

JPA Series

30-1000MHz 10W RF Power Amplifier

Features

- Frequency Range: 30-1000MHz
- Small Signal Gain: 33dB
- P_{out}: +40dBm (10W)
- DC Power: +28V @ 1000mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- LDMOS RF Power Amplifier
- Class AB Power Amplifier

Picture



Performance typical @ 500MHz

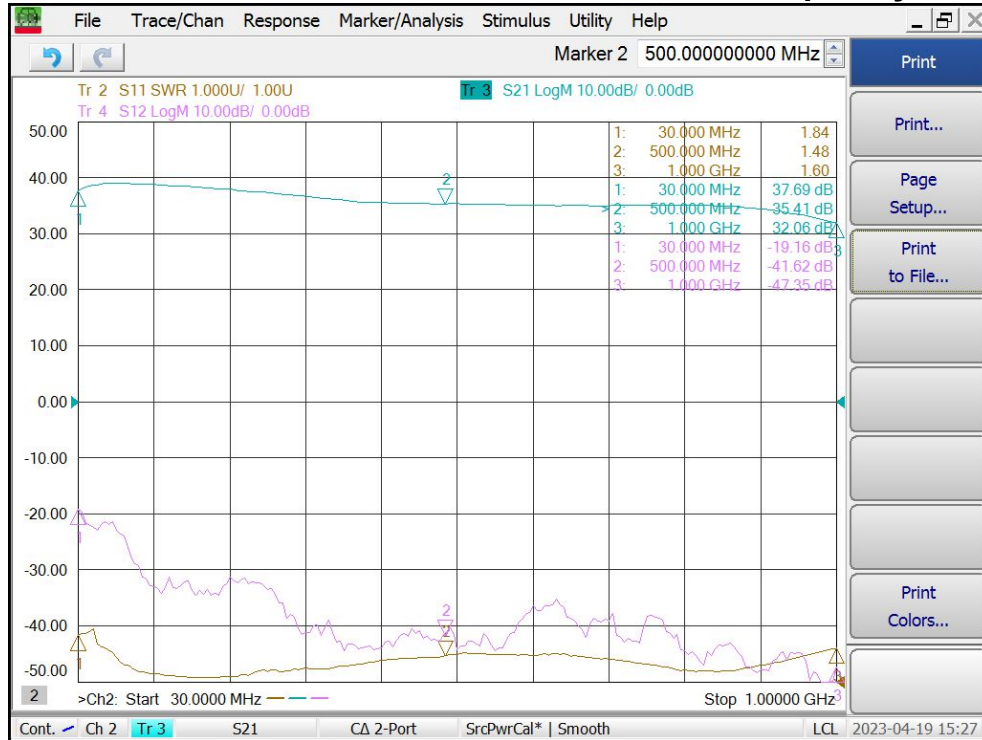
Electrical Specifications @+25°C, Z_{in}=Z_{out}=50 Ω, DC Power Supply = +28VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	30		1000
Small Signal Gain (S ₂₁) (P _{IN} = -40dBm)	f = 30MHz		37	
	f = 250MHz		36	
	f = 500MHz	33	35	
	f = 750MHz		34	
	f = 1000MHz		32	
Gain Flatness	dB		±2.5	±3.0
Output Power P _{out} @ P _{in} =+10dBm	f = 30MHz		+40.8	
	f = 250MHz		+40.7	
	f = 500MHz	+39.0	+40.0	
	f = 750MHz		+39.0	
	f = 1000MHz		+38.0	
Efficiency P _{IN} = +10dBm	f = 500MHz		35	
Noise Figure	f = 500MHz		5.0	6.0
Reverse Isolation (S ₁₂)	f = 500MHz		-40	
VSWR-Input (S ₁₁)	f = 500MHz		1.5:1	2.0:1
DC Supply Voltage	V	24	28	32
DC Supply Current	No RF Input	mA	230	250
	P _{OUT} = +40dBm	mA	1000	1200

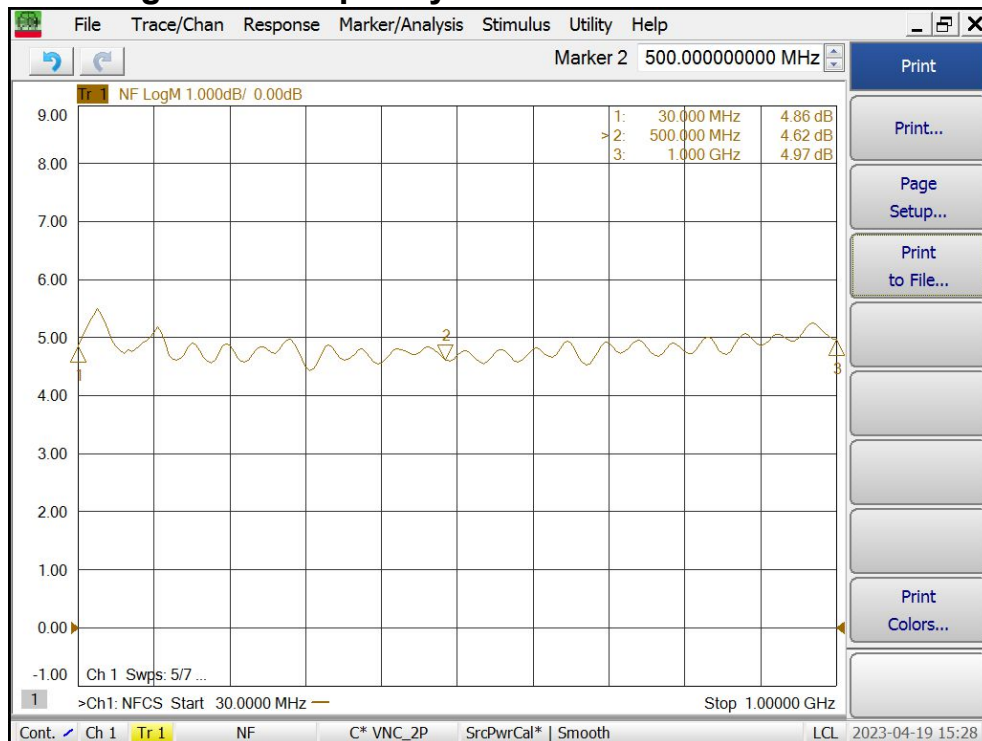
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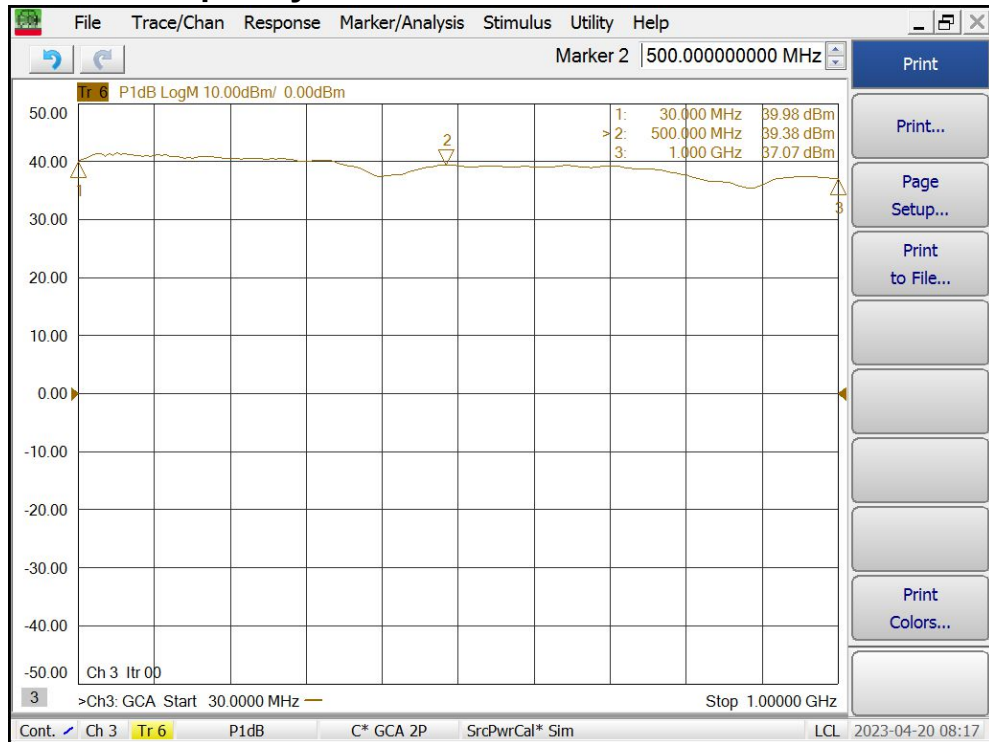
Gain S21, Isolation S12, Return Loss S11 vs Frequency



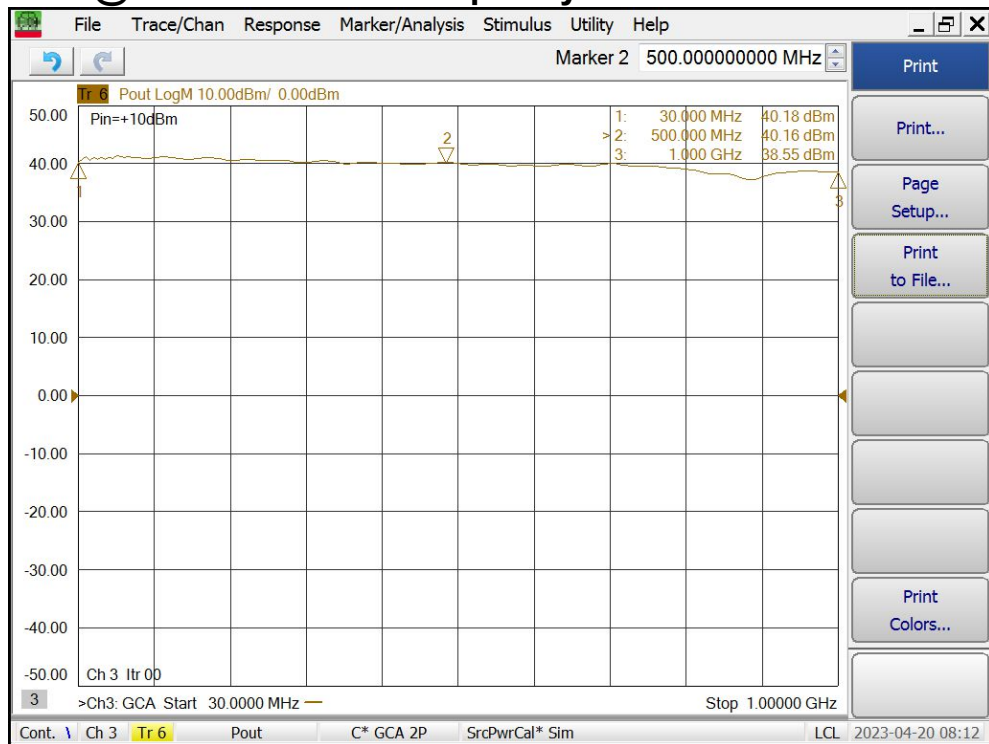
Noise Figure vs Frequency



P_{1dB} vs Frequency



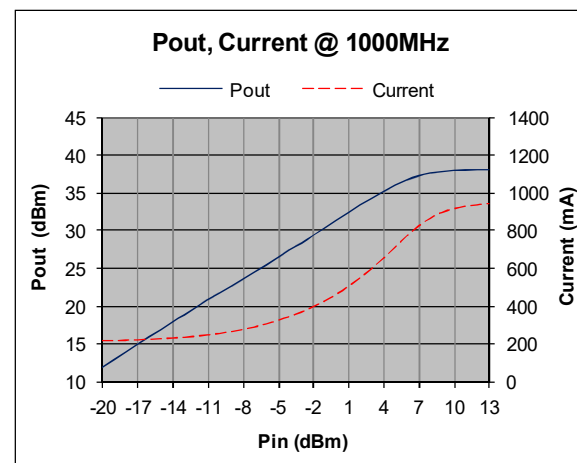
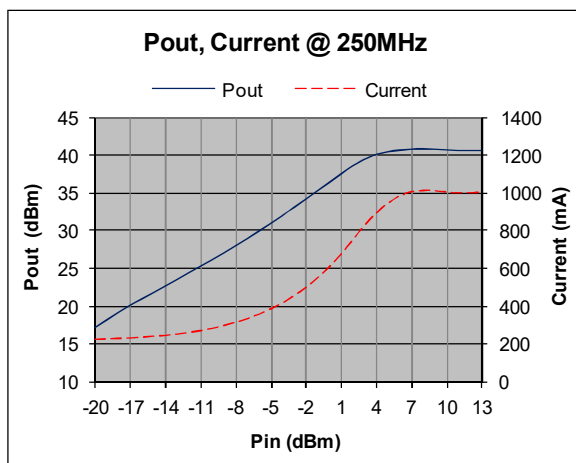
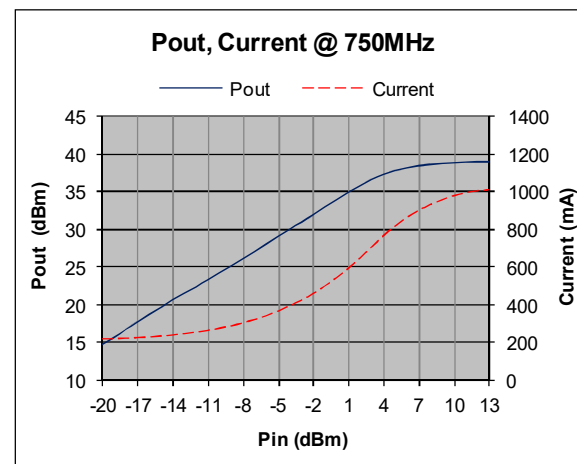
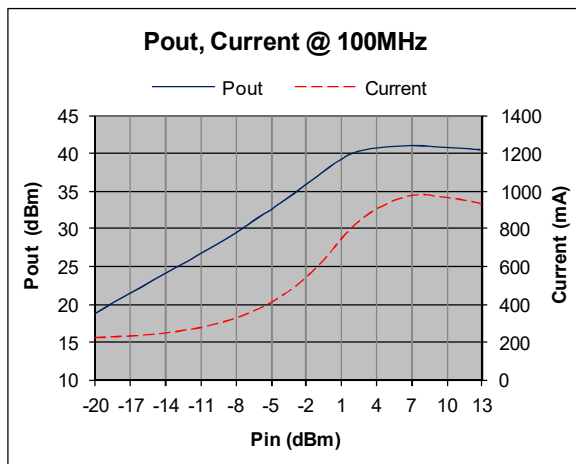
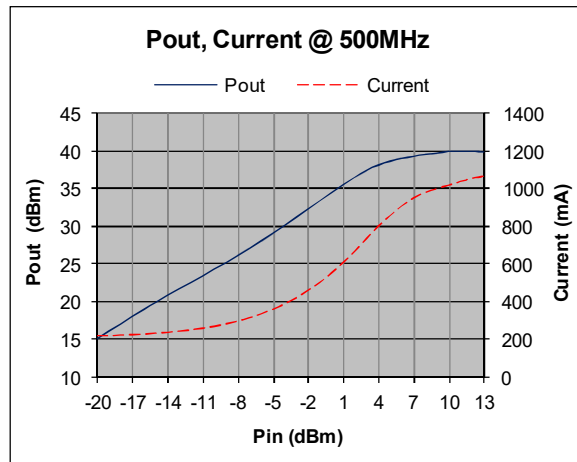
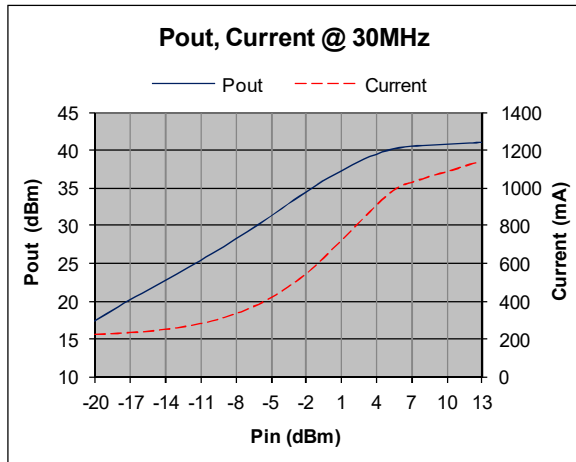
P_{out} @ Pin=+10dBm vs Frequency



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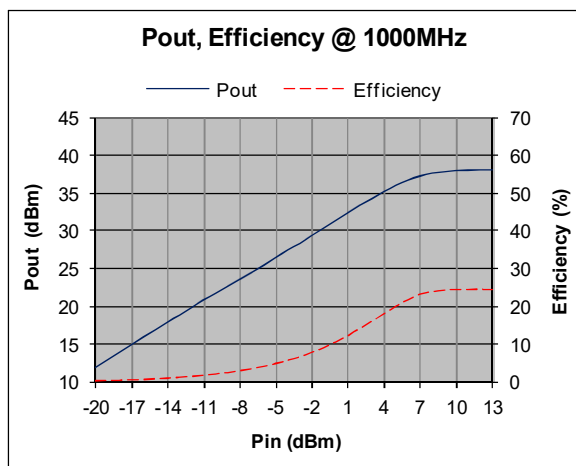
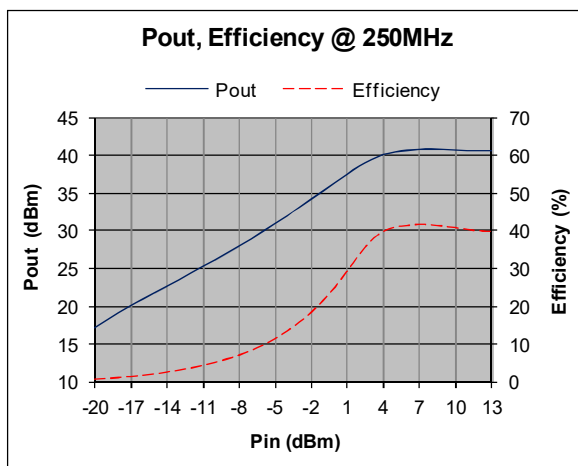
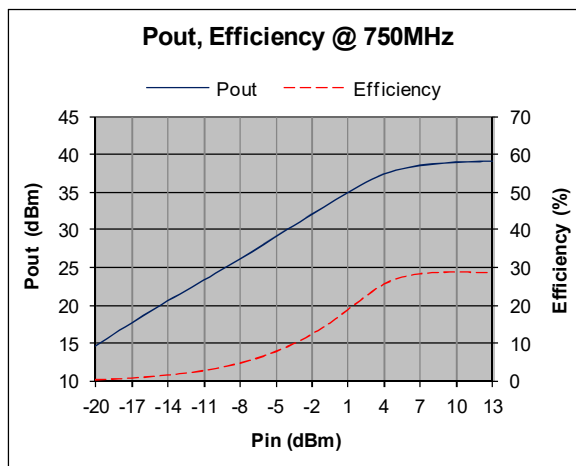
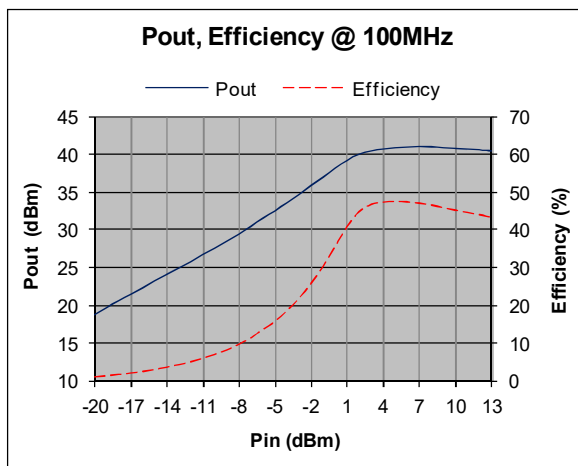
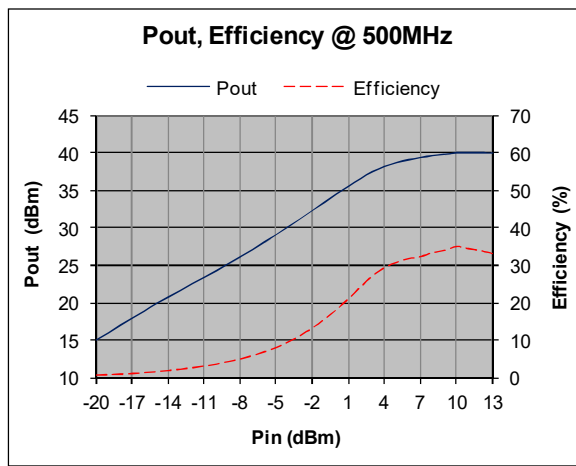
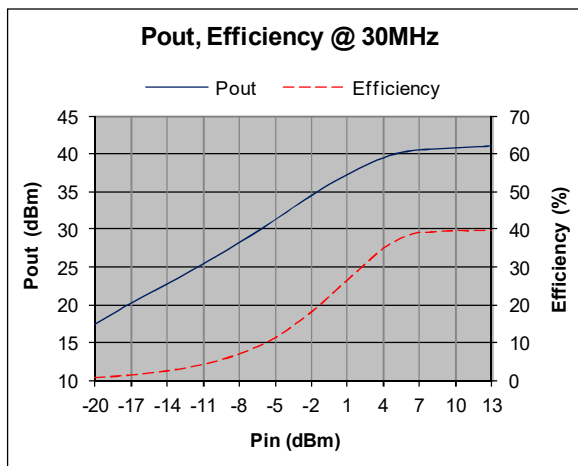
Typical Performance @ +25°C



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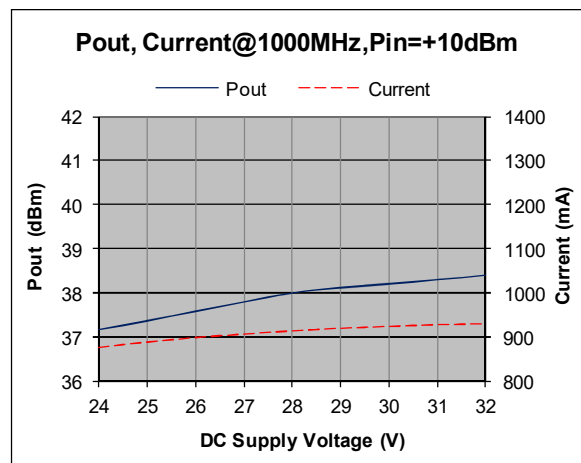
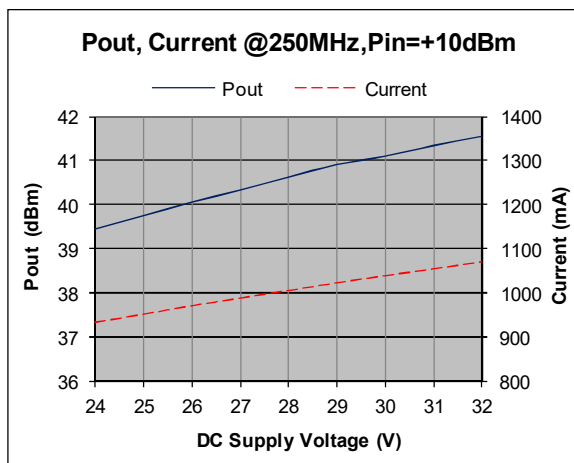
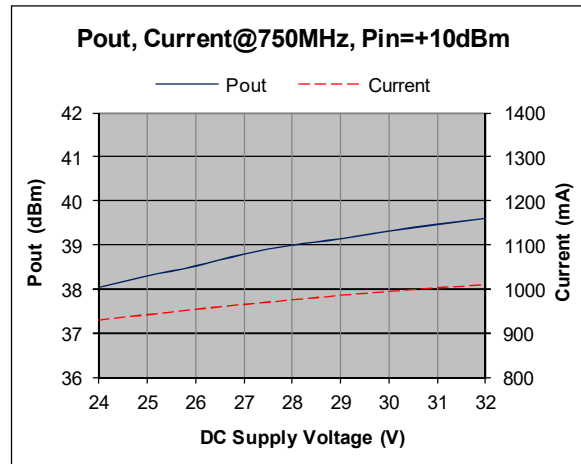
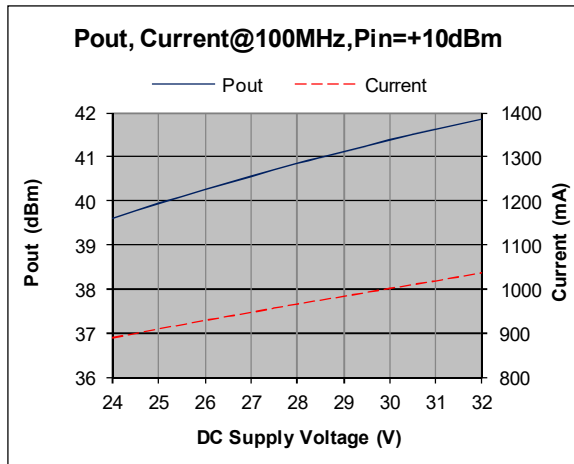
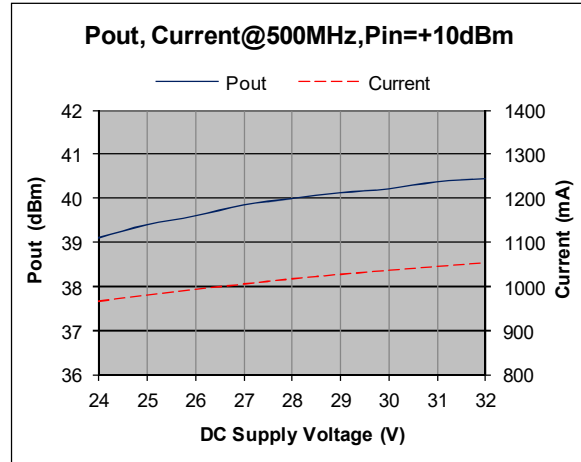
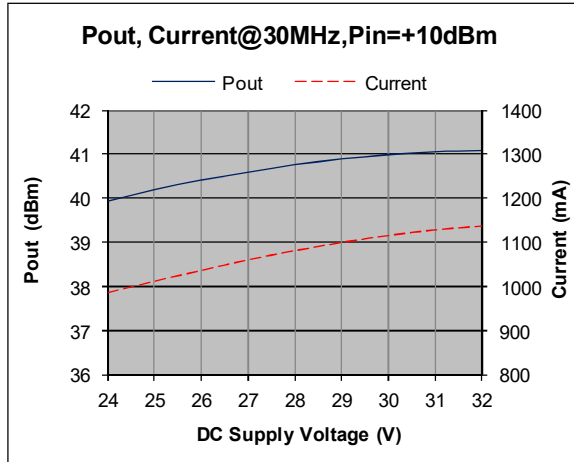
Typical Performance @ +25°C



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Typical Performance @ +25°C



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Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage (Survival)	+33V
RF Input Power	+15dBm
Operating Temperature	-20 °C to +65 °C
Storage Temperature	-55 °C to +125 °C

ESD Sensitive Material



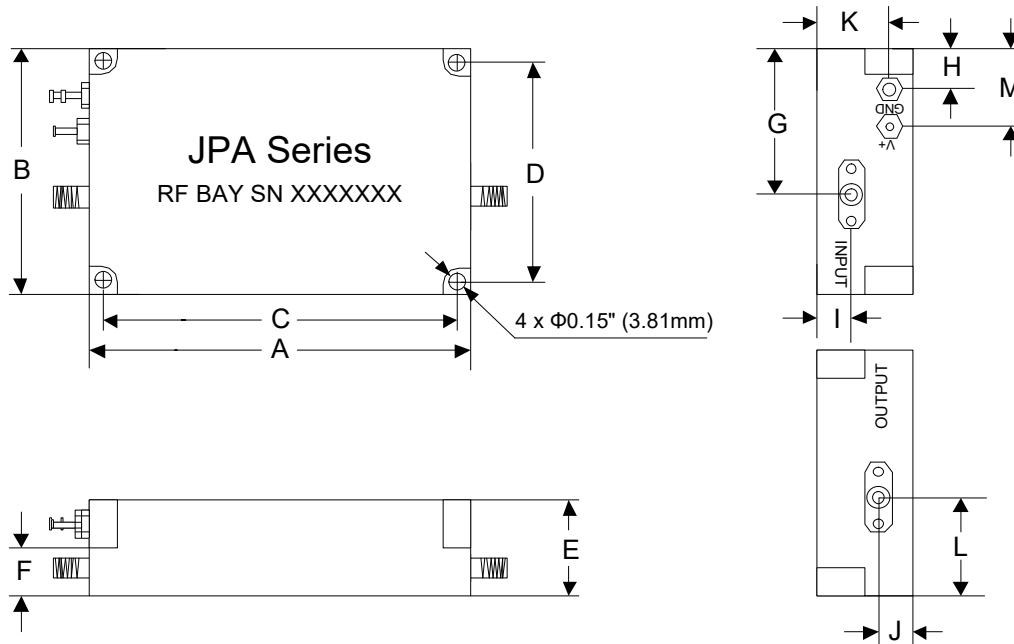
Warning and Caution:

- 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	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					