

## HPA Series

## 225-400MHz 5W RF Power Amplifier

### Features

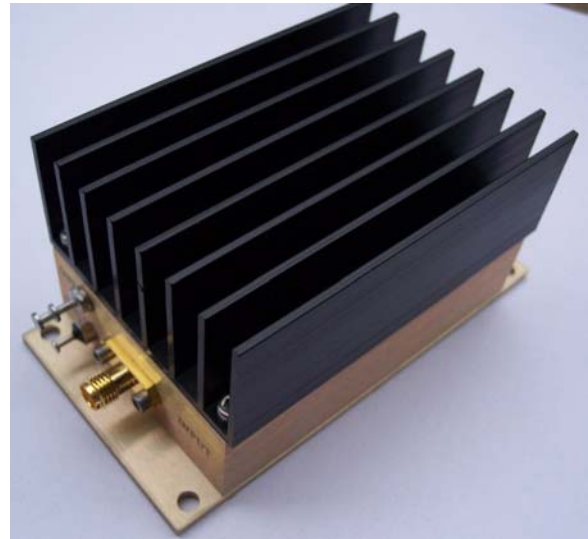
- Frequency Range: 225-400MHz
- Gain: 21dB
- P<sub>out</sub>: +37dBm
- IP3: +45dBm
- Noise Figure: 8dB
- DC Power: 24V
- SMA Connector

Performance measured @ 315MHz

### Description

HPA-315 is a 5 Watt (+37dBm) output RF Power Amplifier operating from single 24V DC power supply with frequency from 225MHz to 400MHz.

### Picture

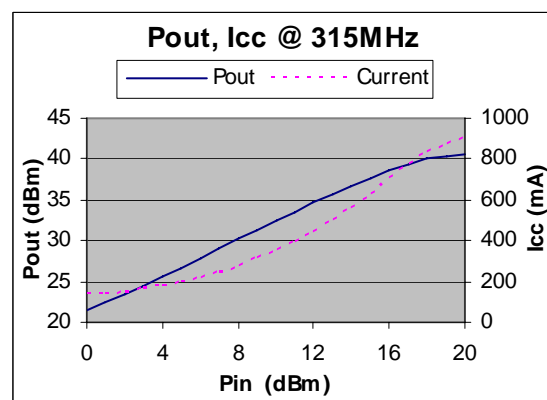
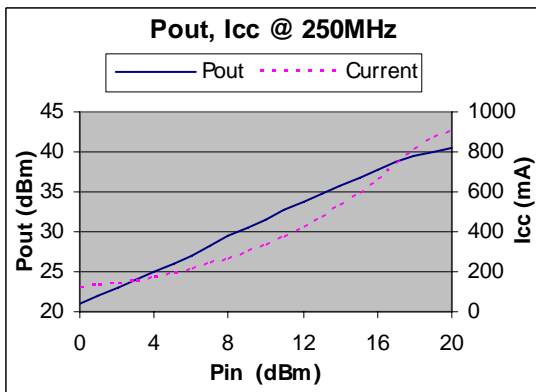
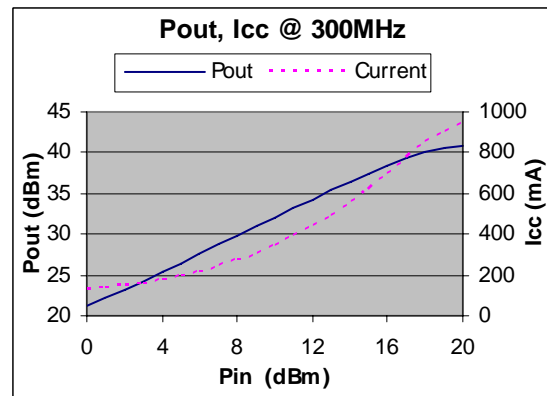
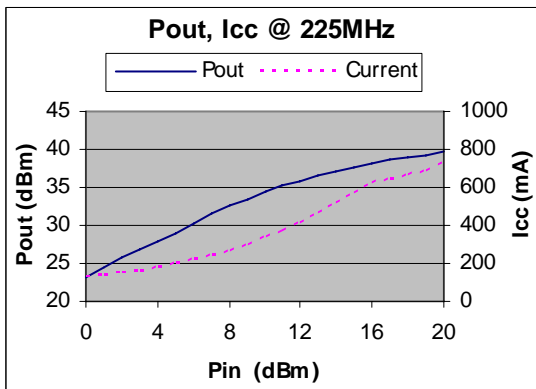
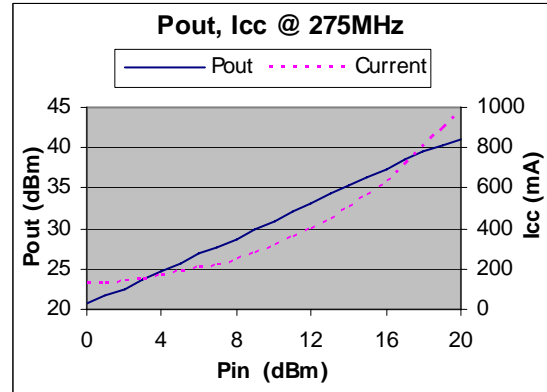
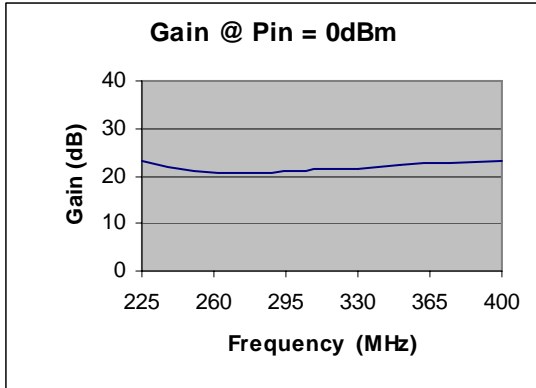


### Electrical Specifications @ +25 °C, Z<sub>S</sub> = Z<sub>L</sub> = 50 Ohms, V<sub>cc</sub> = +24V

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	225		400
Small Signal Gain	dB		21	
Output Power P <sub>out</sub> @ P <sub>in</sub> = +15dBm	dBm		+37	
Saturated Output Power P <sub>Sat</sub>	dBm		+40	
IP3	dBm		+45	
Reverse Isolation	dB		-23	
Noise Figure	dB		8	
Efficiency	%		30	
DC Power Supply	V		24	
Supply Current	mA		700	
Size (Excluding SMA Connector)	inch	3.750" x 2.000" x 1.813"		
Weight	Oz	8		



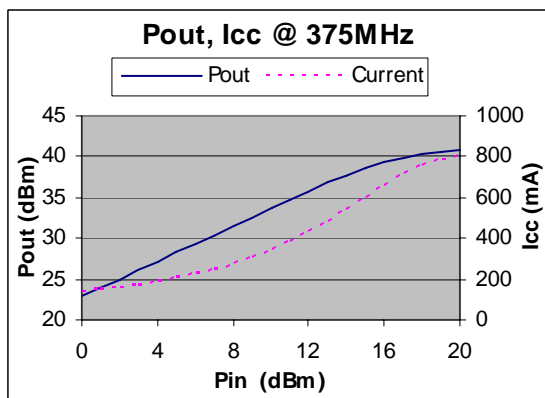
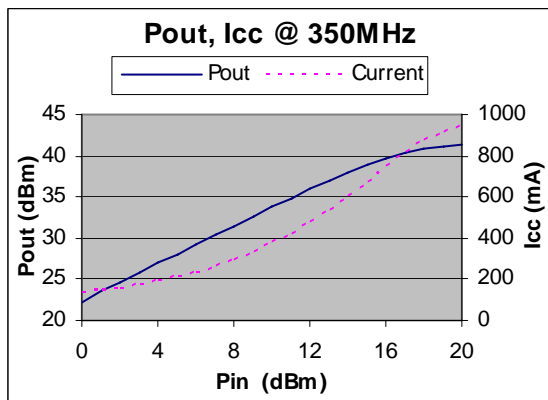
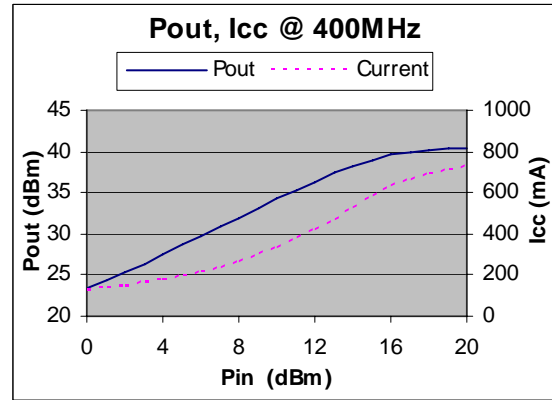
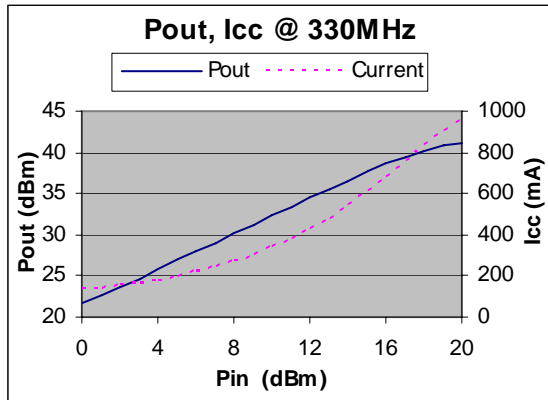
### Typical Performance @ +25 °C





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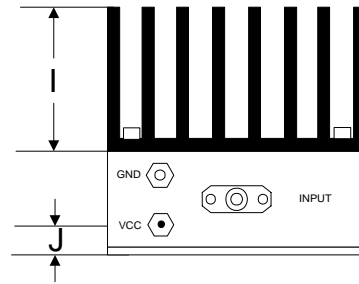
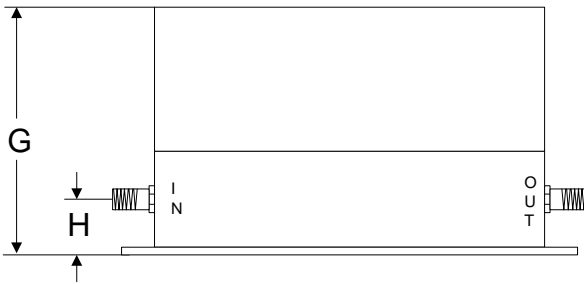
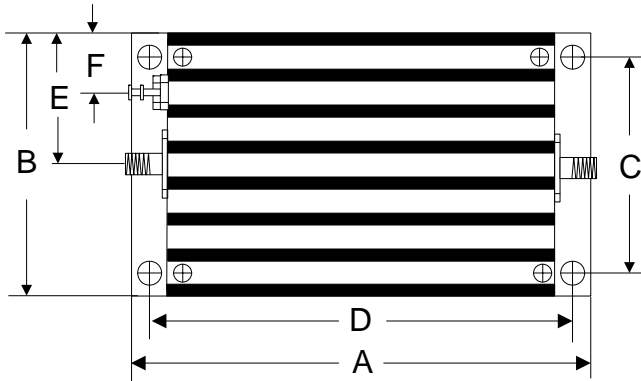
Output Power  $P_{out}$  (dBm) v.s. Input Power  $P_{in}$  (dBm) at Different Frequencies,  
 $Z_S = Z_L = 50$  Ohms,  $V_{cc} = +24V$

$P_{in}$ (dBm)	$P_{out}$ (dBm)								
	225MHz	250MHz	275MHz	300MHz	315MHz	330MHz	350MHz	375MHz	400MHz
0	23.09	21.01	20.82	21.13	21.49	21.65	22.24	22.90	23.29
1	24.54	21.93	21.68	22.10	22.34	22.55	23.58	23.87	24.27
2	25.68	22.93	22.57	23.13	23.42	23.59	24.66	24.96	25.31
3	26.79	23.95	23.61	24.19	24.45	24.71	25.79	26.06	26.41
4	27.95	24.98	24.66	25.29	25.57	25.8	26.92	27.18	27.53
5	29.07	26.03	25.73	26.40	26.69	26.92	28.06	28.30	28.65
6	30.21	27.10	26.82	27.51	27.84	28.05	29.20	29.43	29.79
7	31.55	28.37	27.65	28.73	29.07	28.96	30.34	30.37	30.89
8	32.57	29.45	28.75	29.86	30.20	30.08	31.48	31.47	32.01
9	33.54	30.54	29.87	30.98	31.30	31.20	32.63	32.58	33.15
10	34.39	31.62	30.97	32.09	32.42	32.30	33.74	33.66	34.24
11	35.19	32.69	32.07	33.20	33.50	33.41	34.83	34.74	35.34
12	35.89	33.73	33.17	34.29	34.60	34.51	35.90	35.78	36.38
13	36.52	34.78	34.26	35.35	35.66	35.58	36.95	36.79	37.36
14	37.10	35.80	35.33	36.41	36.66	36.62	37.97	37.71	38.24
15	37.63	36.79	36.38	37.43	37.68	37.64	38.88	38.55	39.01
16	38.17	37.76	37.43	38.47	38.62	38.61	39.75	39.30	39.57
17	38.61	38.69	38.46	39.33	39.43	39.49	40.42	39.90	39.92
18	38.98	39.47	39.44	40.04	40.01	40.26	40.87	40.31	40.14
19	39.30	40.08	40.35	40.51	40.40	40.82	41.17	40.56	40.30
20	39.64	40.49	41.05	40.80	40.66	41.20	41.38	40.72	40.42

### Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+23dBm
Supply Voltage	+28V
Operating Temperature	-30 °C to +60 °C
Storage Temperature	-55 °C to +100 °C

### Outline



	A	B	C	D	E	F	G	H	I	J
Inch	3.750	2.000	1.750	3.400	1.000	0.400	1.813	0.375	1.000	0.238
mm	92.25	50.80	44.45	86.36	25.40	10.16	46.05	9.53	25.40	6.03