

HD27191

0Hz–2000MHz DC Coupled Amplifier

Features

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

Performance @ 500MHz

Description

HD27191 is a 50 Ω 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 Ω , V_{cc} = \pm 12V

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

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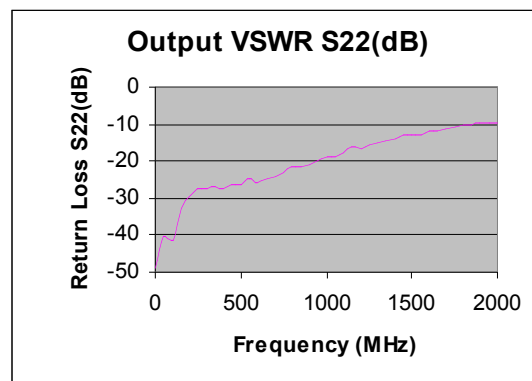
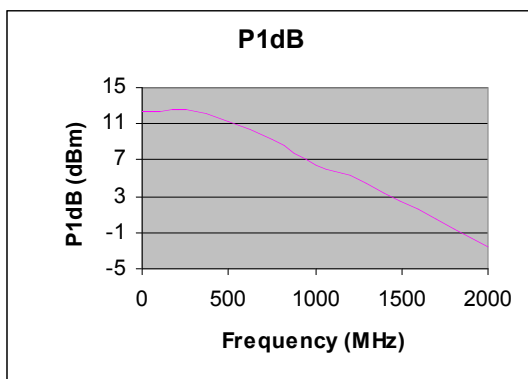
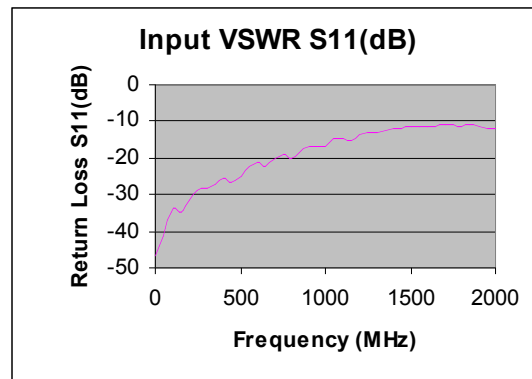
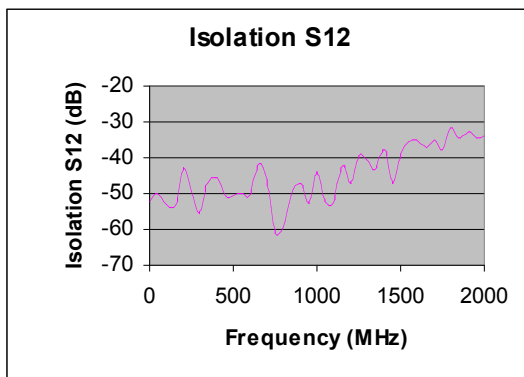
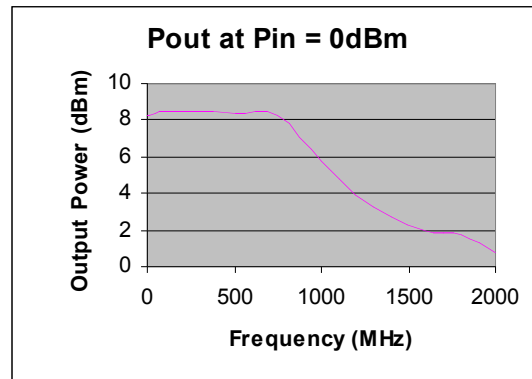
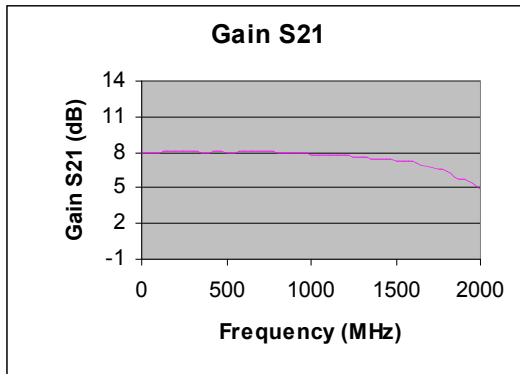
f = 1500MHz	dBm		+2.0	
f = 2000MHz	dBm		-2.5	
IP3 f = 100MHz	dBm		+39	
f = 300MHz	dBm		+32	
f = 500MHz	dBm		+27	
Slew Rate Vout = 1.5V Step	µs/V		5500	
Output Voltage Swing f = 100MHz	Vp-p		1.6	
f = 500MHz	Vp-p		1.5	
Output Current f = 100MHz	mA		±16	
Output Voltage* Pin= 0dBm				
f = 100KHz RL=∞	Vp-p		3.3	
f = 100MHz RL=∞	Vp-p		2.9	
f = 500MHz RL=∞	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	µV/°C		±20	
Input Bias Current	µA			7
Average Bias Current Drift	nA/°C		±55	
Input Voltage Noise f = 1MHz	nV/√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	±8	±12	±18
Supply Current	mA		±45	
Operating Temperature	°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

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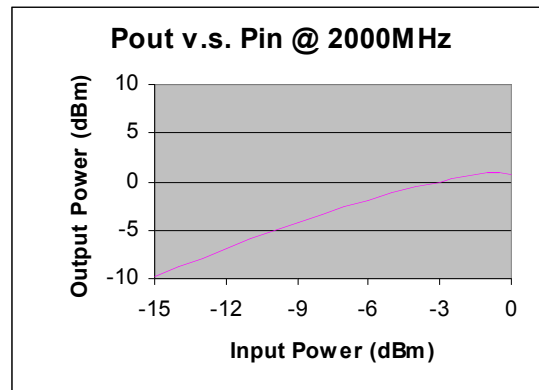
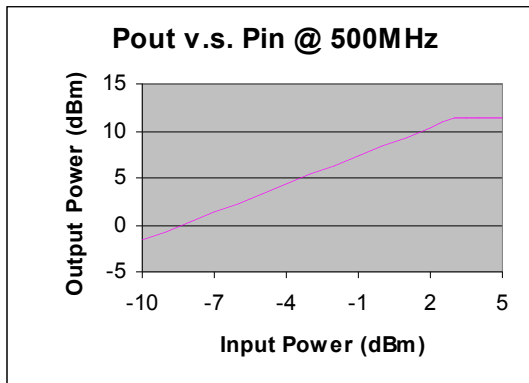
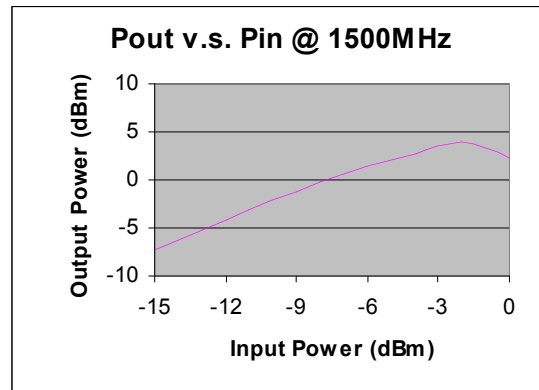
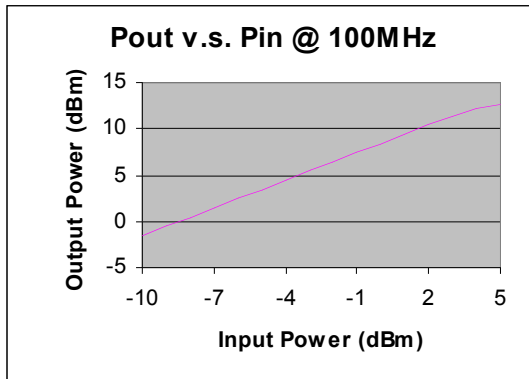
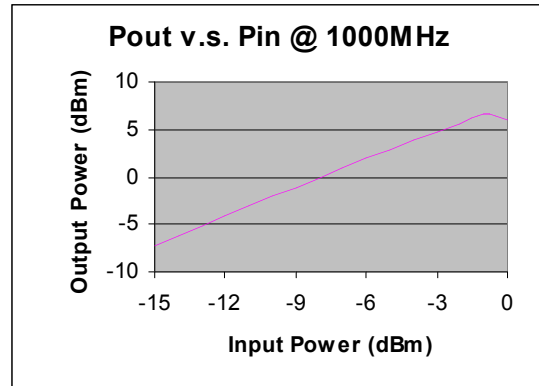
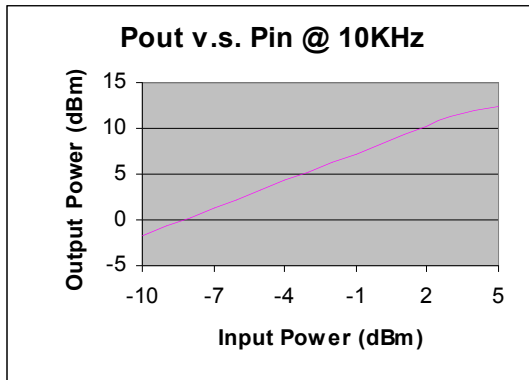
Typical Performance @ +25 °C



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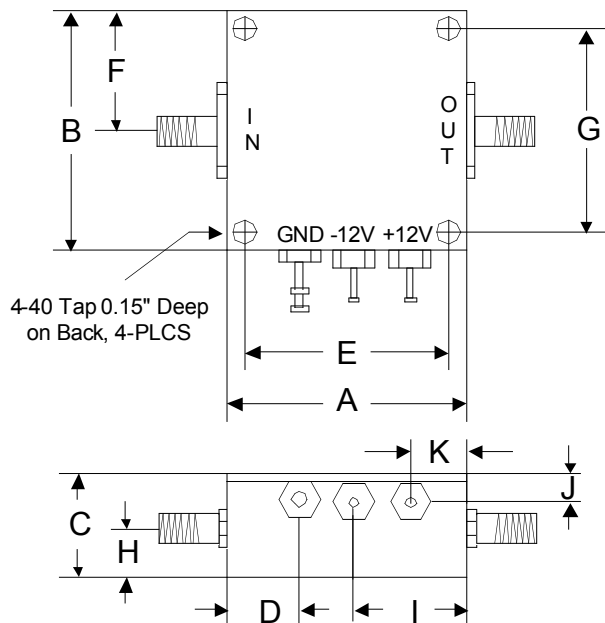
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Absolute Maximum Ratings

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