

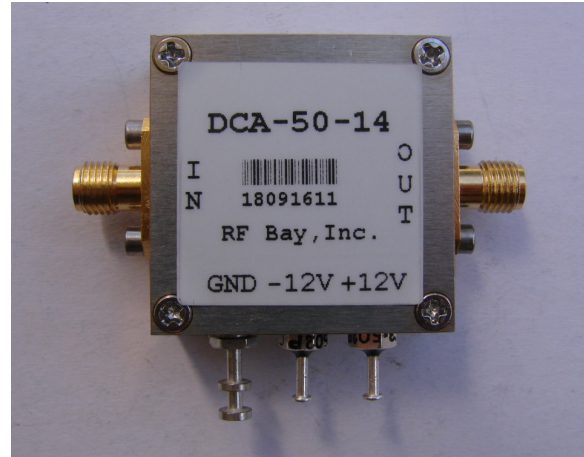
DCA 50 Ω Series

0Hz – 1500MHz DC Coupled Amplifier

Features

- 3-dB Bandwidth: 1500MHz
- Gain: 14dB
- P_{1dB}: +11dBm
- IP3: +25dBm
- Input/Output: 50 Ω
- DC Power: +12V/-12V
- SMA Connector

Picture



Performance @ 500MHz

Description

DCA-50-14 is a 50 Ω 14dB gain DC Coupled Amplifier operates with 3-dB bandwidth of 1500MHz, designed for wideband signal processing application.

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

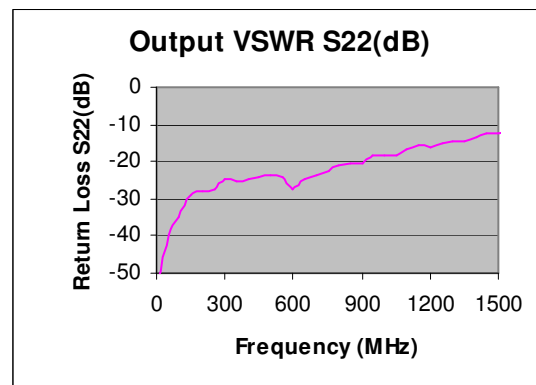
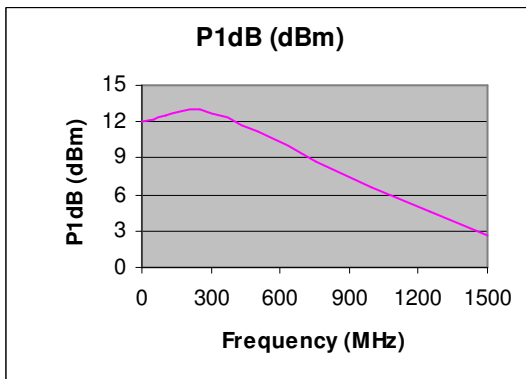
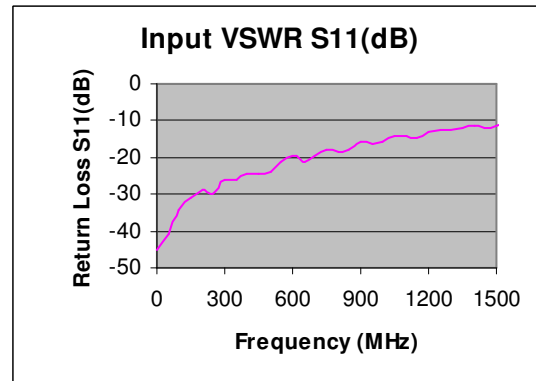
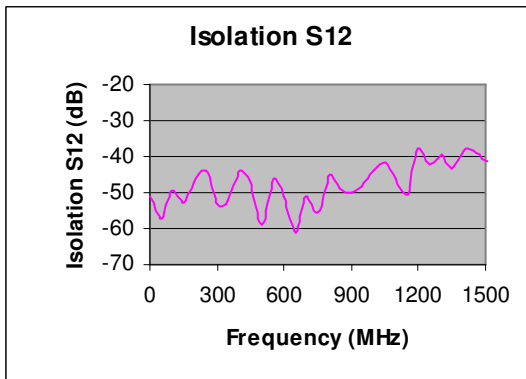
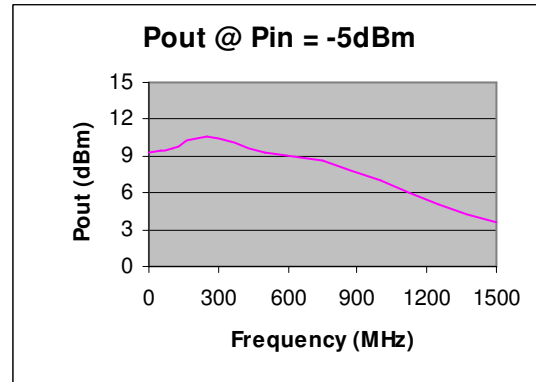
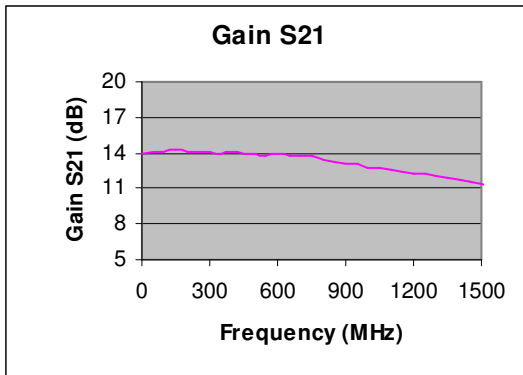
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range (-3dB)	MHz	0		1500
Power Gain f = 0Hz	dB		14.0	
f = 100MHz	dB		14.0	
f = 500MHz	dB		13.9	
f = 1000MHz	dB		12.8	
f = 1500MHz	dB		11.4	
Voltage Gain (RL= ∞) f = 0 Hz			+10	
P _{1dB} f = 10KHz	dBm		+12.0	
f = 100MHz	dBm		+12.5	
f = 500MHz	dBm		+11.0	
f = 1000MHz	dBm		+6.5	
f = 1500MHz	dBm		+2.5	
IP3 f = 100MHz	dBm		+34	
f = 300MHz	dBm		+27	
f = 500MHz	dBm		+25	

DCA 50 Ω Series**0Hz – 1500MHz DC Coupled Amplifier**

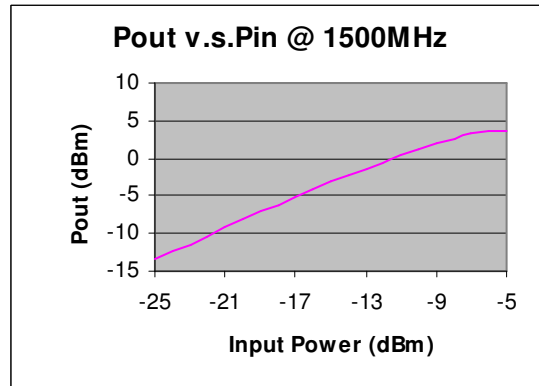
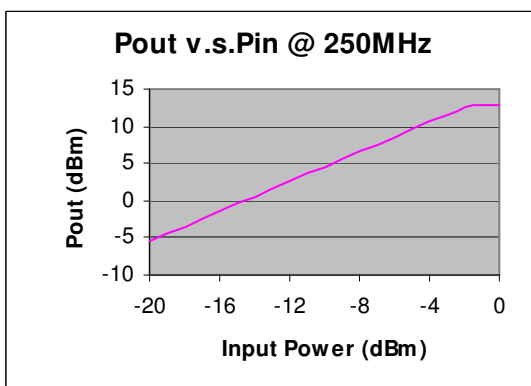
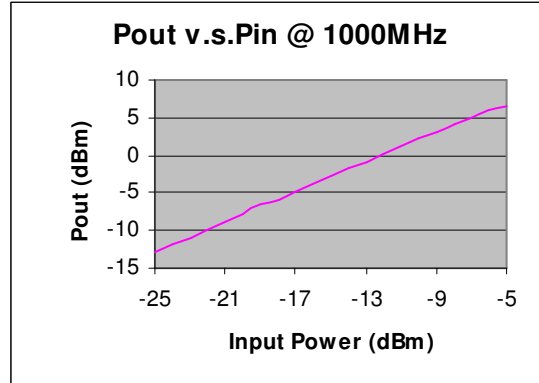
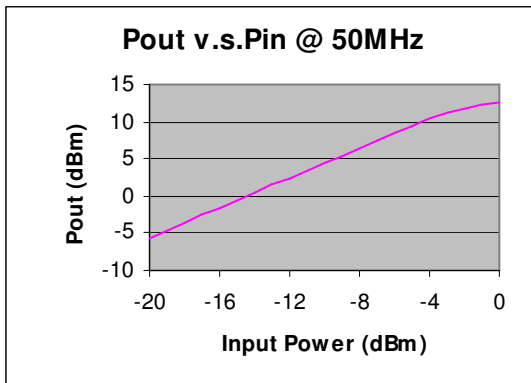
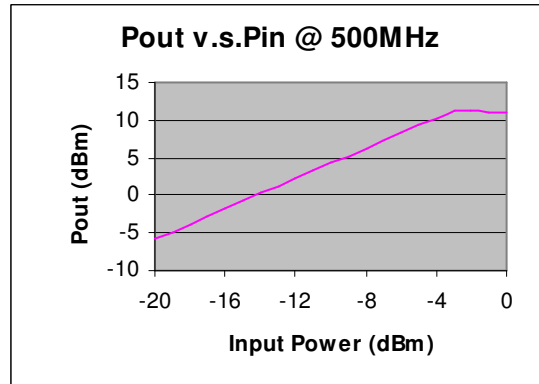
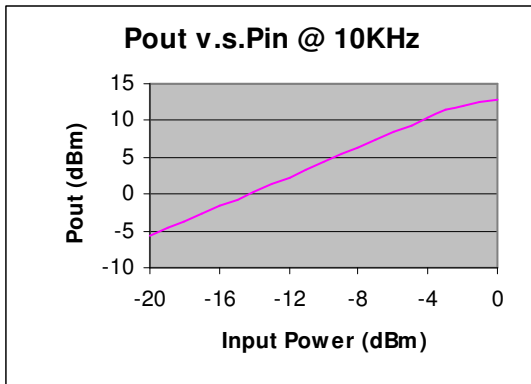
Slew Rate	Vout = 1.8V Step	$\mu\text{s/V}$		5500	
Output Voltage Swing	f = 100MHz	Vp-p		1.8	
	f = 500MHz	Vp-p		1.6	
Output Current	f = 100MHz	mA		± 18	
Output Voltage* Pin= -5dBm	f = 100KHz RL= ∞	Vp-p		4.0	
	f = 100MHz RL= ∞	Vp-p		3.3	
	f = 500MHz RL= ∞	Vp-p		1.8	
Second Harmonic Distortion		dBc		-65	
Third Harmonic Distortion		dBc		-76	
Third Order Intermodulation IMD3		dBc		-70	
Reserve Isolation		dB		-40	
Input Offset Voltage		mV		1.5	
Average Offset Voltage Drift		$\mu\text{V}/^\circ\text{C}$		± 20	
Input Bias Current		μA			7
Average Bias Current Drift		$\text{nA}/^\circ\text{C}$		± 55	
Input Voltage Noise	f = 1MHz	$\text{nV}/\sqrt{\text{Hz}}$		2.5	
Noise Figure	f = 100MHz	dB		16	
Setting Time		ns		2.0	
Return Loss	f = 500MHz	Input	dB	-23	
		Output	dB	-23	
DC Power Supply		V	± 8	± 12	± 18
Supply Current		mA		± 45	
Operating Temperature		$^\circ\text{C}$	-40		+85
Size		inch	1.25" x 1.25" x 0.56"		
Weight		Oz.	1.5		

* Unit can drive high impedance or capacitive load

Typical Performance @ +25 °C



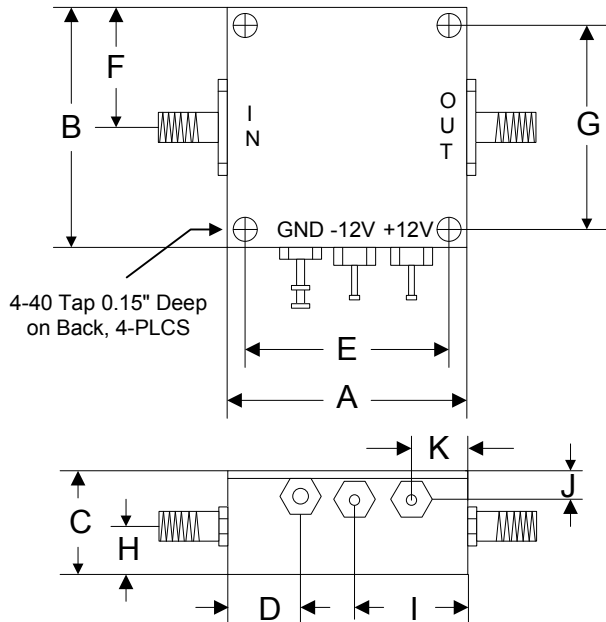
Typical Performance @ +25 °C



Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+13dBm
Input DC Voltage	± 3V
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	K
Inch	1.250	1.250	0.563	0.250	1.000	0.625	1.000	0.250	0.500	0.187	0.200
mm	31.75	31.75	14.29	6.35	25.40	15.88	25.40	6.35	12.70	4.76	5.08