

## DCA 50 $\Omega$ Series

## 0Hz – 1500MHz DC Coupled Amplifier

### Features

- 3-dB Bandwidth: 1500MHz
- Gain: 14dB
- P<sub>1dB</sub>: +11dBm
- IP3: +25dBm
- Input/Output: 50  $\Omega$
- DC Power: +12V/-12V
- SMA Connector

### Picture



Performance @ 500MHz

### Description

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

### Electrical Specifications @ +25 °C, Z<sub>in</sub>, Z<sub>out</sub> = 50 $\Omega$ , V<sub>cc</sub> = $\pm$ 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= $\infty$ ) f = 0 Hz			+10	
P <sub>1dB</sub> 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-50-14

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## DCA 50 $\Omega$ Series

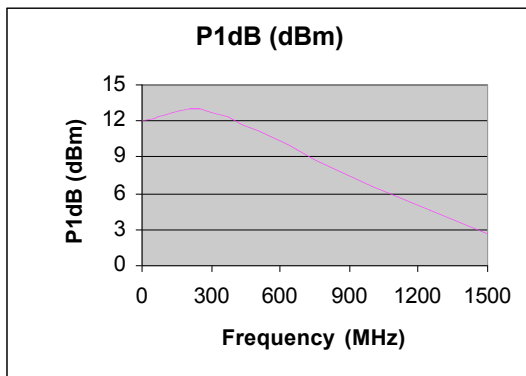
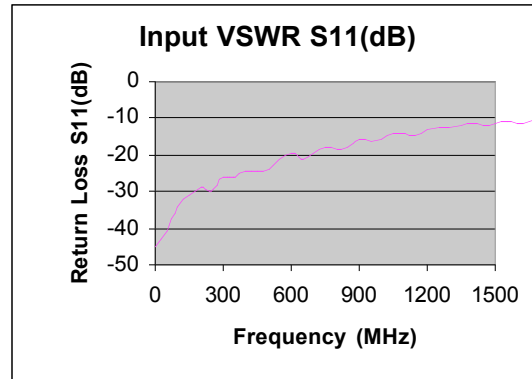
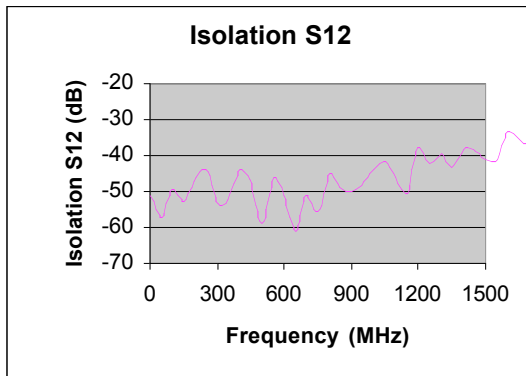
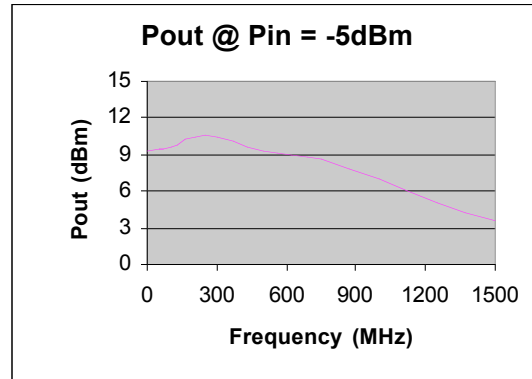
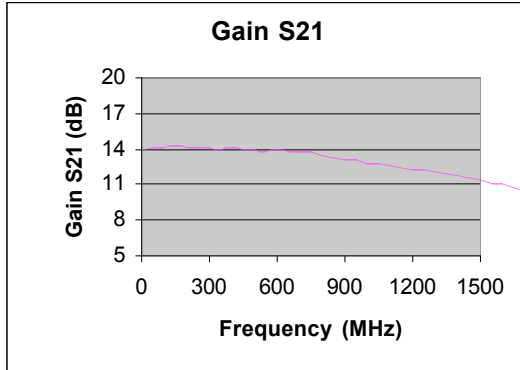
## 0Hz – 1500MHz DC Coupled Amplifier

Slew Rate	Vout = 1.8V Step	_s/V		5500	
Output Voltage Swing	f = 100MHz	Vp-p		1.8	
	f = 500MHz	Vp-p		1.6	
Output Current	f = 100MHz	mA		$\pm 18$	
Output Voltage* Pin= -5dBm	f = 100KHz RL= $\infty$	Vp-p		4.0	
	f = 100MHz RL= $\infty$	Vp-p		3.3	
	f = 500MHz RL= $\infty$	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		_V/ $^{\circ}$ C		$\pm 20$	
Input Bias Current		_A			7
Average Bias Current Drift		nA/ $^{\circ}$ C		$\pm 55$	
Input Voltage Noise	f = 1MHz	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	$\pm 8$	$\pm 12$	$\pm 18$
Supply Current		mA		$\pm 45$	
Operating Temperature		$^{\circ}$ 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



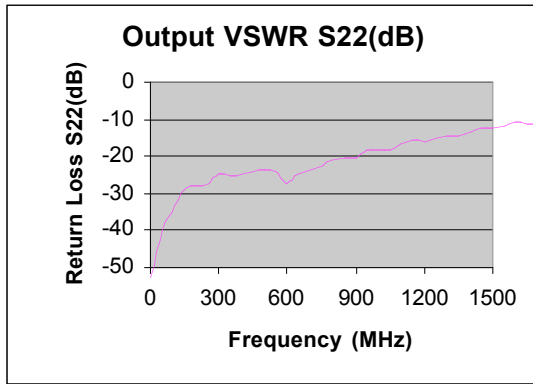


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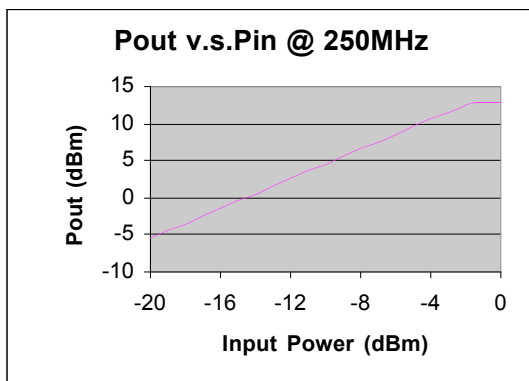
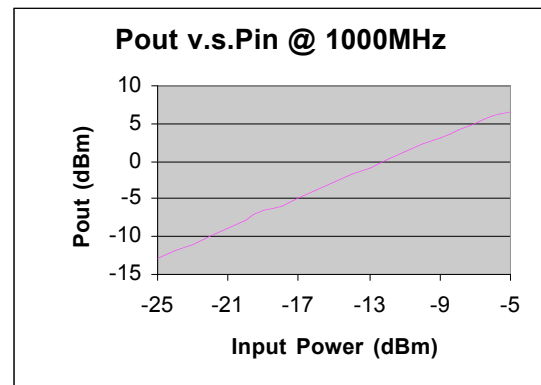
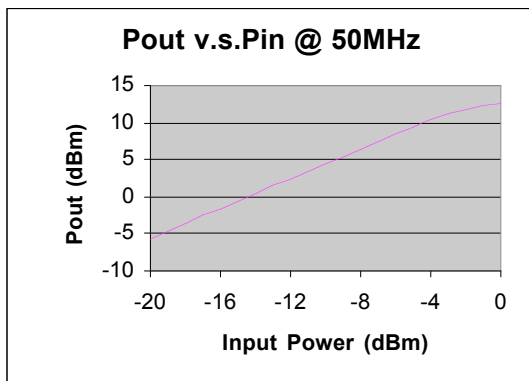
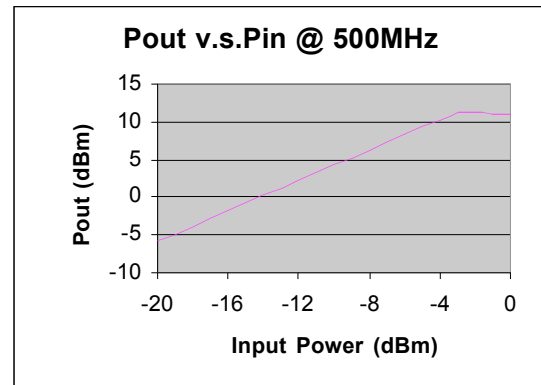
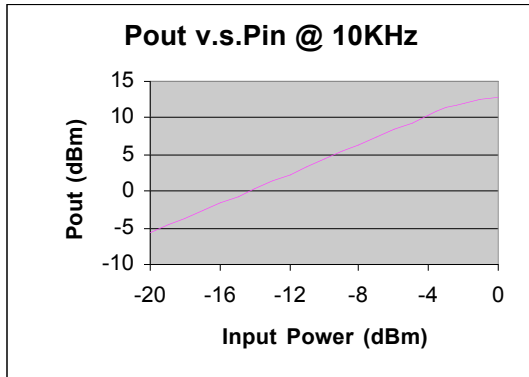
**DCA 50  $\Omega$  Series**

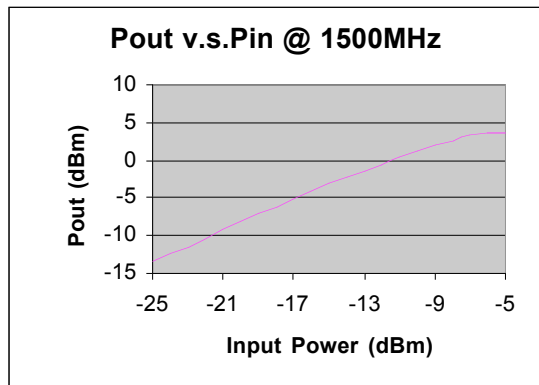
**0Hz – 1500MHz DC Coupled Amplifier**





### Typical Performance @ +25 °C





## Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+13dBm
Input DC Voltage	$\pm 3V$
Supply Voltage	$\pm 20V$
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

## Outline

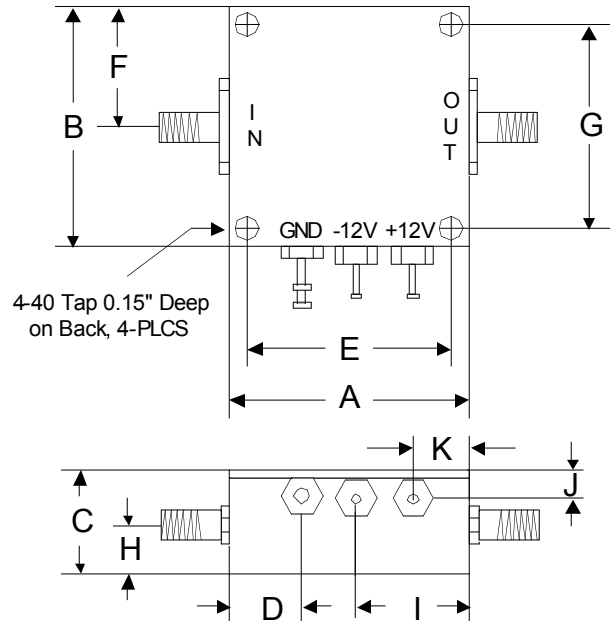


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## DCA 50 Ω Series

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	A	B	C	D	E	F	G	H	I	J	K
<b>Inch</b>	1.250	1.250	0.563	0.250	1.000	0.625	1.000	0.250	0.500	0.187	0.200
<b>mm</b>	31.75	31.75	14.29	6.35	25.40	15.88	25.40	6.35	12.70	4.76	5.08