

## JPA Series

## 13.5-15.5GHz 10W RF Power Amplifier

### Features

- Frequency Range: 13500-15500MHz
- Small Signal Gain: 43dB
- P<sub>SAT</sub>: +40dBm (10W)
- OIP3: +45dBm
- Noise Figure: 6dB
- DC Power: +28V @ 2800mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- GaN RF Power Amplifier
- Class AB Power Amplifier

### Picture



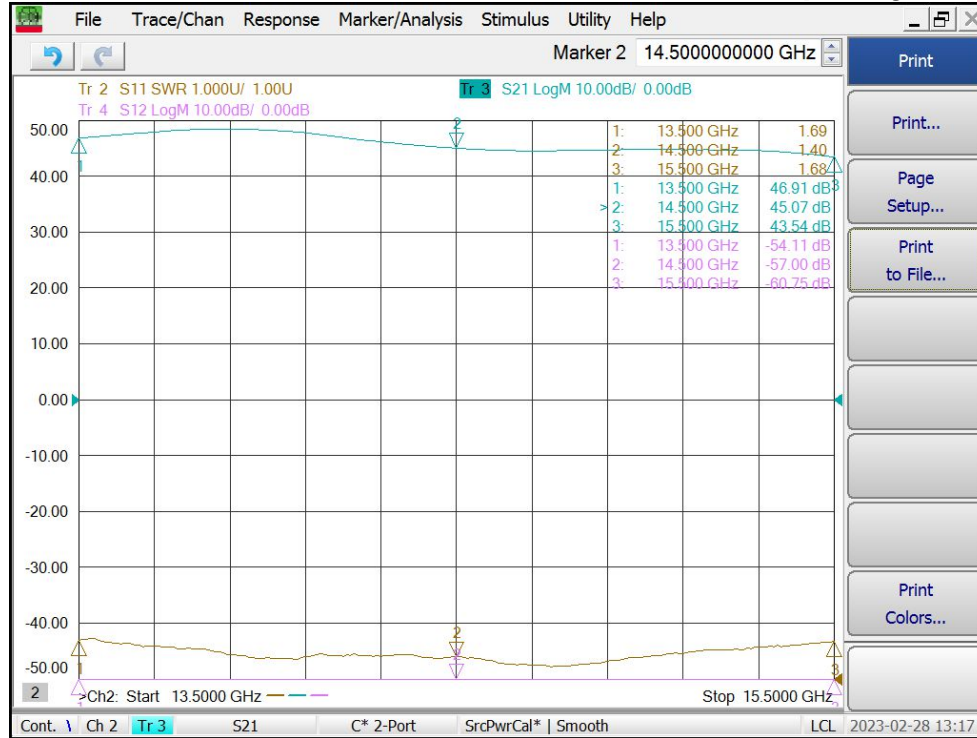
### Electrical Specifications @+25°C, Z<sub>in</sub>=Z<sub>out</sub>=50 Ω, DC Power Supply = +28VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	13500		15500
Small Signal Gain (S <sub>21</sub> ) (P <sub>IN</sub> = -40dBm)	f = 13500MHz		47	
	f = 14500MHz	43	45	
	f = 15500MHz		43	
Gain Flatness	dB		±2.0	±2.5
Output Power P <sub>SAT</sub>	f = 13500MHz	+41	+42	
	f = 14500MHz	+39.5	+40	
	f = 15500MHz	+39	+39.5	
Output IP3	dBm	+44	+45	
Efficiency P <sub>IN</sub> = +7dBm, f = 14500MHz	%		12	
Noise Figure	dB		6	7
Reverse Isolation (S <sub>12</sub> )	dB		-50	
VSWR-Input (S <sub>11</sub> )	f = 14500MHz		1.5:1	2.0:1
DC Supply Voltage	V		28	32
DC Supply Current	No RF Input	mA	600	900
	P <sub>SAT</sub> = +40dBm	mA	2800	3100

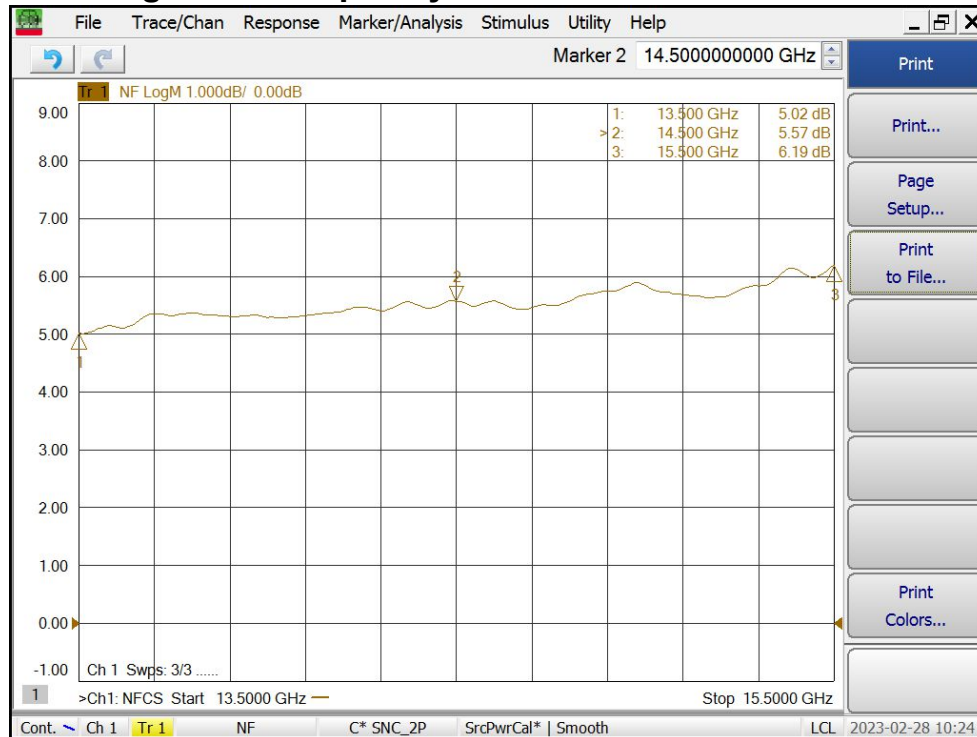
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### Gain S21, Isolation S12, Return Loss S11 vs Frequency



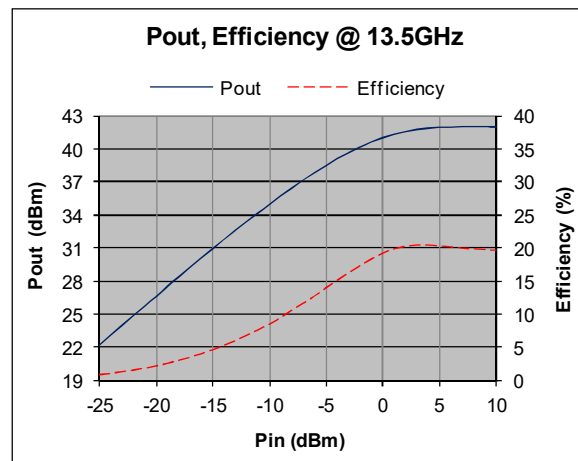
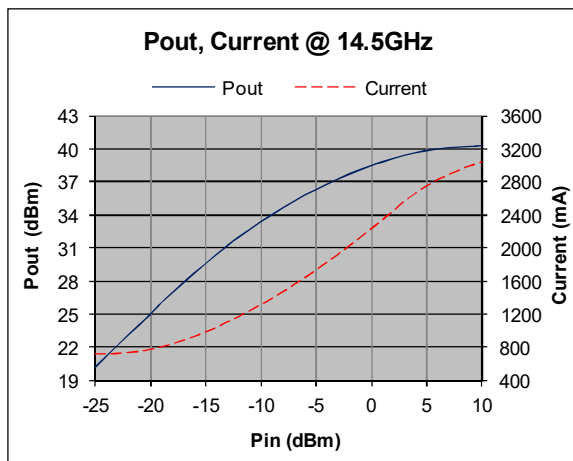
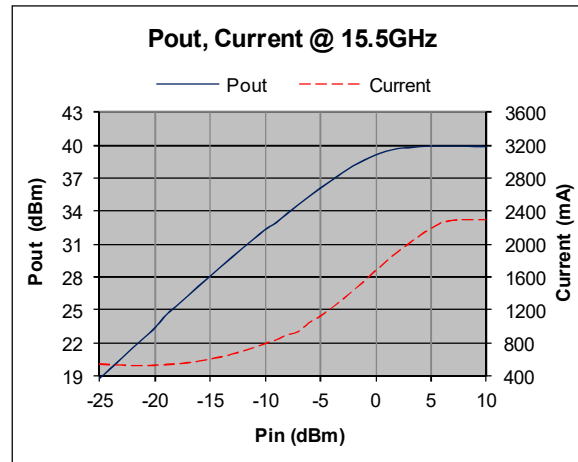
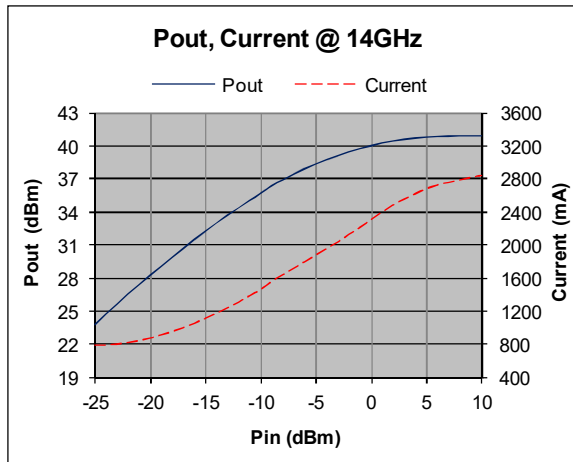
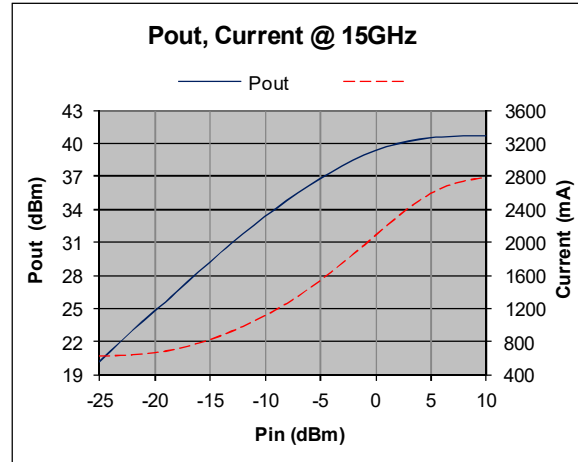
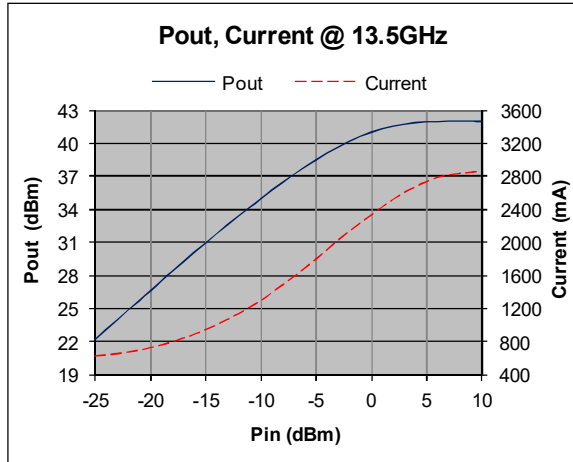
### Noise Figure vs Frequency



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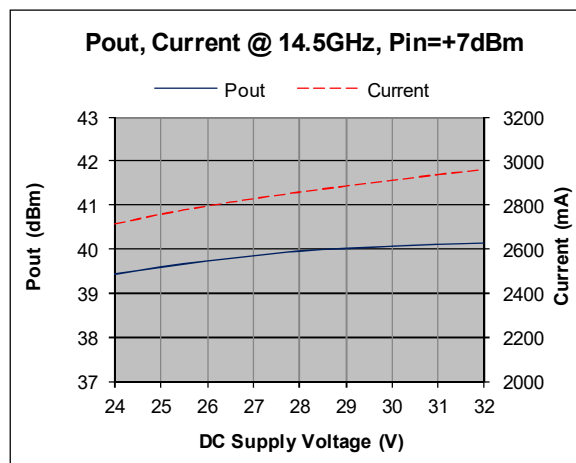
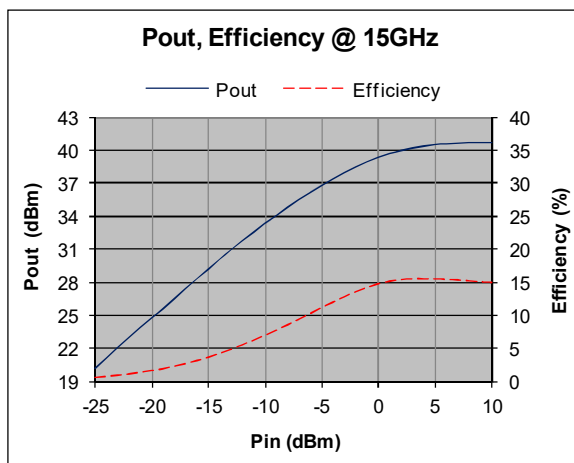
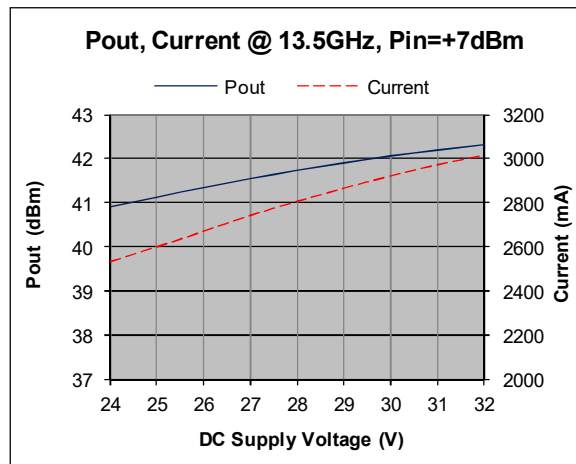
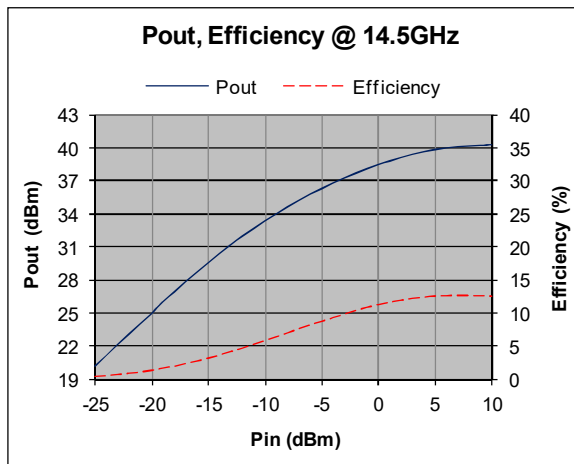
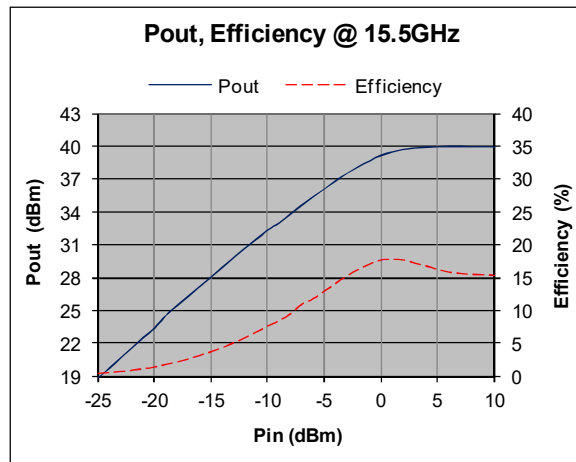
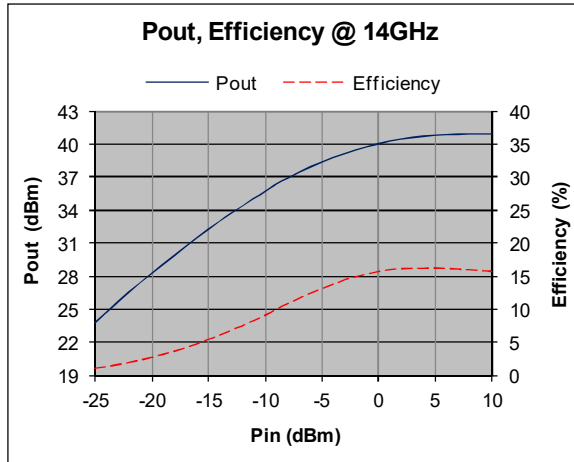
**Typical Performance @ +25°C**



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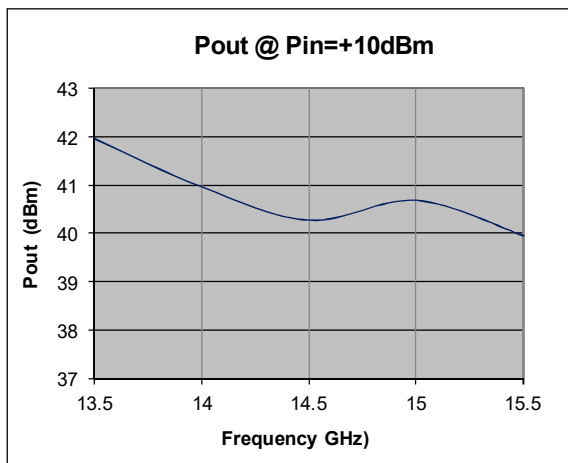
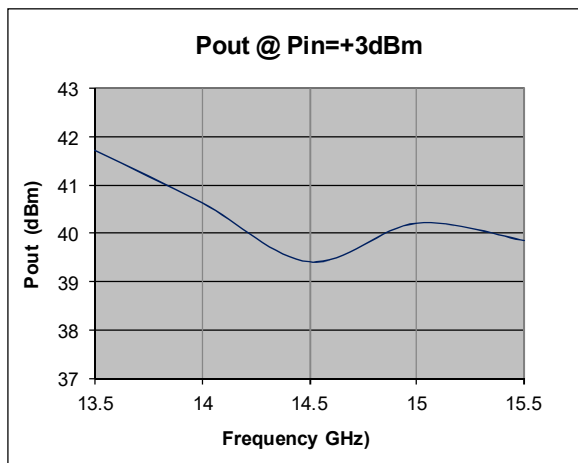
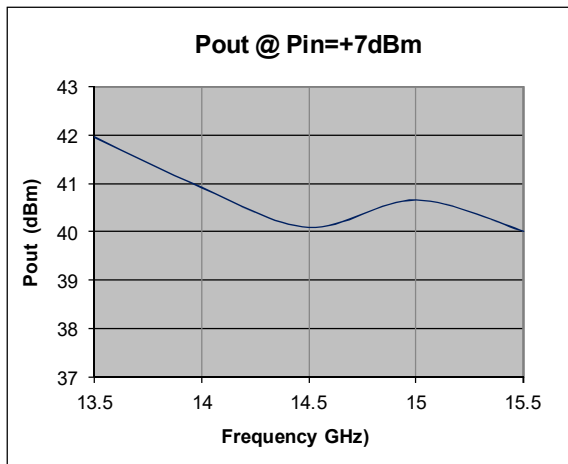
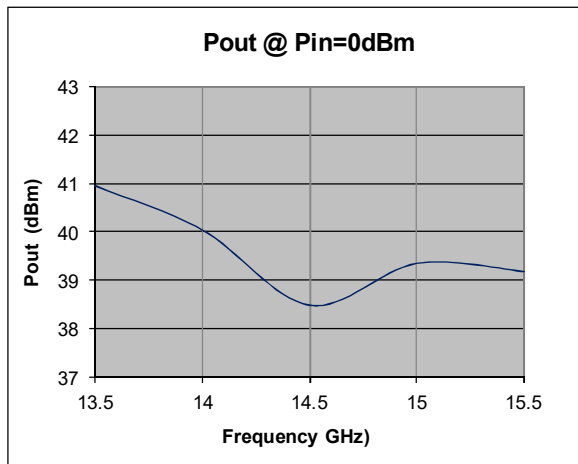
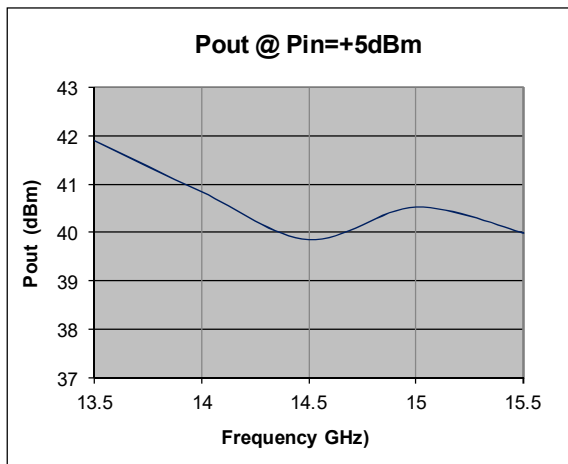
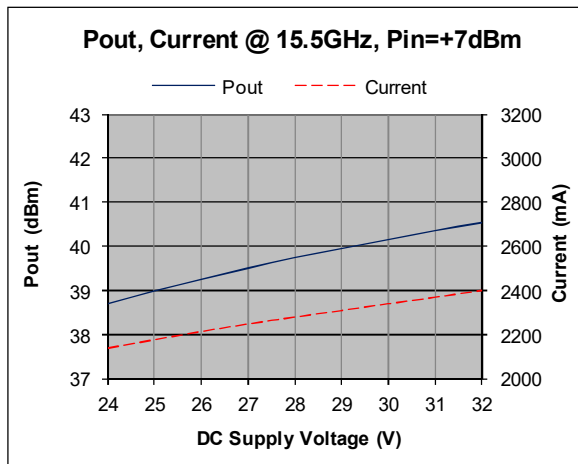
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**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Supply Voltage (Survival)	+35V
RF Input Power	+20dBm
Operating Temperature	-20 °C to +65 °C
Storage Temperature	-55 °C to +125 °C

**ESD Sensitive Material**



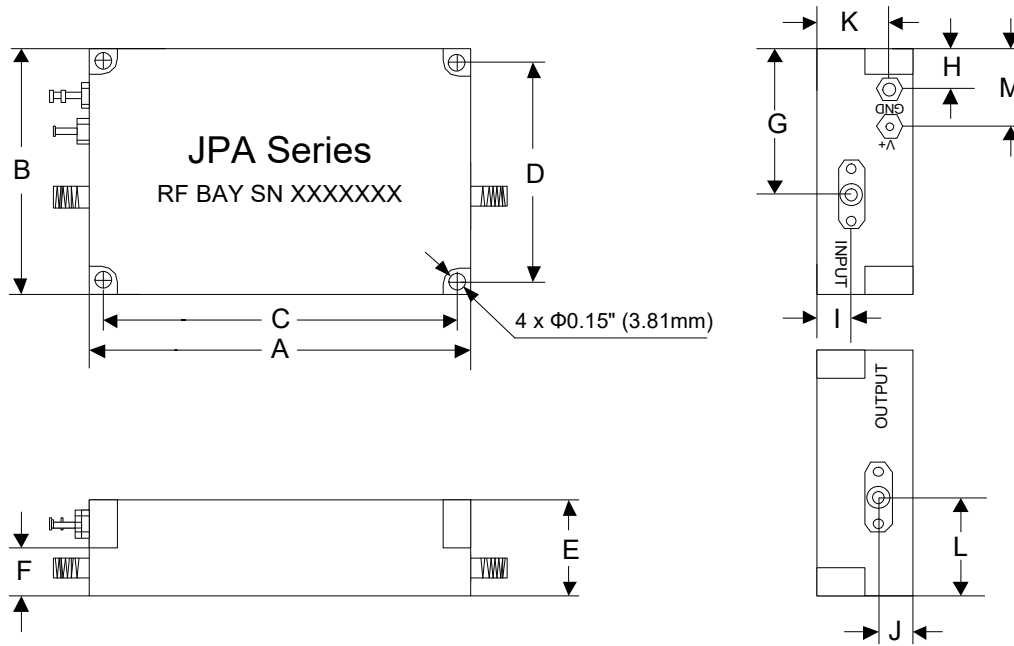
**Warning and Caution:**

- 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
<b>Inch</b>	4.00	2.50	3.70	2.20	1.05	0.54	1.40	0.30	0.30
<b>mm</b>	101.60	63.50	93.98	55.88	26.67	13.72	35.56	7.62	7.62
	J	K	L	M					
<b>Inch</b>	0.30	0.75	1.10	0.70					
<b>mm</b>	7.62	19.05	27.94	17.78					