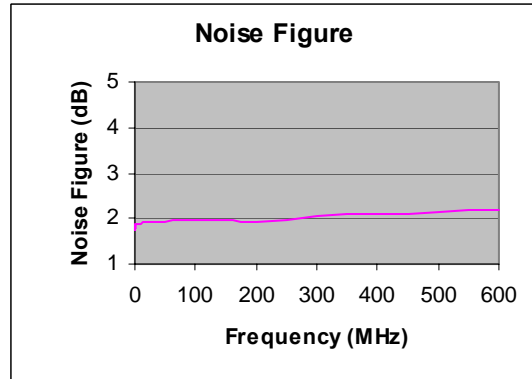
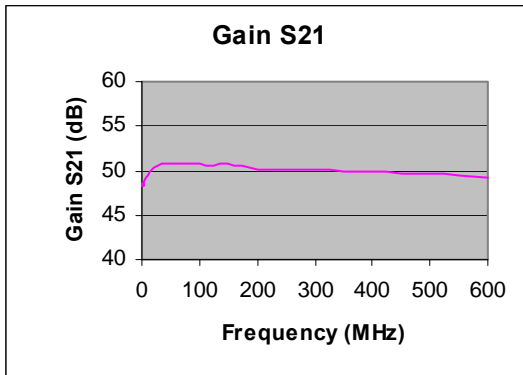
Picture



Electrical Specifications @ +25 °C, Z_{in} = Z_{out} = 50 Ω, V_{cc} = +15V

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	0.03		600
Gain				
f = 30KHz	dB		48.5	
f = 1MHz	dB		48.3	
f = 10MHz	dB		49.5	
f = 100MHz	dB		50.6	
f = 300MHz	dB		50.0	
f = 600MHz	dB		49.2	
P _{1dB}	dBm		+13.5	
IP3	dBm		+25.0	
Noise Figure	dB		2.2	
Reverse Isolation	dB		-73	
VSWR				
Input VSWR			1.5:1	
Output VSWR			1.2:1	
DC Power Supply	V		15	18
Supply Current	mA		85	

Typical Performance @ +25 °C



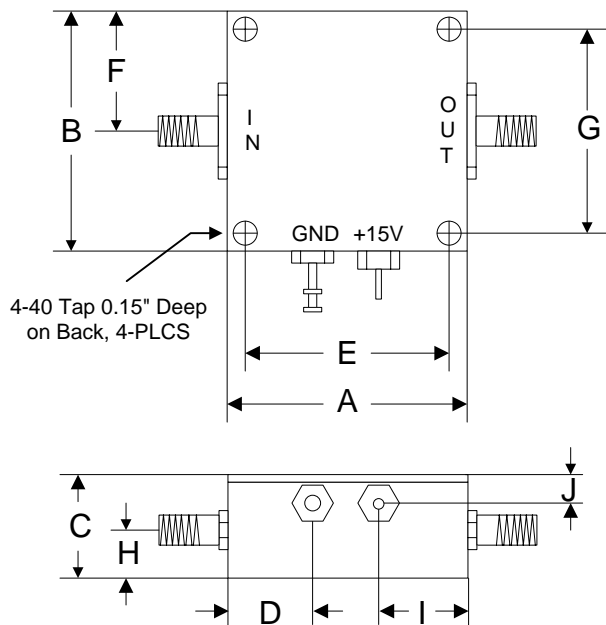
LNA Series**30KHz – 600MHz Low Noise Amplifier****Typical Performance @ +25 °C**

Freq(MHz)	NF (dB)	S21 (dB)	S12 (dB)	S11(VSWR)	S22(VSWR)	P _{1dB} (dBm)	IP ₃ (dBm)
0.03	1.75	48.55	-73.2	1.55	1.92	+10.62	+22.78
0.05	1.77	48.52	-77.6	1.42	1.62	+11.01	+23.01
0.075	1.76	48.53	-78.9	1.32	1.40	+11.37	+23.42
0.1	1.80	48.57	-81.1	1.27	1.27	+11.66	+23.78
0.25	1.81	48.40	-79.5	1.28	1.25	+11.44	+24.06
0.5	1.83	48.35	-82.3	1.29	1.24	+11.36	+24.25
0.75	1.85	48.38	-80.6	1.27	1.18	+11.40	+24.34
1	1.84	48.32	-83.5	1.26	1.19	+11.55	+24.50
2.5	1.86	48.42	-81.8	1.24	1.19	+11.42	+24.77
5	1.88	48.71	-77.7	1.29	1.18	+11.69	+25.01
7.5	1.88	49.14	-77.4	1.25	1.18	+12.00	+25.25
10	1.89	49.50	-78.1	1.21	1.18	+12.30	+25.46
20	1.92	50.41	-74.5	1.23	1.18	+12.78	+25.49
35	1.93	50.75	-73.1	1.21	1.17	+13.16	+25.57
50	1.94	50.81	-72.2	1.28	1.18	+13.21	+25.67
75	1.96	50.75	-72.7	1.13	1.19	+13.40	+25.62
100	1.97	50.69	-77.4	1.20	1.19	+13.55	+25.58
125	1.96	50.66	-76.2	1.21	1.19	+13.45	+25.30
150	1.95	50.71	-76.0	1.26	1.19	+13.48	+25.15
200	1.91	50.10	-74.4	1.36	1.19	+13.70	+25.30
250	1.96	50.04	-76.4	1.47	1.20	+13.65	+25.15
300	2.06	50.01	-73.3	1.54	1.21	+13.60	+25.04
350	2.08	49.96	-71.4	1.62	1.21	+13.55	+24.81
400	2.10	49.86	-71.7	1.74	1.20	+13.39	+24.54
450	2.12	49.74	-70.5	1.82	1.18	+13.22	+24.38
500	2.15	49.64	-70.6	1.87	1.17	+13.17	+24.22
550	2.17	49.37	-68.1	1.98	1.14	+12.64	+25.30
600	2.18	49.22	-69.3	2.00	1.08	+12.42	+23.88

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+13dBm
Supply Voltage	+20V
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