

JPA Series

2.0-6.5GHz 10W RF Power Amplifier

Features

- Frequency Range: 2.0-6.5GHz
- Small Signal Gain: 43dB
- P_{SAT}: +40dBm (10W)
- DC Power: +32V @ 1100mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- GaN RF Power Amplifier
- Class AB Power Amplifier

Picture



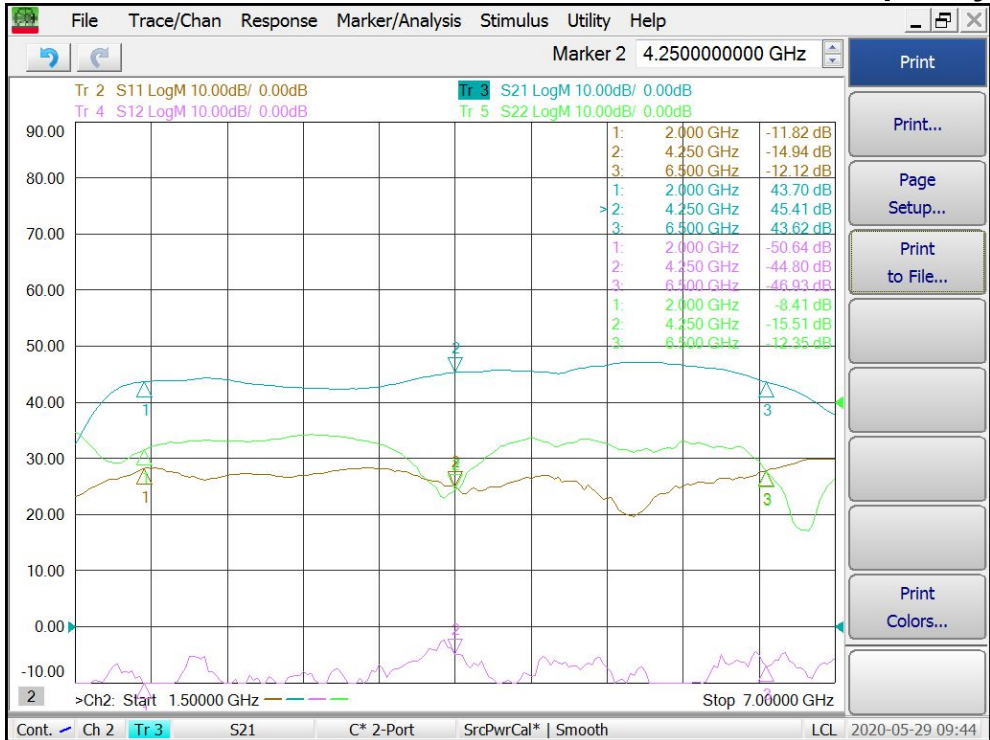
Electrical Specifications @+25°C, Z_{in}=Z_{out}=50 Ω, V_{supply} = +32VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2.0		6.5
Small Signal Gain (S ₂₁) (P _{IN} = -45dBm)	f = 2.0GHz	41	43	
	f = 4.25GHz	42	44	
	f = 6.5GHz	41	43	
Gain Flatness	dB		±1.5	±2.5
Output Power P _{3dB}	f = 2.0GHz		+37.5	
	f = 4.25GHz	+38.0	+39.0	
	f = 6.5GHz		+38.5	
Output Power P _{SAT}	f = 2.0GHz		+39.0	
	f = 4.25GHz	+40.0	+41.0	
	f = 6.5GHz		+40.0	
Output IP3	f = 4.25GHz		+47	
Efficiency P _{IN} = +5dBm, f = 4.25GHz	%		20	
Noise Figure	f = 4.25GHz		4.0	5.0
Reverse Isolation (S ₁₂)	dB	-40	-45	
VSWR-Input (S ₁₁)	f = 4.25GHz	ratio:1	1.5:1	2.0:1
DC Supply Voltage	V	28	32	33
DC Supply Current	No RF Input	mA	1400	1600
	P _{OUT} = +40dBm	mA	2100	2500

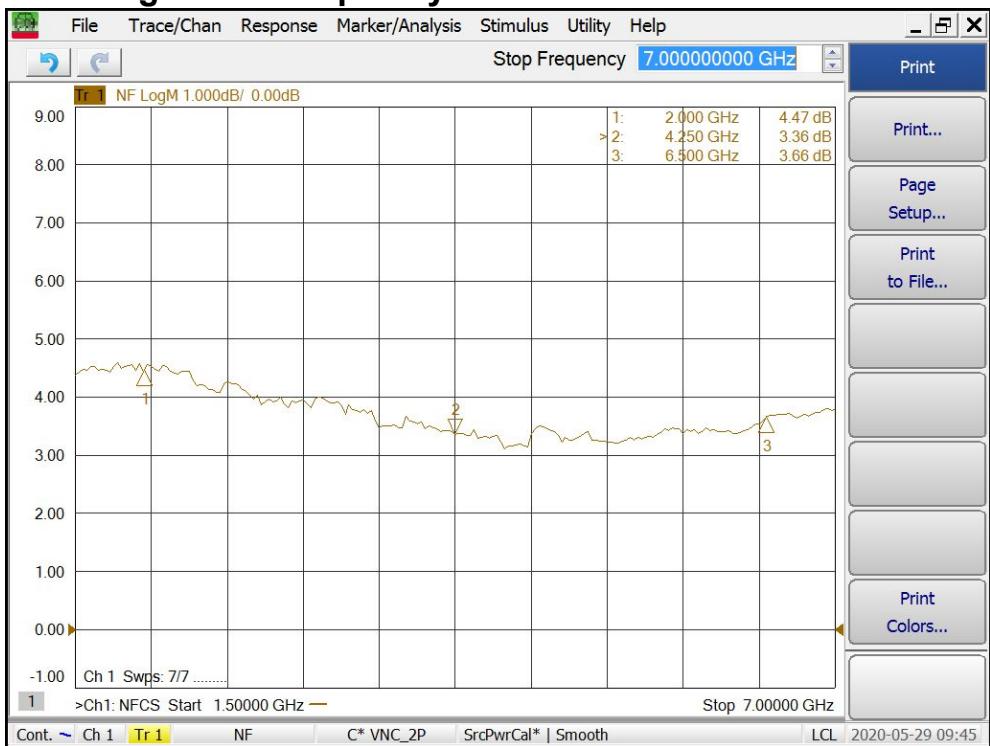
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Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



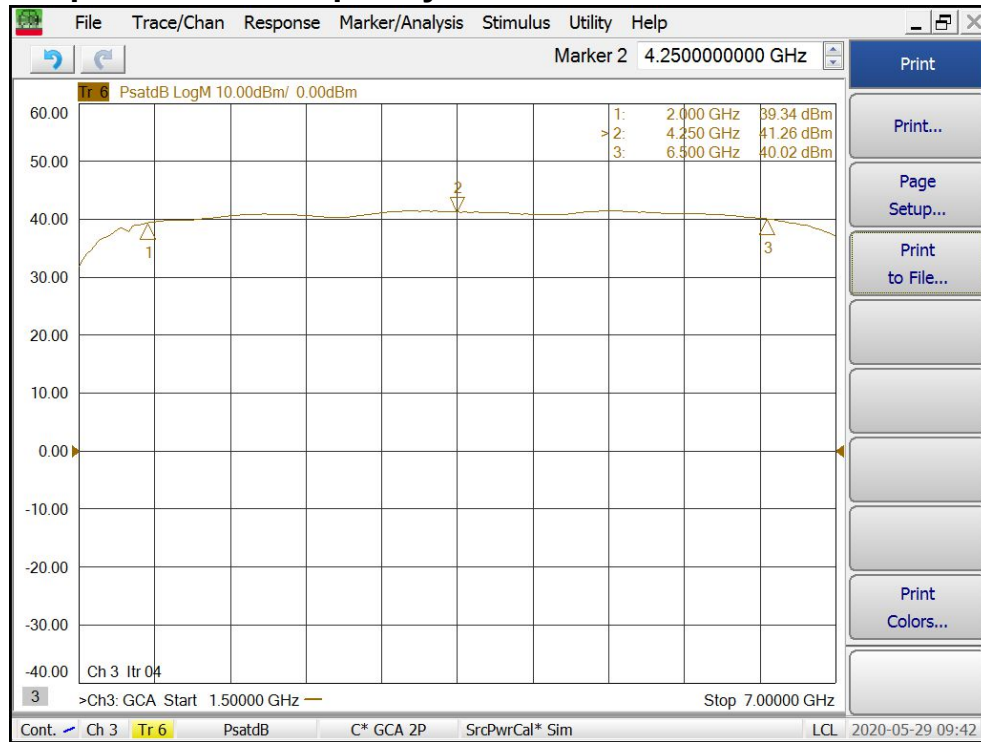
Noise Figure vs Frequency



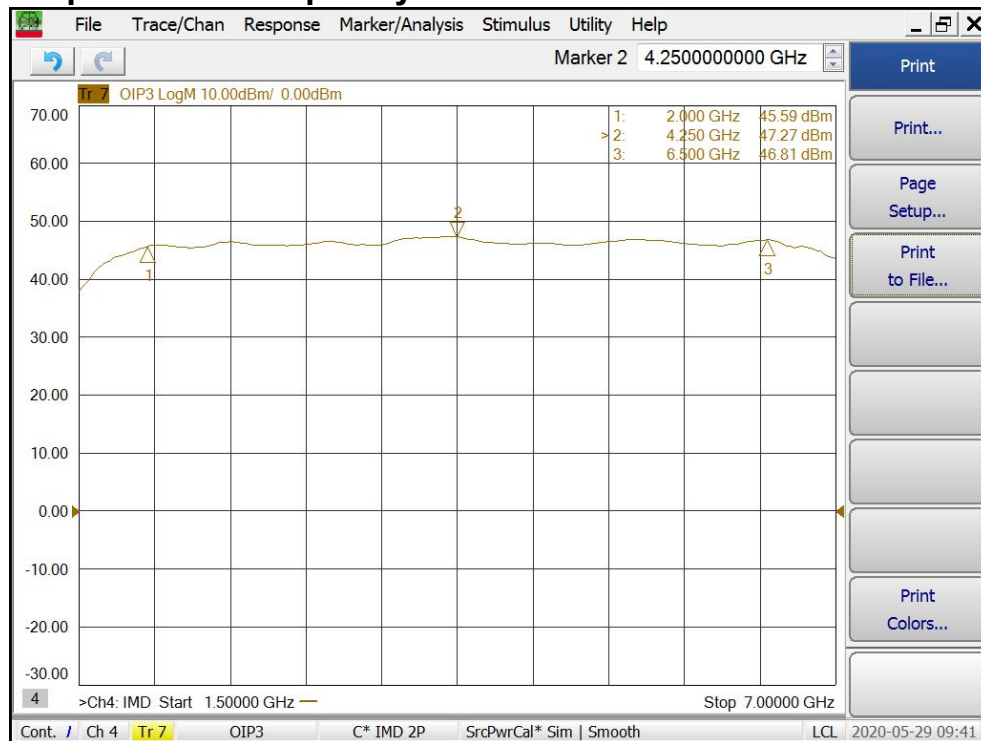
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Output Pout vs Frequency



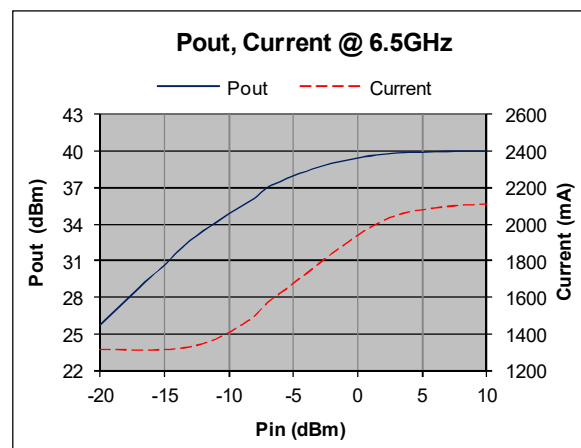
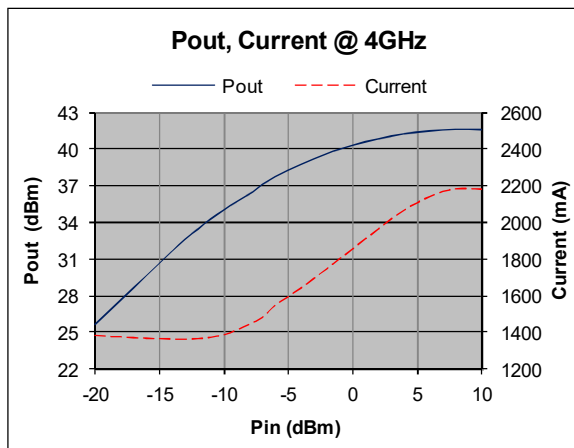
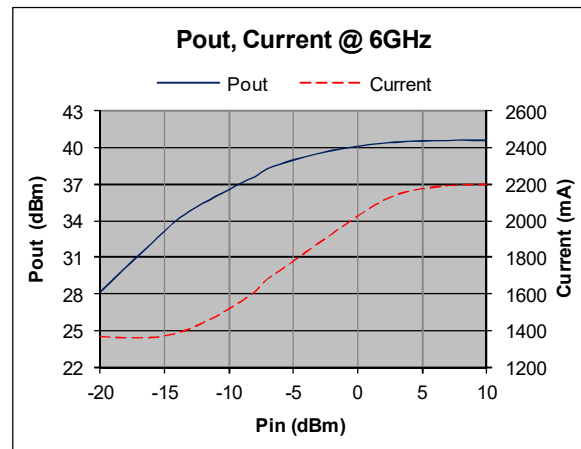
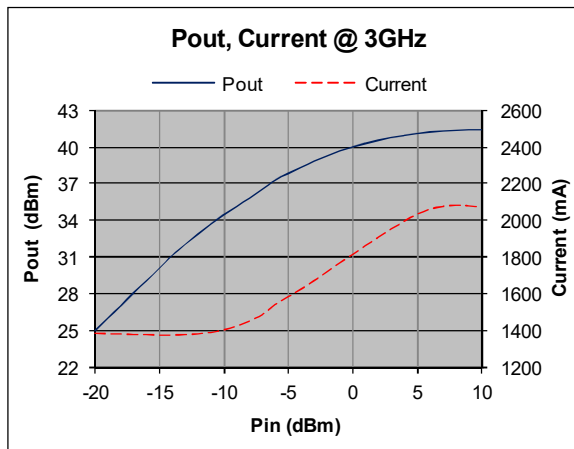
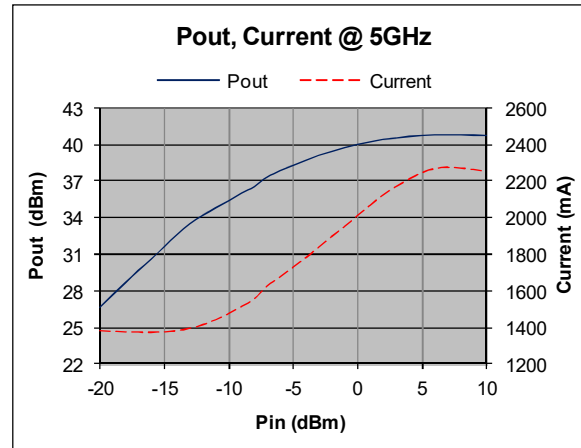
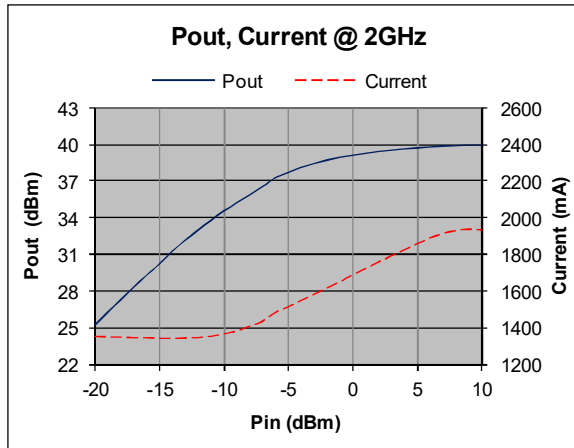
Output IP3 vs Frequency



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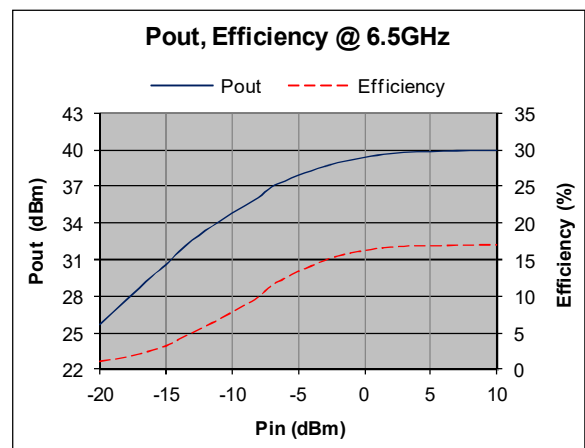
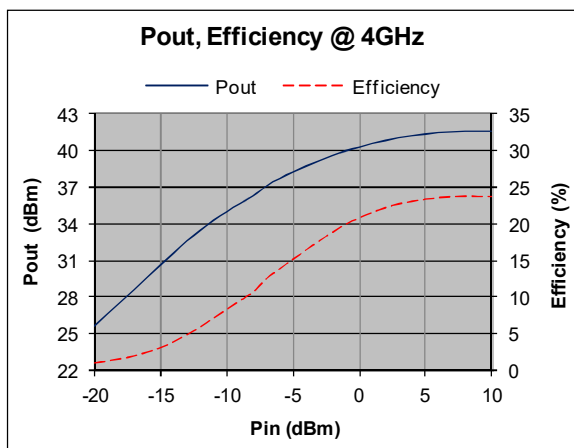
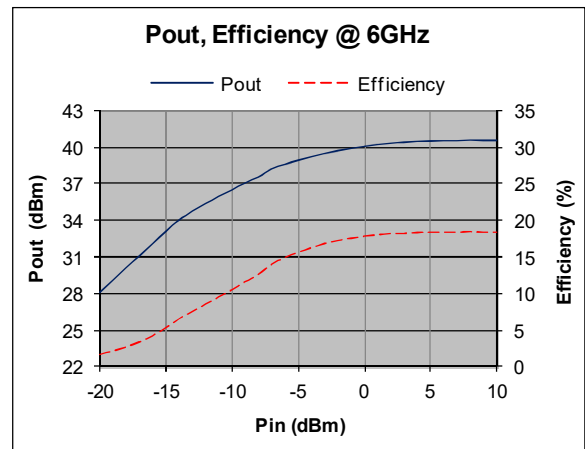
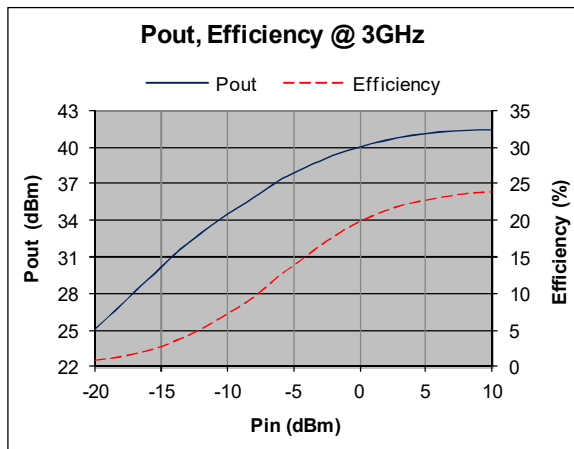
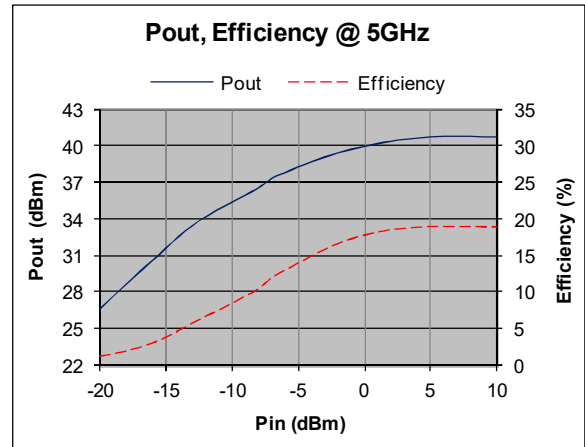
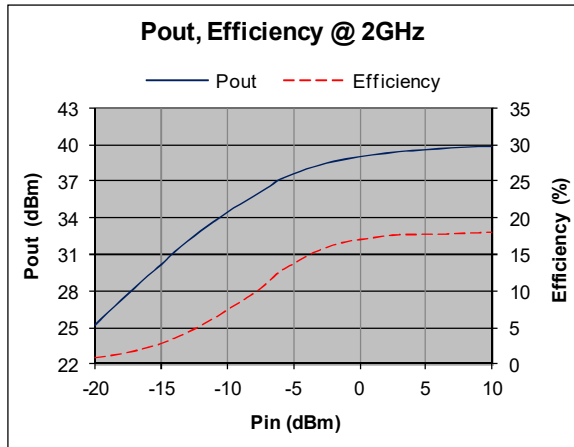
Typical Performance @ +25°C



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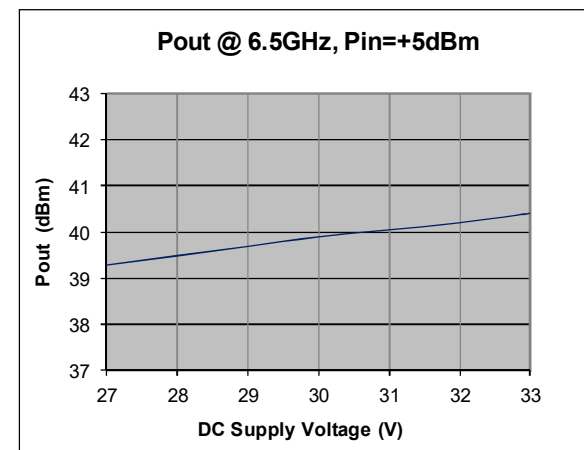
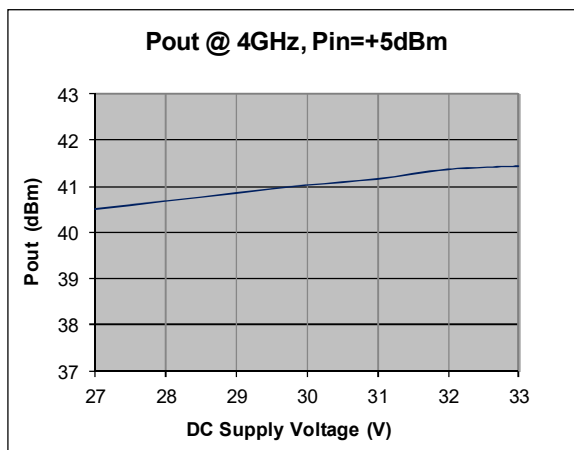
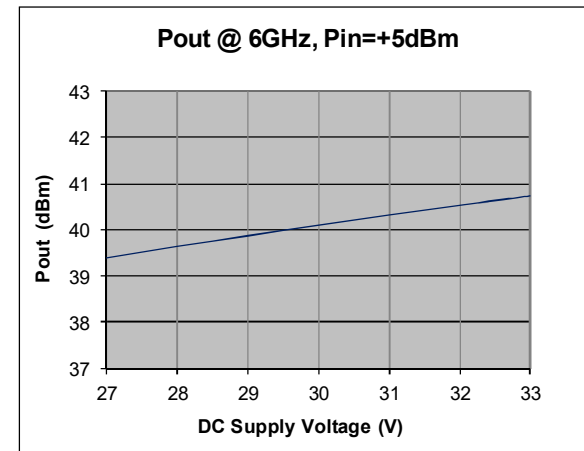
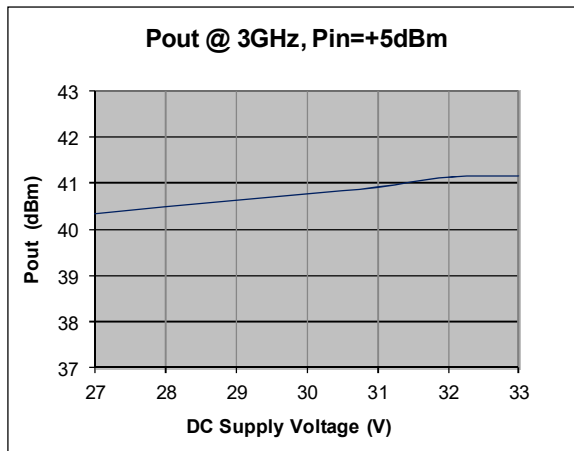
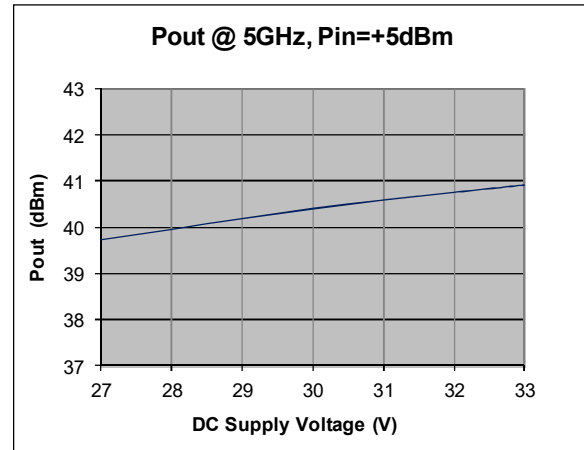
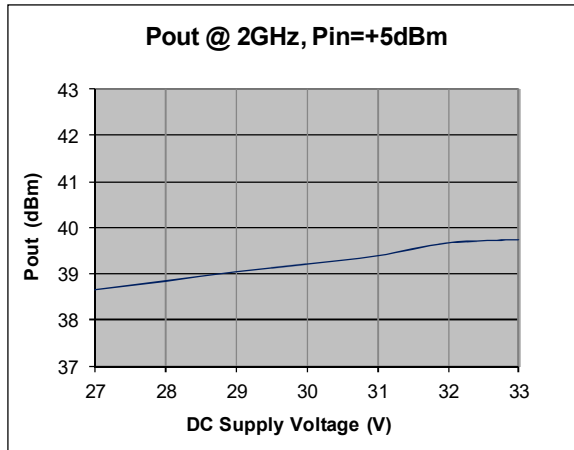
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Typical Performance @ +25°C



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Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+33V
RF Input Power	+15dBm
Operating Temperature	-20 °C to +65 °C
Storage Temperature	-40 °C to +100 °C

ESD Sensitive Material



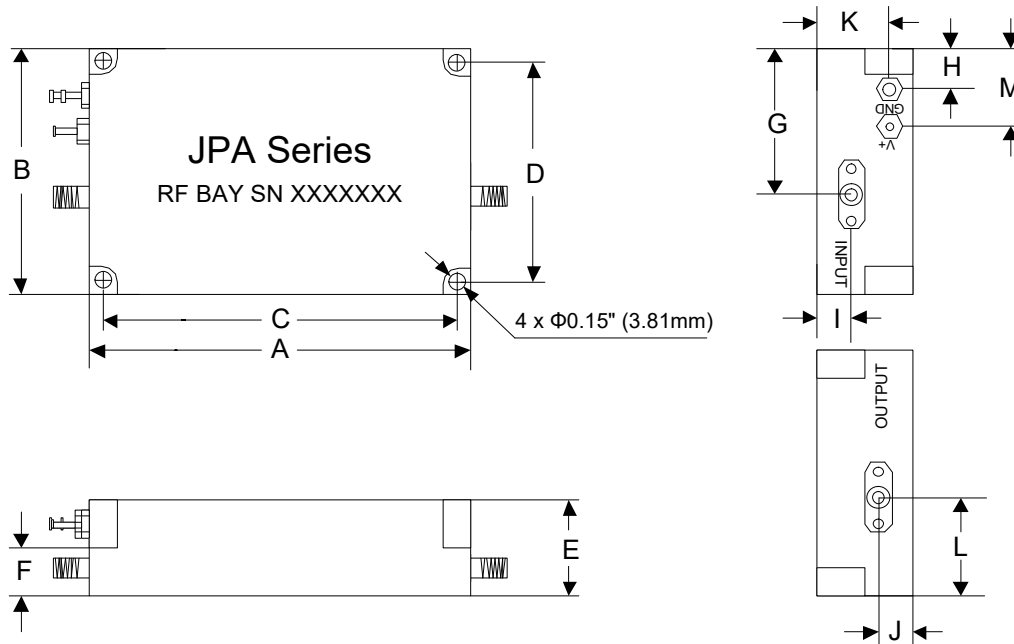
Warning and Caution:

- 1) Adequate heatsink must be used. Cooling Fan highly recommended. Amplifier operational baseplate temperature must be within datasheet operating temperature range.**
- 2) Load must be connected to amplifier output at all time if DC power is ON.**
- 3) If power amplifier connected to an antenna for signal transmission, it is strongly recommended to use a high power isolator or fixed attenuator between amplifier output and antenna input.**

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Outline



Mounting screws recommended to use hex socket head cap #6x3/4"

	A	B	C	D	E	F	G	H	I
Inch	4.00	2.50	3.70	2.20	1.05	0.54	1.40	0.30	0.30
mm	101.60	63.50	93.98	55.88	26.67	13.72	35.56	23.37	7.62
	J	K	L	M					
Inch	0.30	0.75	1.10	0.70					
mm	7.62	19.05	27.94	17.78					