

HD24223

100MHz – 10GHz RF Amplifier

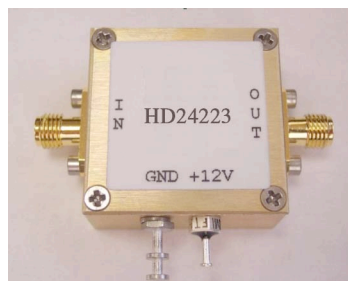
Features

- Frequency Range: 0.1 -10GHz
- Gain: 16dB
- P_{1dB}: +13dBm
- IP3: +28dBm
- Noise Figure: 4dB
- DC Power: 12V
- SMA Connector

Performance measured @ 2GHz

Description

HD24223 is a wideband, Low Power RF Amplifier that operates with a frequency range from 100MHz to 10GHz.



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

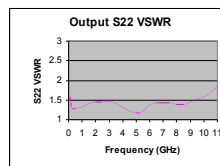
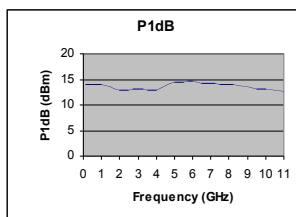
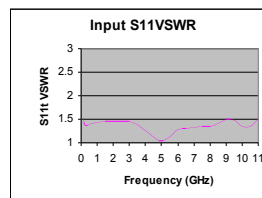
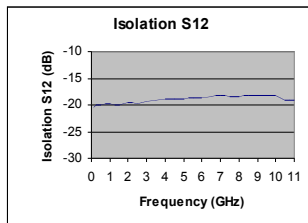
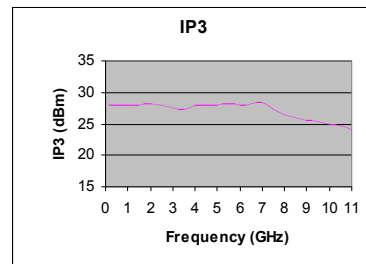
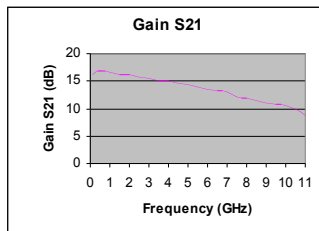
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	0.1		10
Gain	f = 0.1GHz		16.2	
	f = 2.0GHz		16.0	
	f = 4.0GHz		15.1	
	f = 6.0GHz		13.4	
	f = 10.0GHz		10.5	
P _{1dB}	f = 0.1GHz		+14.0	
	f = 2.0GHz		+13.0	
	f = 4.0GHz		+13.0	
	f = 6.0GHz		+14.6	
	f = 10.0GHz		+13.0	
IP3	f = 0.1GHz		+27.7	
	f = 2.0GHz		+28.1	

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f = 4.0GHz	dBm		+28.0	
f = 6.0GHz	dBm		+28.0	
f = 10.0GHz	dBm		+25.0	
Noise Figure f = 2GHz	dB		4.0	
VSWR f = 0.1-10GHz				
Input VSWR			1.7:1	
Output VSWR			1.7:1	
DC Power Supply	V	9	12	15
Supply Current	mA		50	

Typical Performance @ +25 °C



Test Data @ +25 °C



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Frequency(GHz)	S21 (dB)	S12 (dB)	S11(VSWR)	S22(VSWR)	Noise Figure (dB)
0.040	14.30	-22.46	2.29	3.00	3.83
0.075	15.80	-22.86	1.66	1.83	3.62
0.100	16.22	-20.5	1.53	1.58	3.66
0.250	16.57	-19.99	1.36	1.31	3.59
0.500	16.79	-19.95	1.39	1.28	3.72
1.000	16.61	-19.88	1.43	1.33	3.65
1.500	16.21	-20.07	1.45	1.40	3.48
2.000	16.17	-19.56	1.45	1.45	3.66
2.500	15.64	-19.75	1.46	1.45	3.67
3.000	15.43	-19.30	1.46	1.48	3.97
3.500	14.98	-19.21	1.39	1.40	3.73
4.000	15.16	-18.92	1.26	1.30	3.80
4.500	14.58	-18.81	1.12	1.21	3.81
5.000	14.23	-18.80	1.05	1.17	3.88
5.500	13.85	-18.62	1.14	1.22	4.08
6.000	13.42	-18.60	1.28	1.38	3.92
6.500	13.23	-18.40	1.31	1.42	3.96
7.000	13.00	-18.31	1.33	1.43	4.05
7.500	12.20	-18.42	1.34	1.43	4.04
8.000	11.98	-18.41	1.34	1.39	4.11
8.500	11.50	-18.22	1.41	1.39	4.28
9.000	11.10	-18.20	1.49	1.46	4.34
9.500	10.89	-18.22	1.48	1.53	4.52
10.00	10.50	-18.30	1.34	1.58	4.69
10.50	9.86	-19.01	1.34	1.69	4.70
11.00	8.70	-19.20	1.53	1.87	4.72

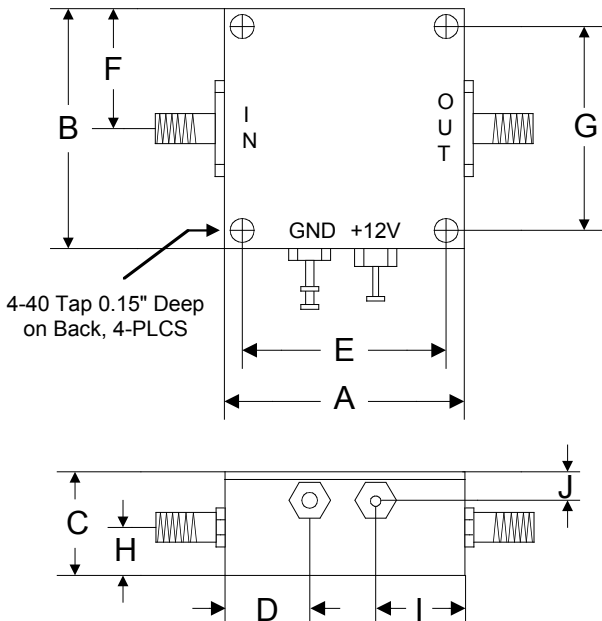
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Absolute Maximum Ratings

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