

## DCA 50 $\Omega$ Series

## 0Hz – 2000MHz DC Coupled Amplifier

### Features

- 3-dB Bandwidth: 2000MHz
- Gain: 8dB
- $P_{1dB}$ : +11dBm
- IP3: +25dBm
- Input/Output: 50  $\Omega$
- DC Power: +12V/-12V
- SMA Connector

### Picture



Performance @ 500MHz

### Description

DCA-50-08 is a 50  $\Omega$  8dB gain DC Coupled Amplifier operates with 3-dB bandwidth of 2000MHz, designed for wideband signal processing application.

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

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range (-3dB)	MHz	0		2000
Power Gain				
f = 0Hz	dB		8.0	
f = 100MHz	dB		8.0	
f = 500MHz	dB		8.0	
f = 1000MHz	dB		7.8	
f = 1500MHz	dB		7.3	
f = 2000MHz	dB		5.0	
Voltage Gain ( $R_L = \infty$ ) f = 0 Hz			+5	
$P_{1dB}$				
f = 10KHz	dBm		+12.4	
f = 100MHz	dBm		+12.4	
f = 500MHz	dBm		+11.3	
f = 1000MHz	dBm		+6.5	
f = 1500MHz	dBm		+2.0	
f = 2000MHz	dBm		-2.5	



# DCA-50-08

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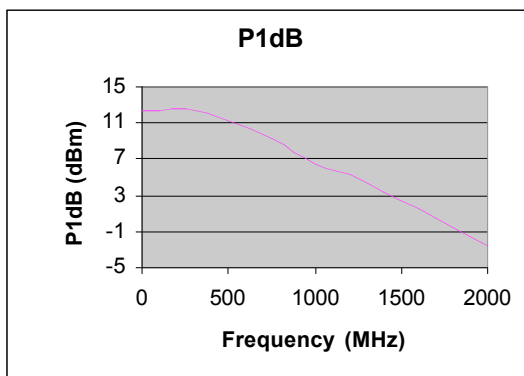
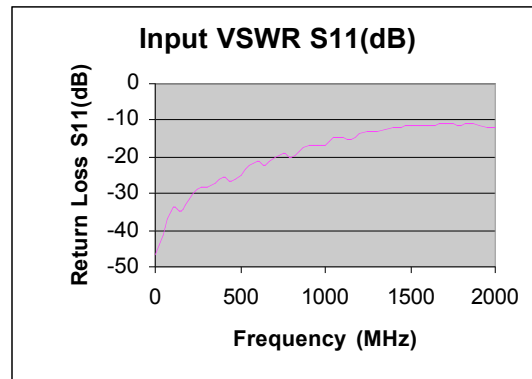
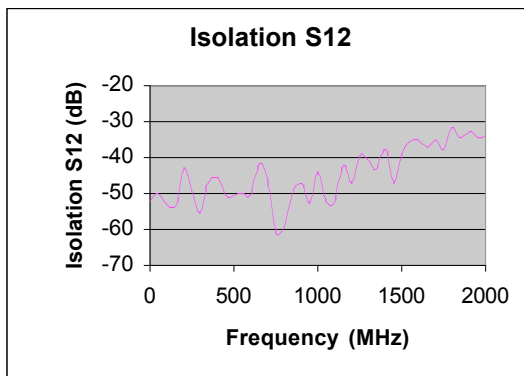
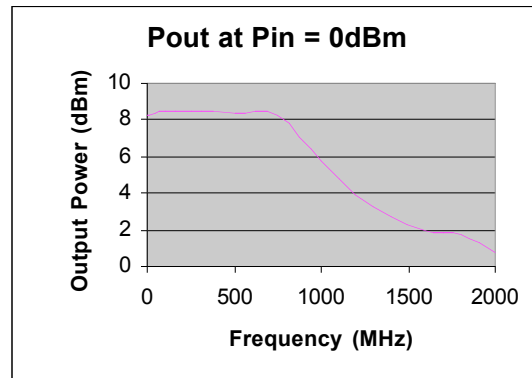
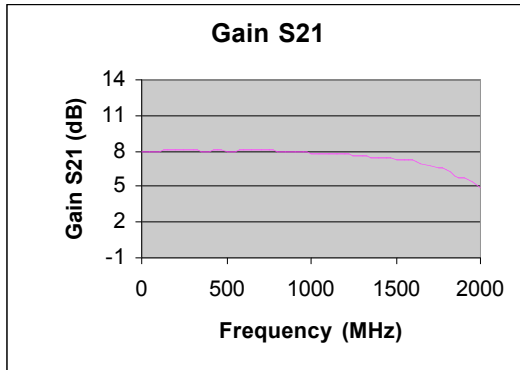
## 0Hz – 2000MHz DC Coupled Amplifier

IP3	f = 100MHz	dBm		+39	
	f = 300MHz	dBm		+32	
	f = 500MHz	dBm		+27	
Slew Rate	Vout = 1.5V Step	_s/V		5500	
Output Voltage Swing	f = 100MHz	Vp-p		1.6	
	f = 500MHz	Vp-p		1.5	
Output Current	f = 100MHz	mA		$\pm 16$	
Output Voltage*	Pin= 0dBm				
	f = 100KHz RL= $\infty$	Vp-p		3.3	
	f = 100MHz RL= $\infty$	Vp-p		2.9	
	f = 500MHz RL= $\infty$	Vp-p		1.7	
Second Harmonic Distortion		dBc		-66	
Third Harmonic Distortion		dBc		-81	
Third Order Intermodulation IMD3		dBc		-73	
Reserve Isolation		dB		-50	
Input Offset Voltage		mV		2.0	
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		0.6	
Return Loss	f = 500MHz	Input	dB	-25	
		Output	dB	-26	
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



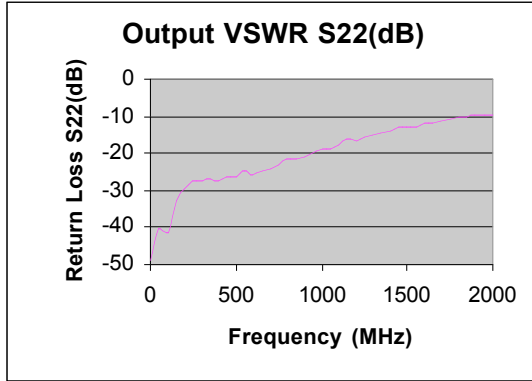


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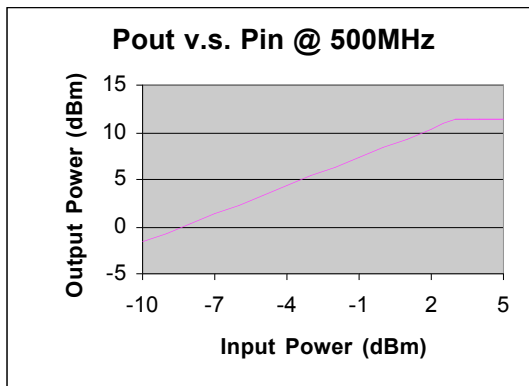
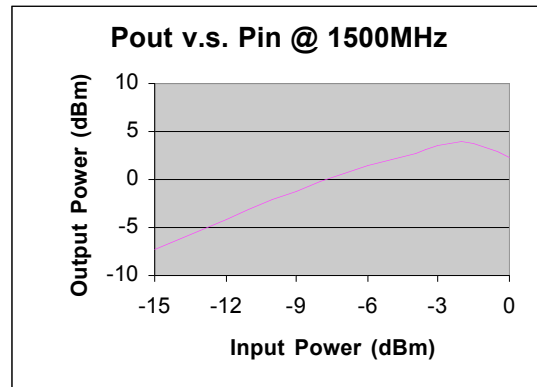
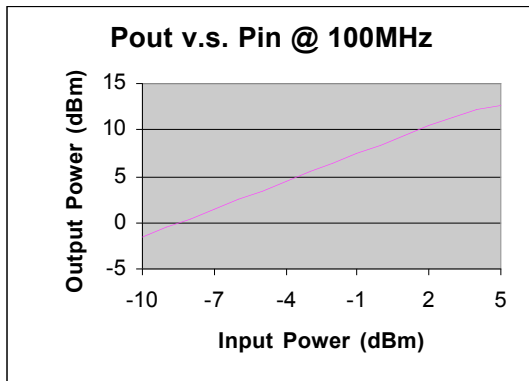
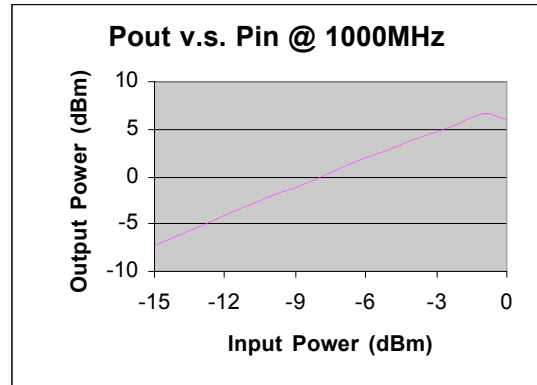
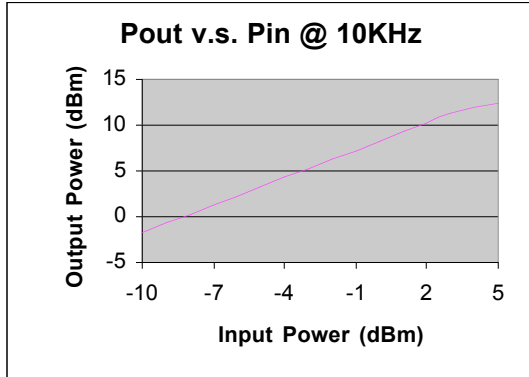
**DCA 50  $\Omega$  Series**

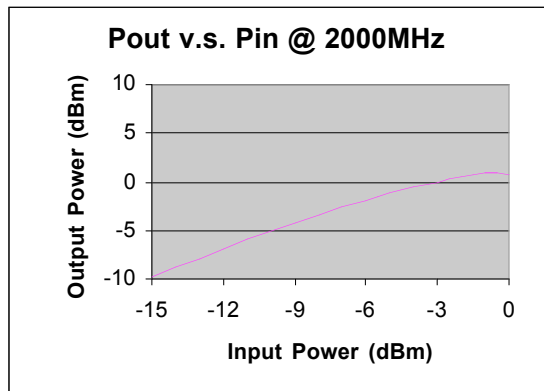
**0Hz – 2000MHz DC Coupled Amplifier**





### 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

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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