

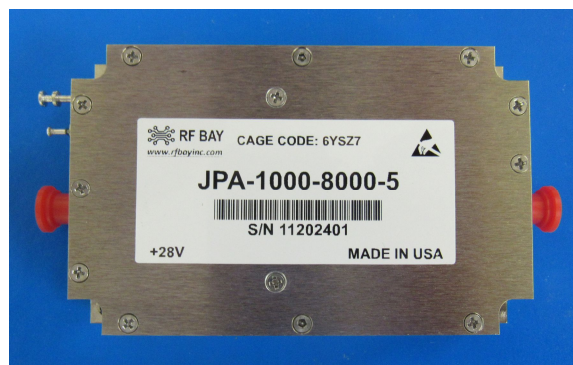
JPA Series

1-8GHz 5W RF Power Amplifier

Features

- Frequency Range: 1-8GHz
- Small Signal Gain: 40dB
- P_{SAT} : +37dBm (5W)
- DC Power: +28V @ 1100mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- GaN RF Power Amplifier
- Class AB Power Amplifier

Picture



Electrical Specifications @+25°C, $Z_{in}=Z_{out}=50 \Omega$, $V_{supply} = +28VDC$

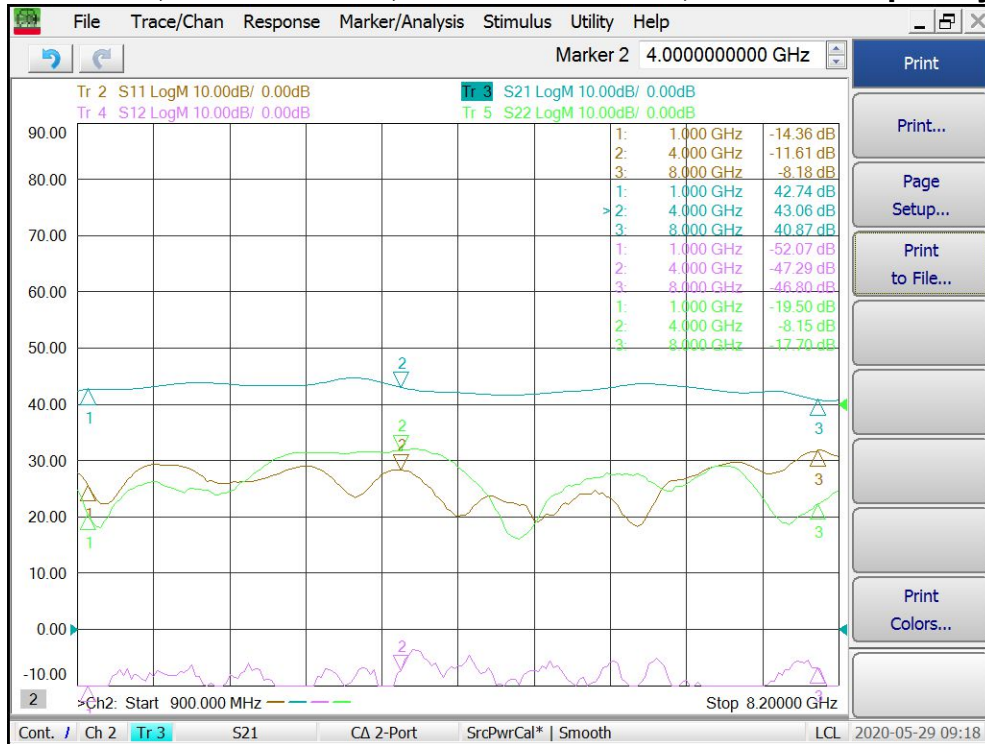
Parameter	Unit	Minimum	Typical	Maximum	
Frequency Range	GHz	1		8	
Small Signal Gain (S_{21}) ($P_{IN} = -45dBm$)	f = 1GHz	40	42		
	f = 4GHz	40	42		
	f = 8GHz	39	41		
Gain Flatness	dB		±1.0	±2.0	
Output Power P_{3dB}	f = 1GHz		+39.0		
	f = 4GHz		+38.5		
	f = 8GHz		+36.5		
Output Power P_{SAT}	f = 1-8GHz ^{Note}	+37			
Output IP3	f = 4GHz		+44		
Efficiency	$P_{IN} = 0dBm$, f = 4GHz		25		
Noise Figure			4.0	5.0	
Reverse Isolation (S_{12})		-40	-45		
VSWR-Input (S_{11})	f = 4GHz	ratio:1	1.8:1	2.2:1	
DC Supply Voltage		V	24	28	32
DC Supply Current	No RF Input	mA		650	800
	$P_{OUT} = +37dBm$	mA		1100	1500

Note: Output Power P_{SAT} can be achieved to 10W range between 1 to 4GHz.

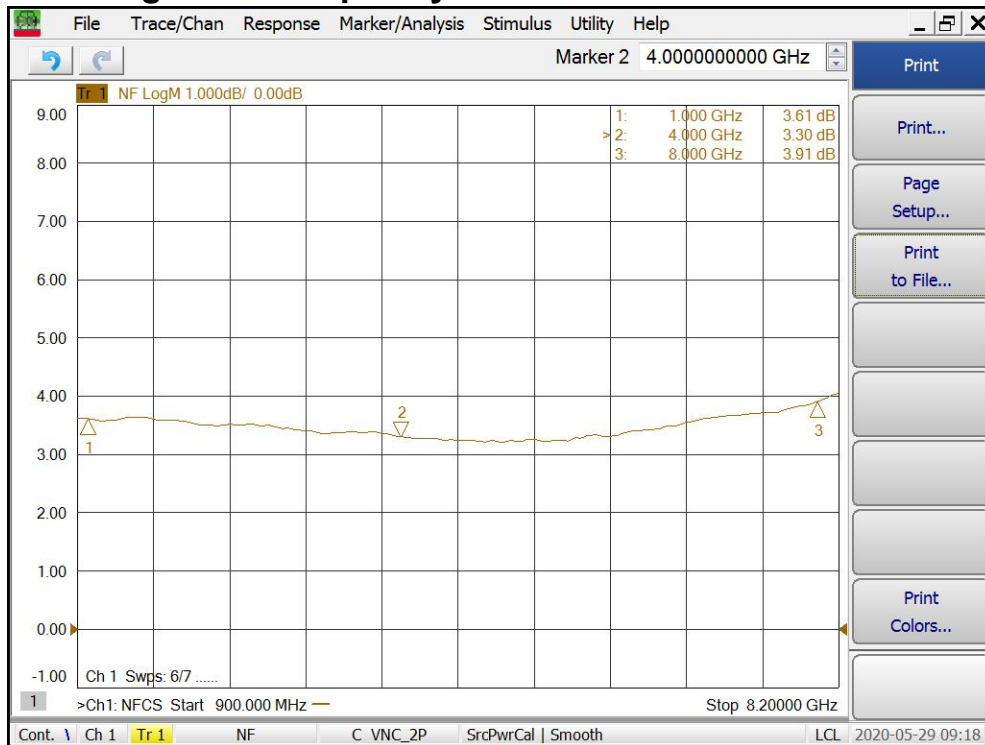
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Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



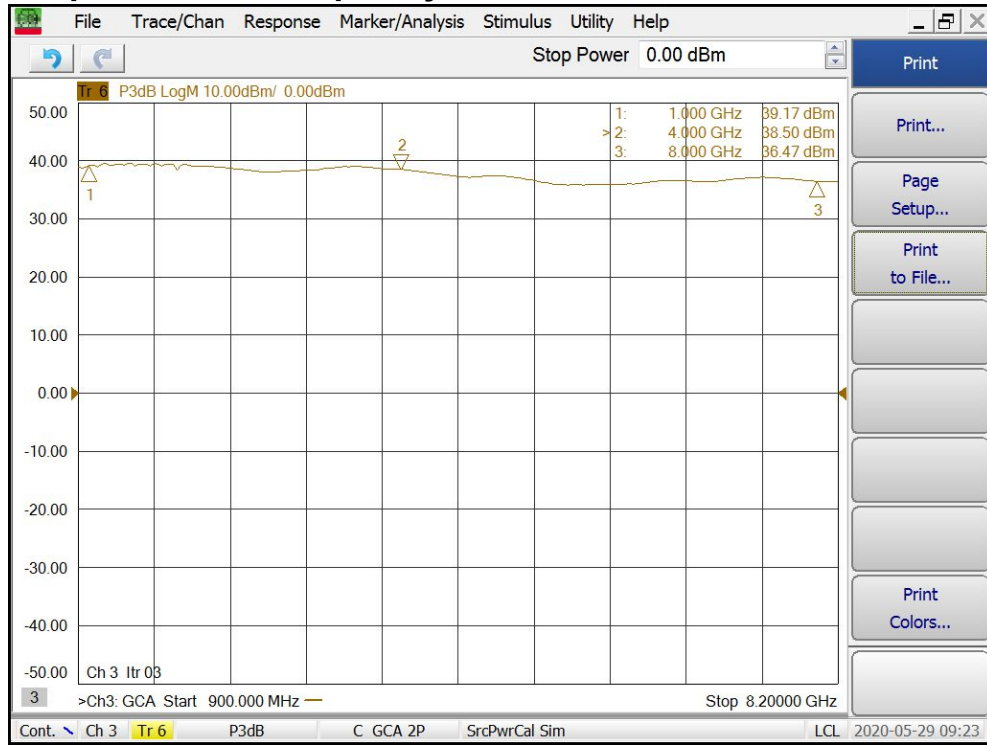
Noise Figure vs Frequency



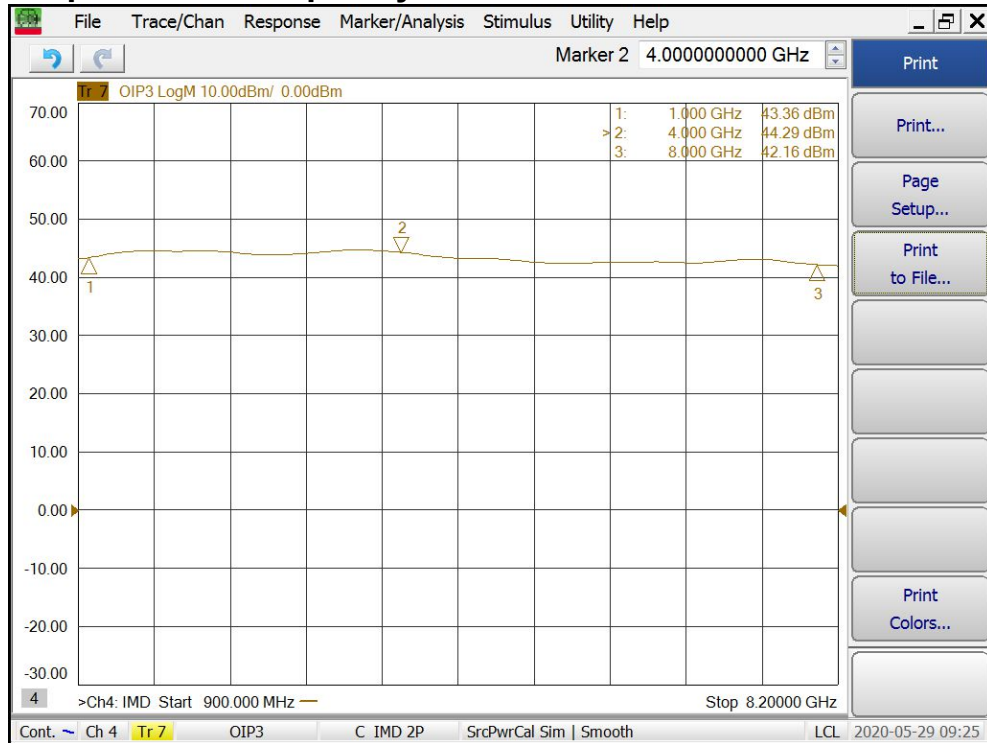
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Output Pout vs Frequency



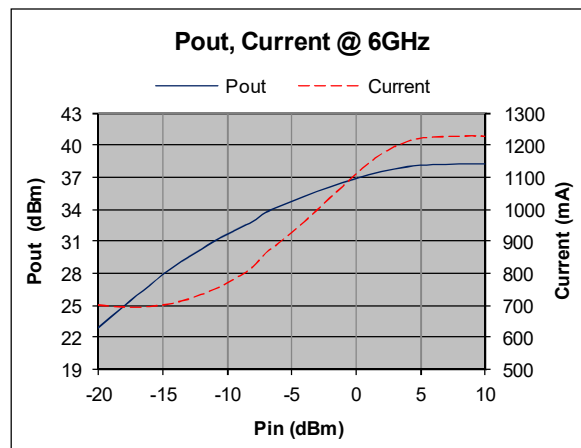
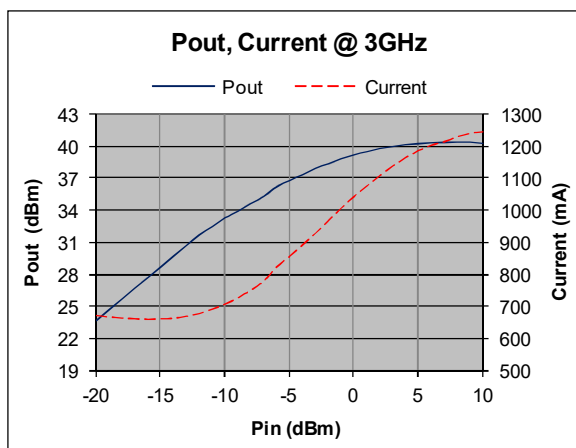
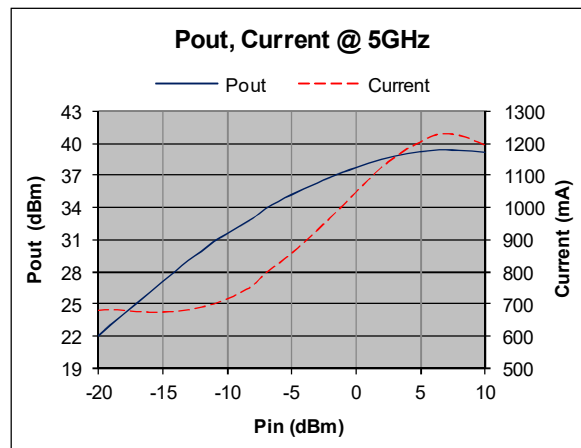
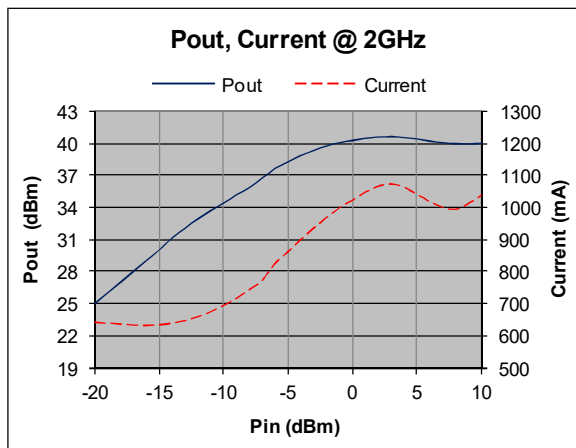
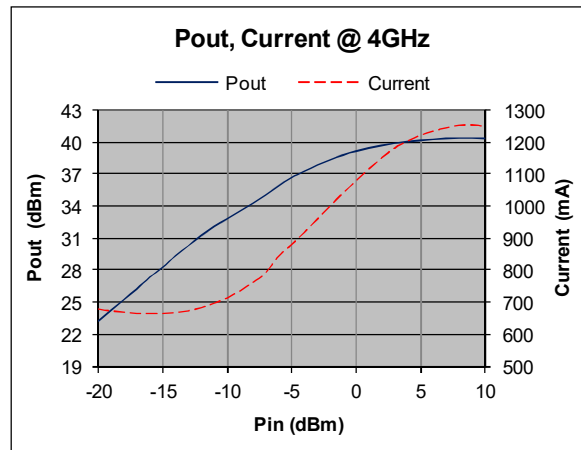
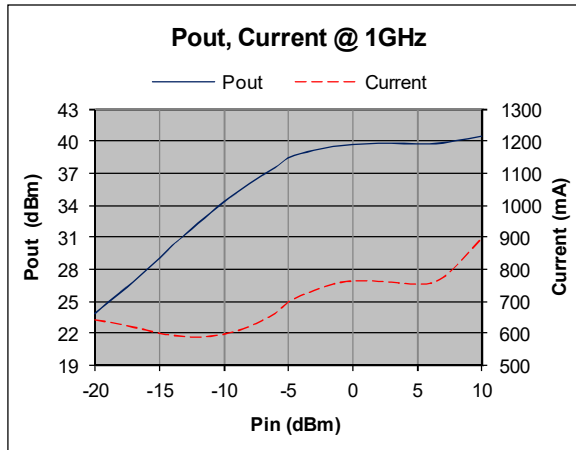
Output IP3 vs Frequency



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1-8GHz 5W RF Power Amplifier

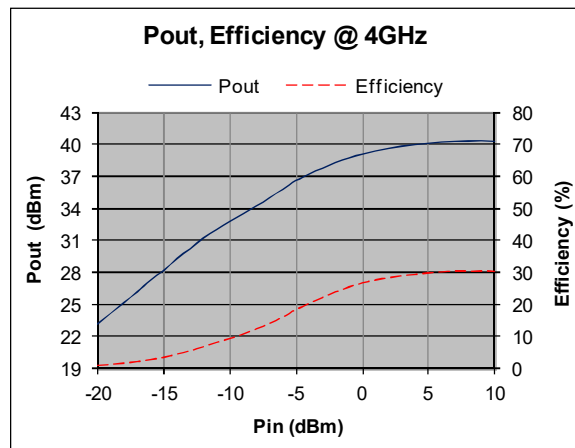
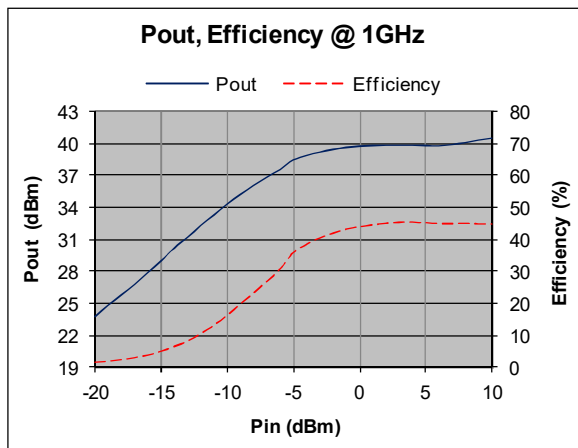
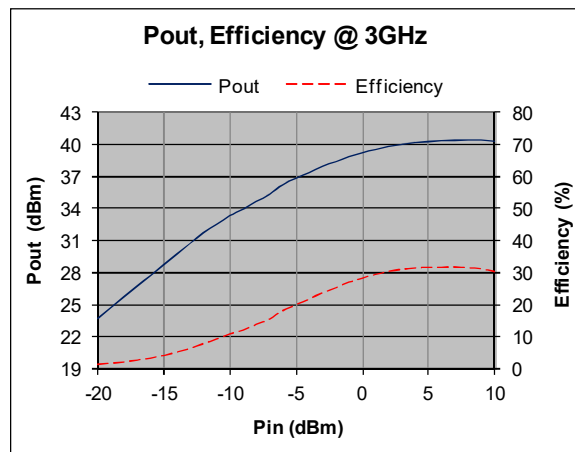
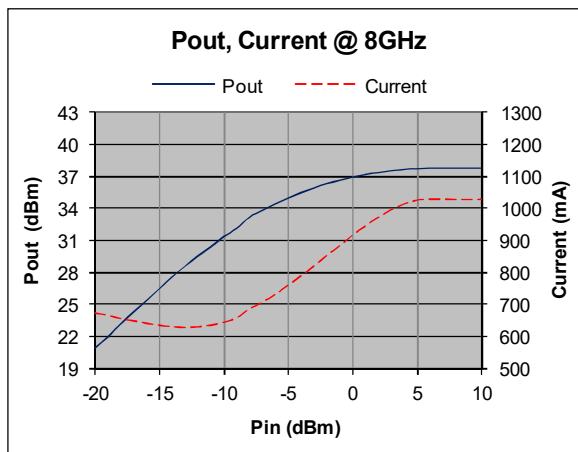
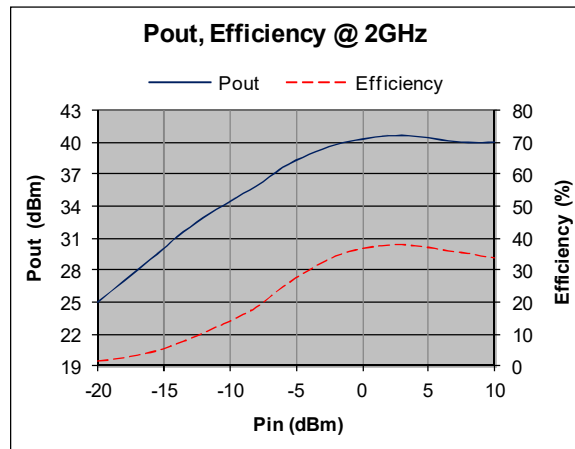
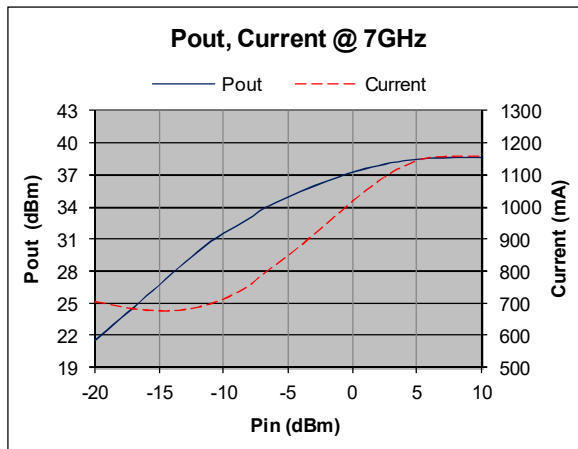
Typical Performance @ +25°C



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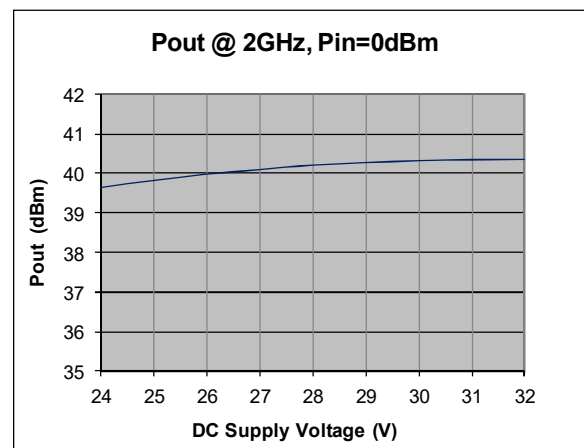
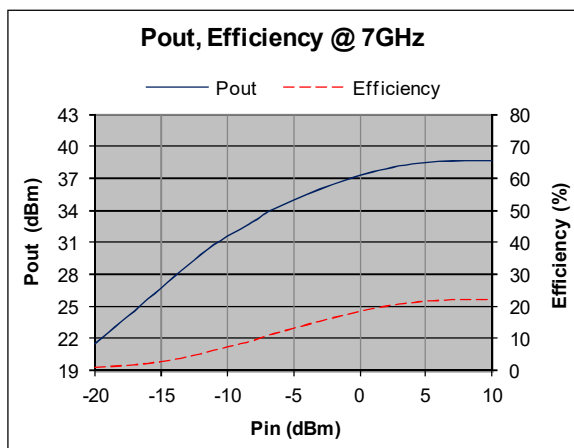
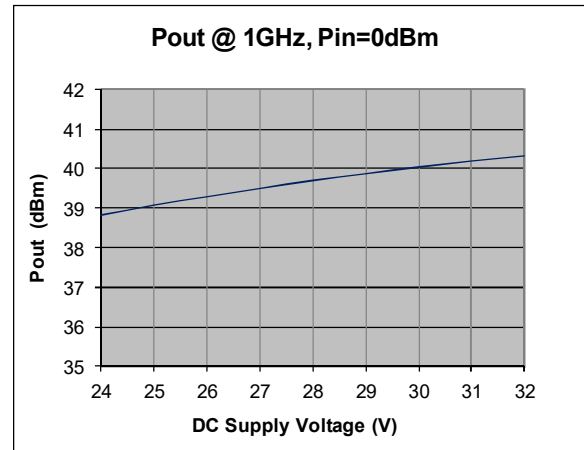
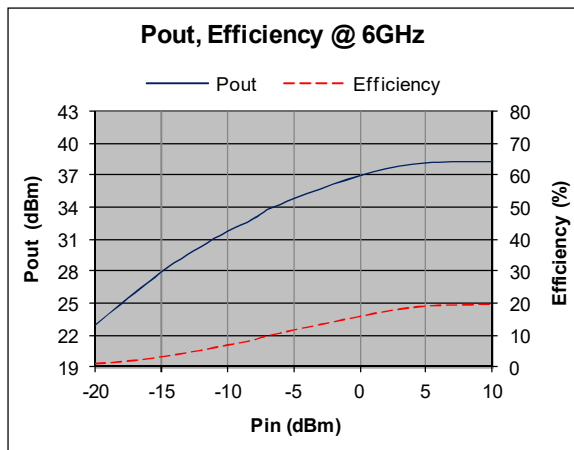
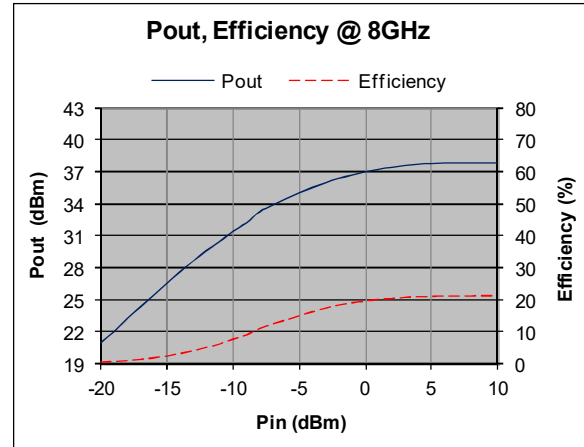
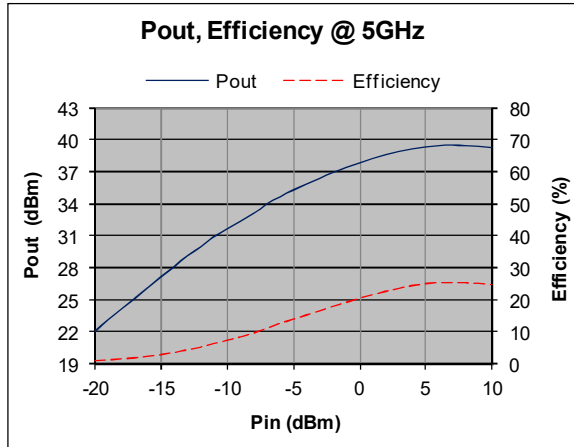
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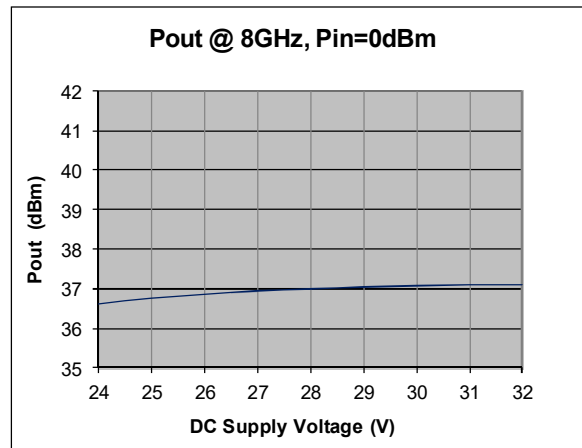
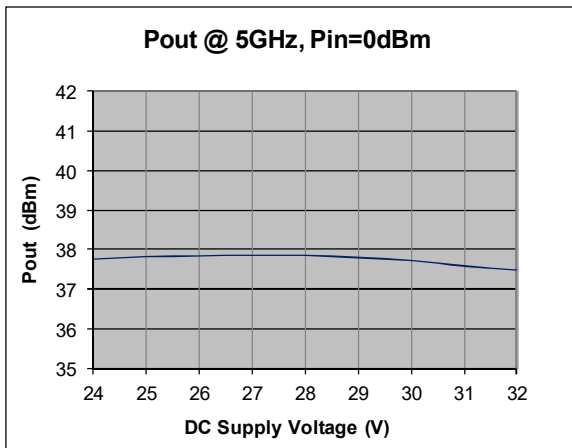
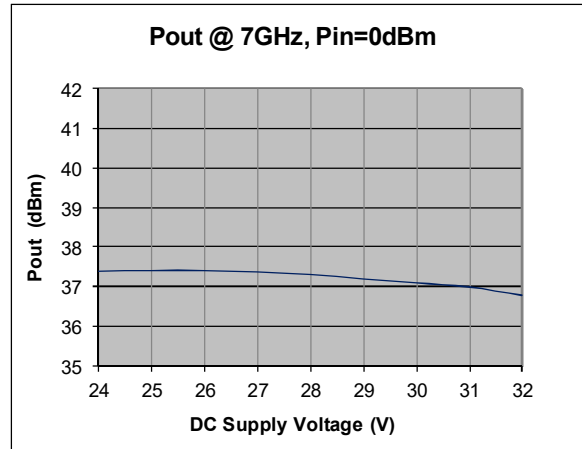
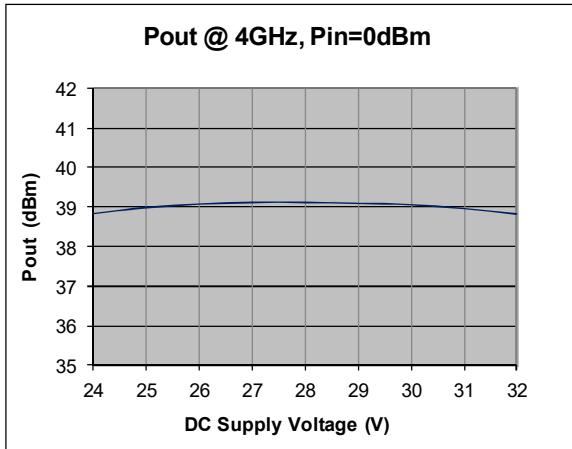
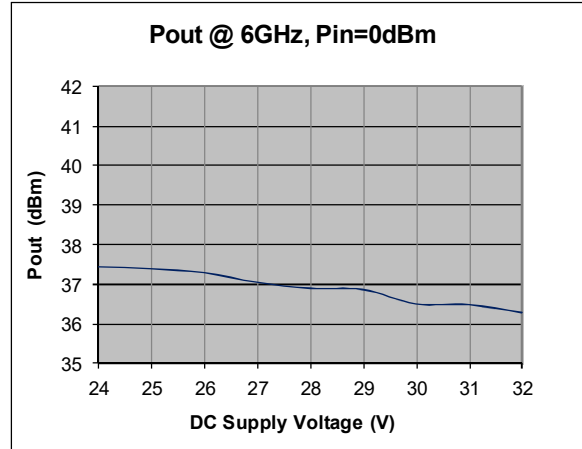
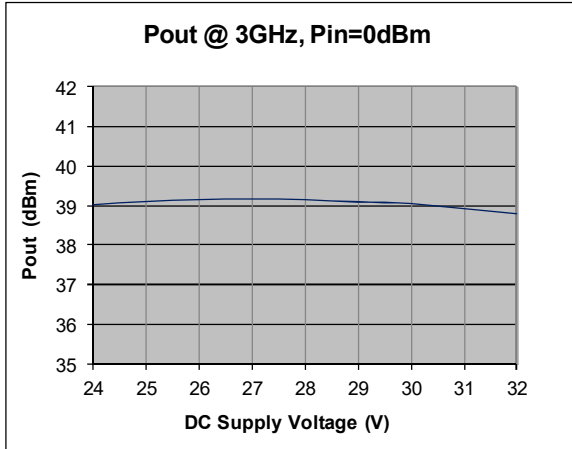
Typical Performance @ +25°C



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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



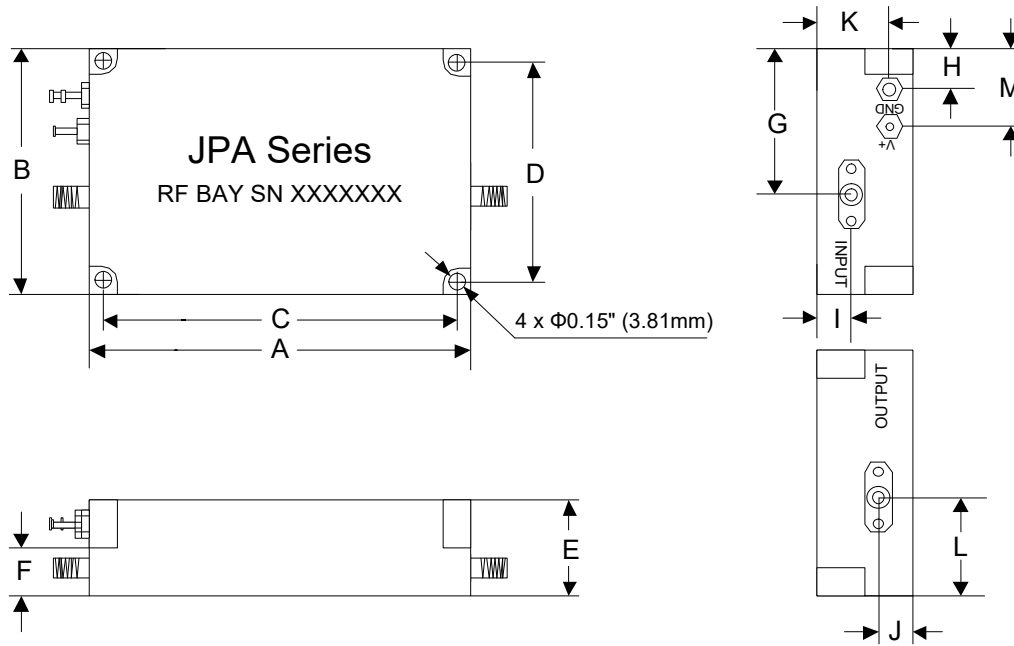
Warning and Caution:

- 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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1-8GHz 5W RF Power Amplifier

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	7.62	7.62
	J	K	L	M					
Inch	0.30	0.75	1.10	0.70					
mm	7.62	19.05	27.94	17.78					