

HD24649

100MHz-1000MHz RF Amplifier

Features

- Frequency Range: 100 - 1000MHz
- Gain: 45dB
- P_{1dB}: +20dBm
- IP3: +34dBm
- Noise Figure: 3.5dB
- DC Power: 12V
- SMA Connector

Performance measured @ 500MHz

Description

HD24649 is a wideband flat response high gain RF Amplifier operates with frequency range from 100MHz to 1000MHz (usable 50MHz to 1500MHz).



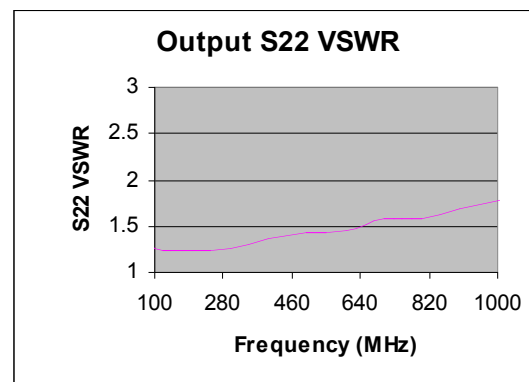
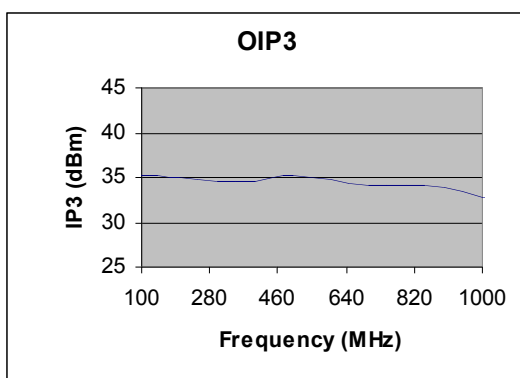
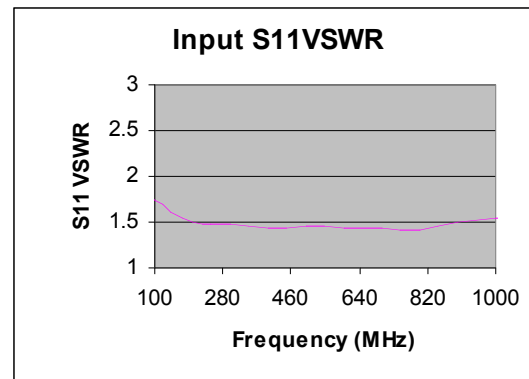
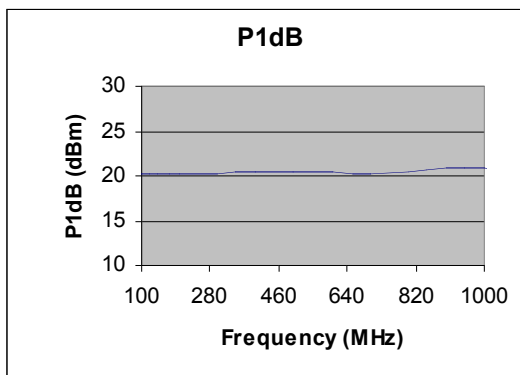
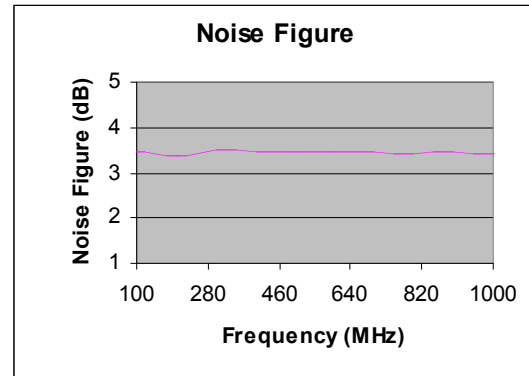
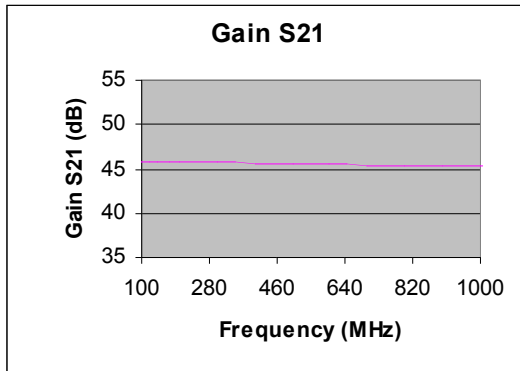
Electrical Specifications @ +25 °C, Z_s = Z_L = 50 Ohms

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	100		1000
Small Signal Gain f = 100MHz	dB		45	
f = 500MHz	dB		45	
f = 1000MHz	dB		45	
Gain Flatness	dB		± 0.6	
P _{1dB}	dBm		+20	
IP3	dBm		+34	
Noise Figure	dB		3.5	4.0
Reverse Isolation	dB		-45	
VSWR f = 100-1000MHz				
Input VSWR			1.5:1	1.8:1
Output VSWR			1.5:1	1.8:1
DC Power Supply	V	10	12	15
Supply Current	mA		135	

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Typical Performance @ +25 °C



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Test Data @ +25 °C

Frequency	S21 (dB)	S12 (dB)	S11	S22	Noise Figure (dB)	P ₁ (dBm)	OIP3(dBm)
50 MHz	45.04	-51.24	2.082	2.079	3.47	19.52	35.15
60 MHz	45.53	-52.37	2.607	1.635	3.45	19.6	35.18
70 MHz	45.55	-46.70	1.904	1.508	3.49	19.8	35.54
80 MHz	45.69	-51.42	1.864	1.399	3.45	20	35.4
90 MHz	45.79	-51.42	1.787	1.363	3.46	20.2	35.37
100 MHz	45.84	-49.94	1.737	1.268	3.44	20.21	35.24
200 MHz	45.89	-56.59	1.500	1.230	3.39	20.28	34.98
300 MHz	45.81	-57.28	1.470	1.268	3.50	20.21	34.48
400 MHz	45.63	-52.72	1.443	1.364	3.44	20.55	34.52
500 MHz	45.59	-46.41	1.459	1.426	3.48	20.41	35.19
600 MHz	45.48	-48.91	1.439	1.461	3.46	20.42	34.81
700 MHz	45.42	-44.62	1.437	1.574	3.48	20.15	34.17
800 MHz	45.31	-44.16	1.411	1.591	3.42	20.5	34.08
900 MHz	45.28	-46.52	1.499	1.693	3.45	20.8	33.79
1000 MHz	45.34	-54.99	1.550	1.775	3.41	20.9	32.79
1100 MHz	45.26	-47.12	1.565	1.881	3.55	20.3	32.36
1200 MHz	45.29	-48.71	1.668	1.990	3.50	20.4	32.03
1300 MHz	45.28	-47.94	1.693	2.196	3.60	20.6	31.52
1400 MHz	45.08	-51.64	1.893	2.165	3.62	20.4	31.15
1500 MHz	44.84	-52.64	1.949	2.197	3.46	20.2	30.15

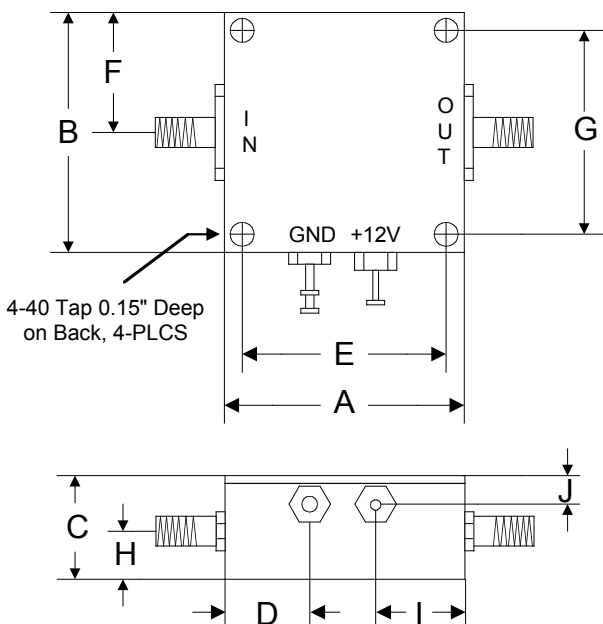
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Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+15dBm
Supply Voltage	+16V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °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