

JPA Series

4000-7000MHz 10W RF Power Amplifier

Features

- Frequency Range: 4000-7000MHz
- Small Signal Gain: 50dB
- P_{SAT} : +40dBm (10W)
- OIP3: +50dBm
- Noise Figure: 3dB
- DC Power: +24V @ 1500mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- GaN RF Power Amplifier
- Class AB Power Amplifier

Picture



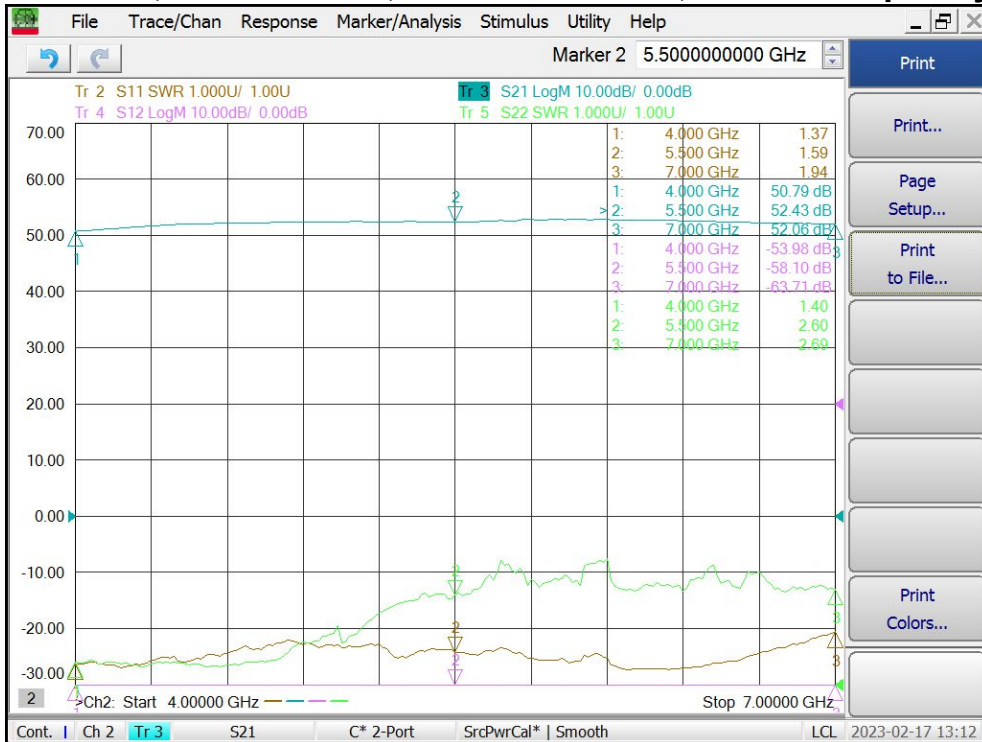
Electrical Specifications @+25°C, $Z_{in}=Z_{out}=50 \Omega$, DC Power Supply = +24VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	4000		7000
Small Signal Gain (S_{21}) ($P_{IN} = -40\text{dBm}$)	$f = 4000\text{MHz}$		50.5	
	$f = 5500\text{MHz}$	50	52.0	
	$f = 7000\text{MHz}$		51.5	
Gain Flatness	dB		± 0.8	± 1.2
Output Power P_{SAT}	$f = 4000\text{MHz}$		+39.5	
	$f = 5500\text{MHz}$	+40.0	+41.0	
	$f = 7000\text{MHz}$		+39.5	
Output IP3	$f = 5500\text{MHz}$	+48.0	+50.0	
Efficiency $P_{IN} = 0\text{dBm}$, $f = 5500\text{MHz}$	%		29	
Noise Figure	dB		3.0	4.0
Reverse Isolation (S_{12})	dB		-50	
VSWR-Input (S_{11})	$f = 5500\text{MHz}$		1.6:1	2.0:1
VSWR-Output (S_{22})	$f = 5500\text{MHz}$		2.6:1	3.0:1
DC Supply Voltage	V	23	24	25
DC Supply Current	No RF Input		600	700
	$P_{SAT} = +40\text{dBm}$		1500	1800

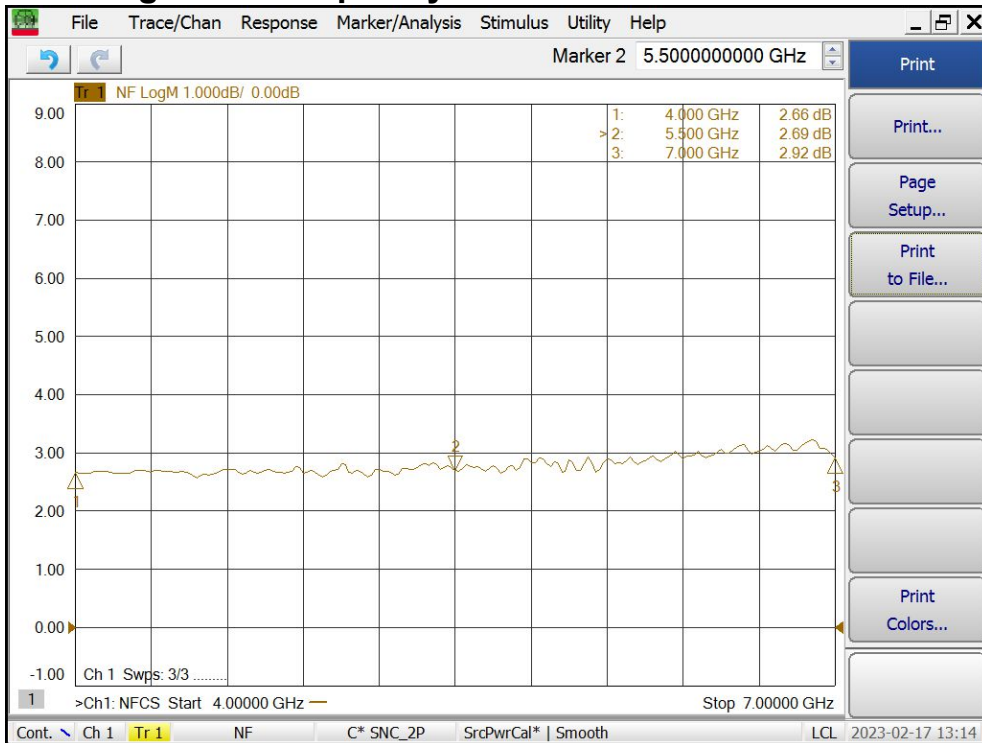
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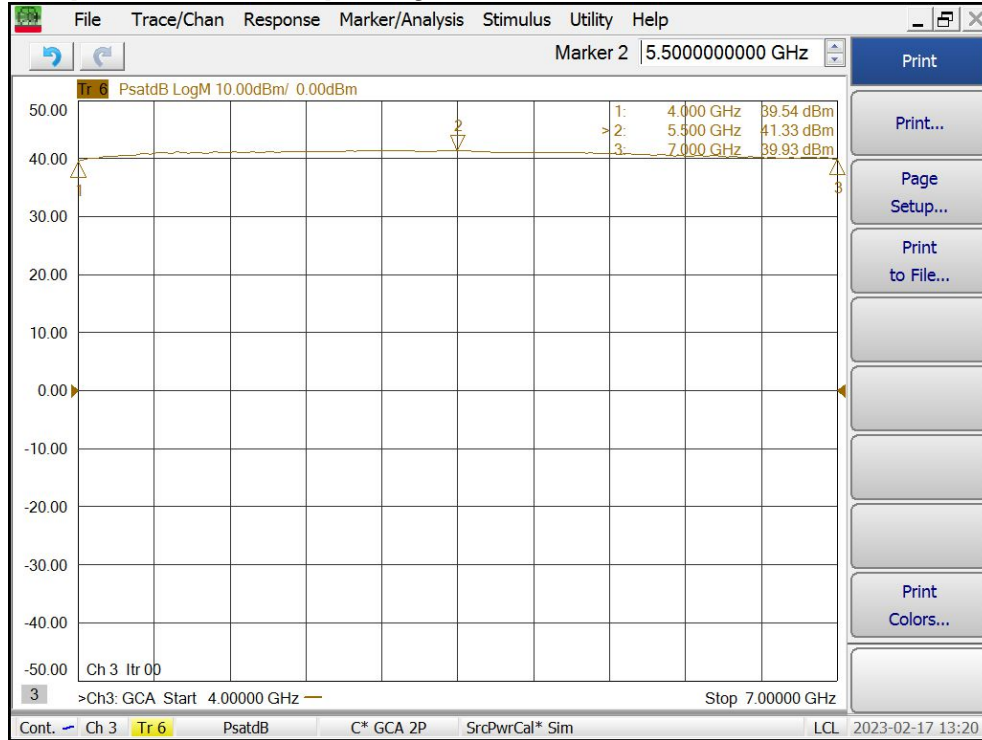
Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



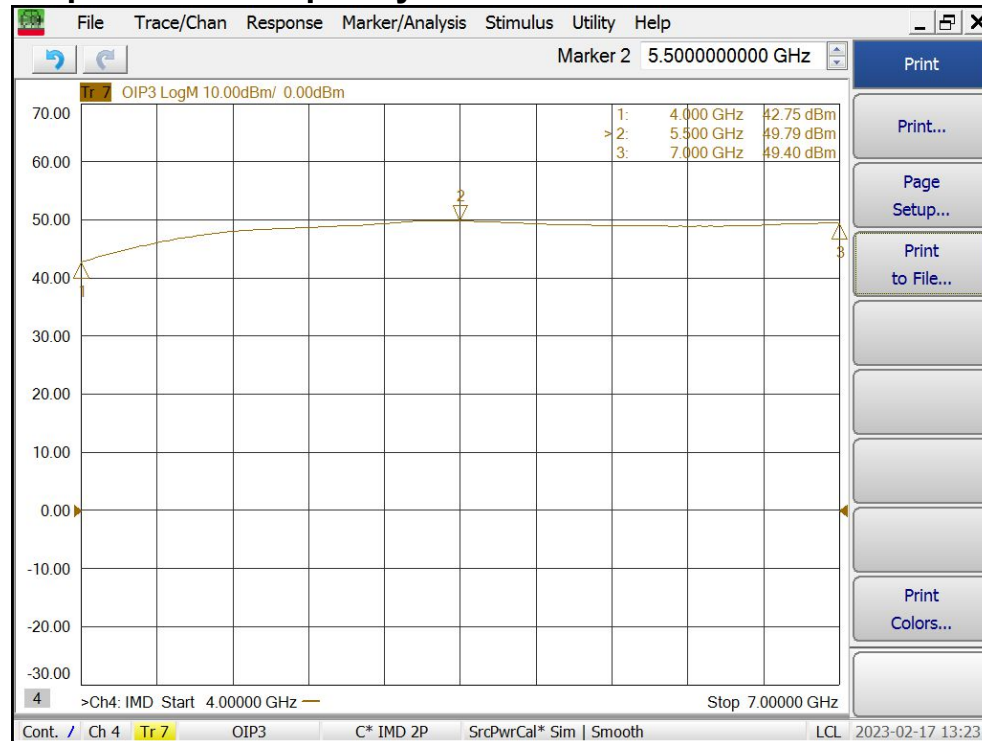
Noise Figure vs Frequency



Output P_{SAT} vs Frequency



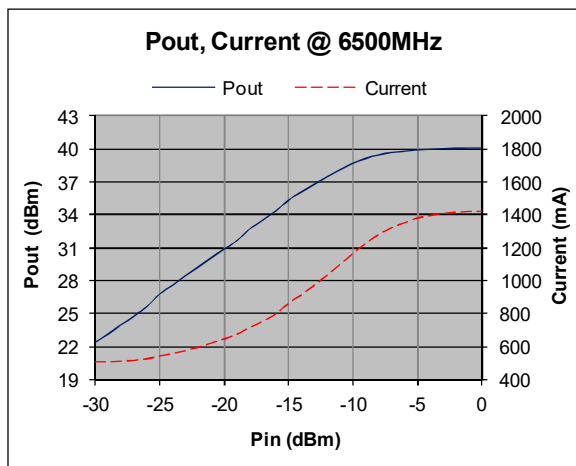
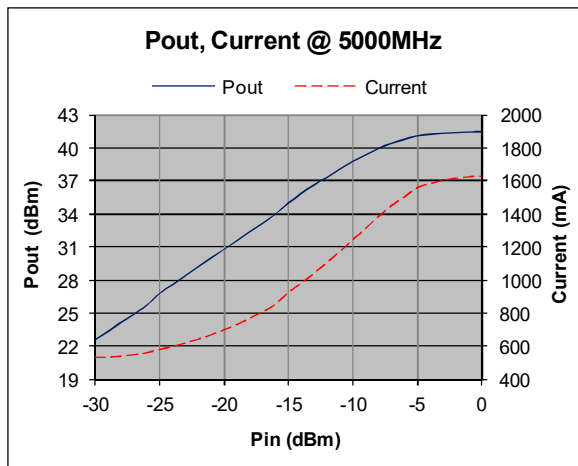
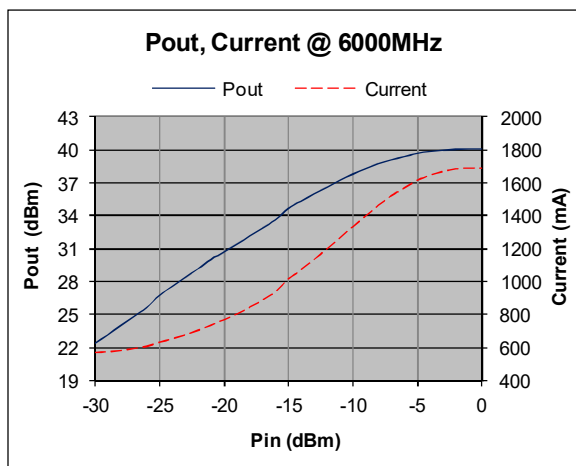
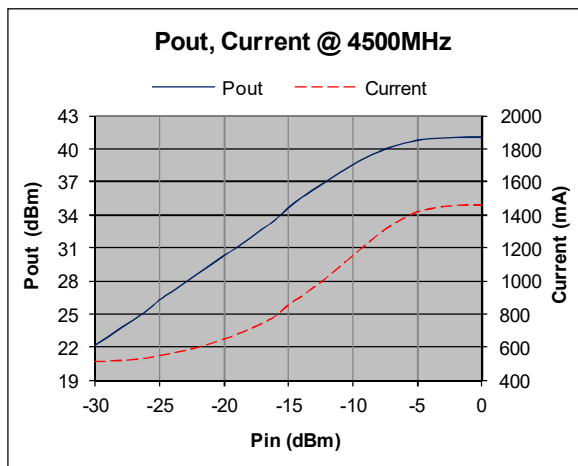
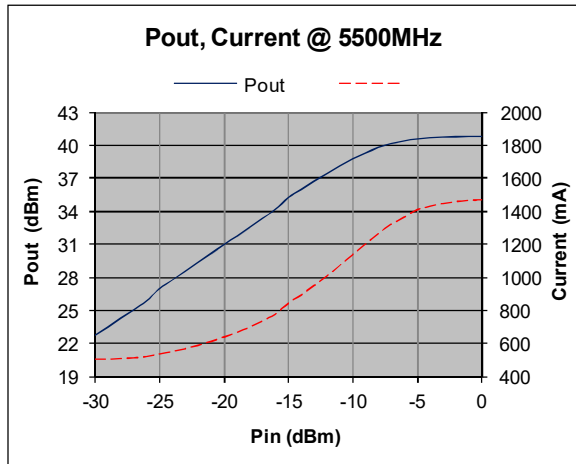
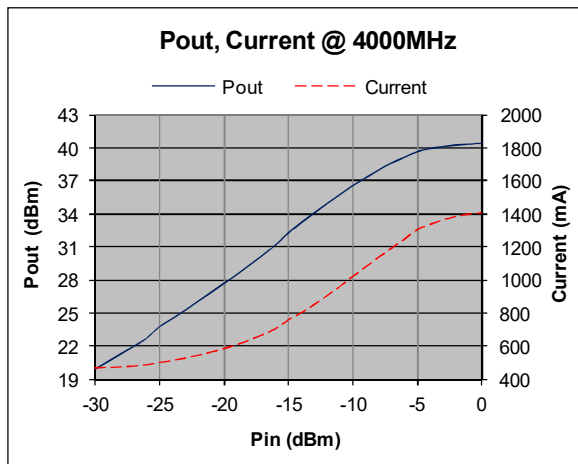
Output IP3 vs Frequency



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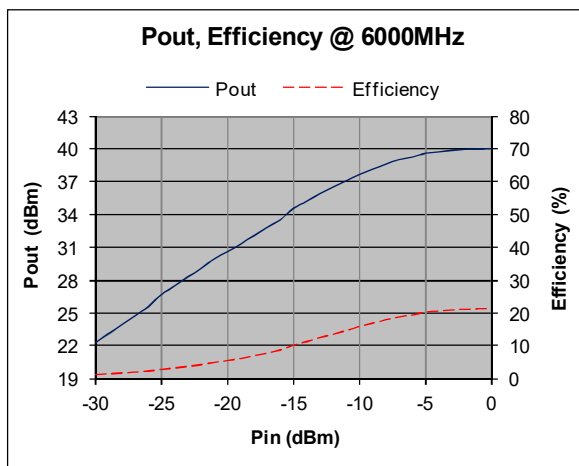
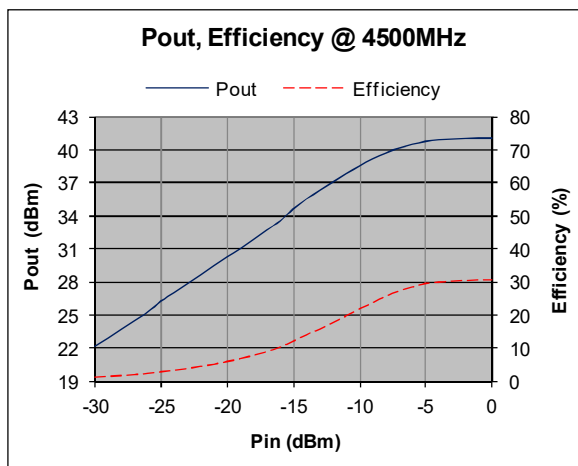
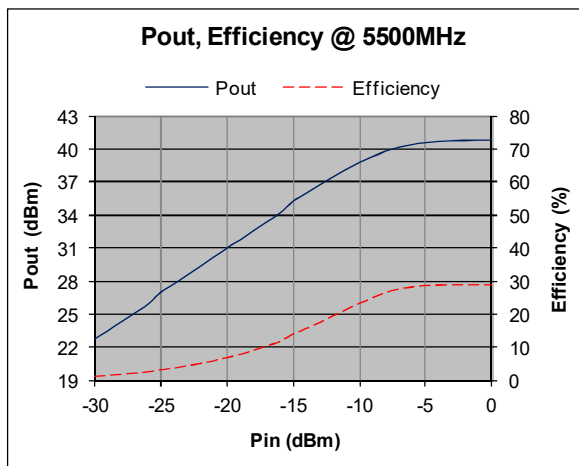
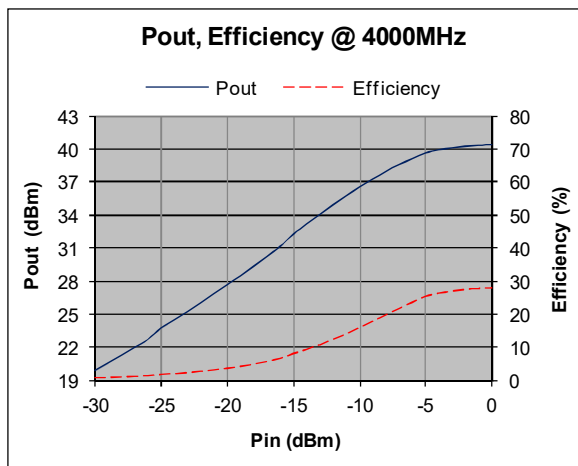
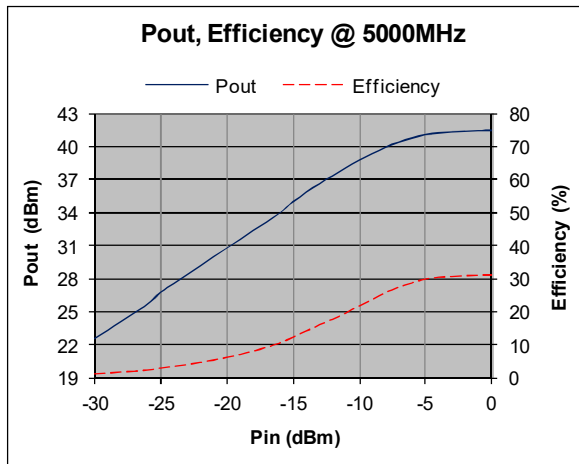
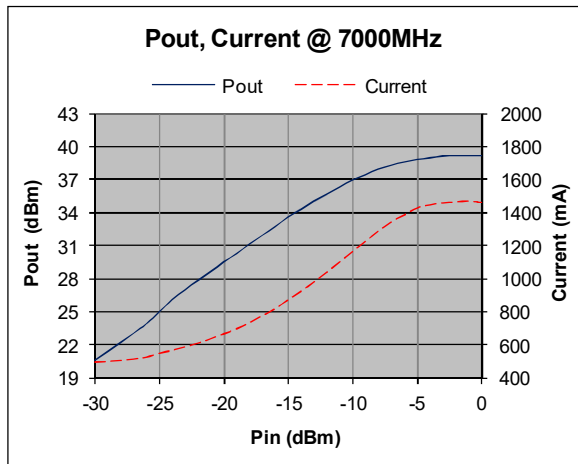
Typical Performance @ +25°C



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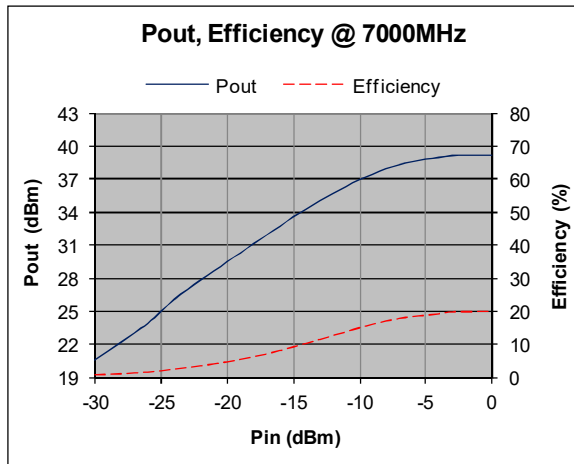
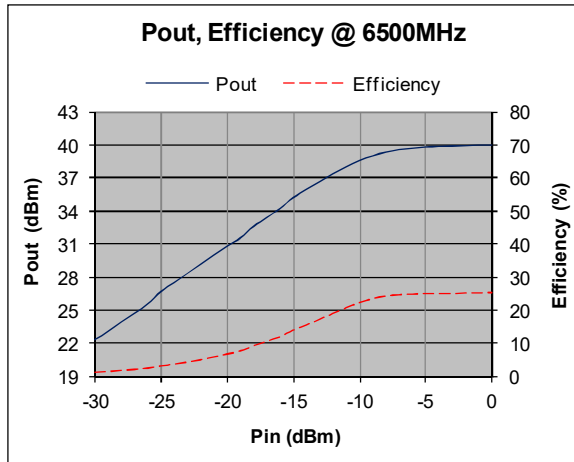
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Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage (Survival)	+29V
RF Input Power	+10dBm
Operating Temperature	-20 °C to +65 °C
Storage Temperature	-55 °C to +125 °C

ESD Sensitive Material



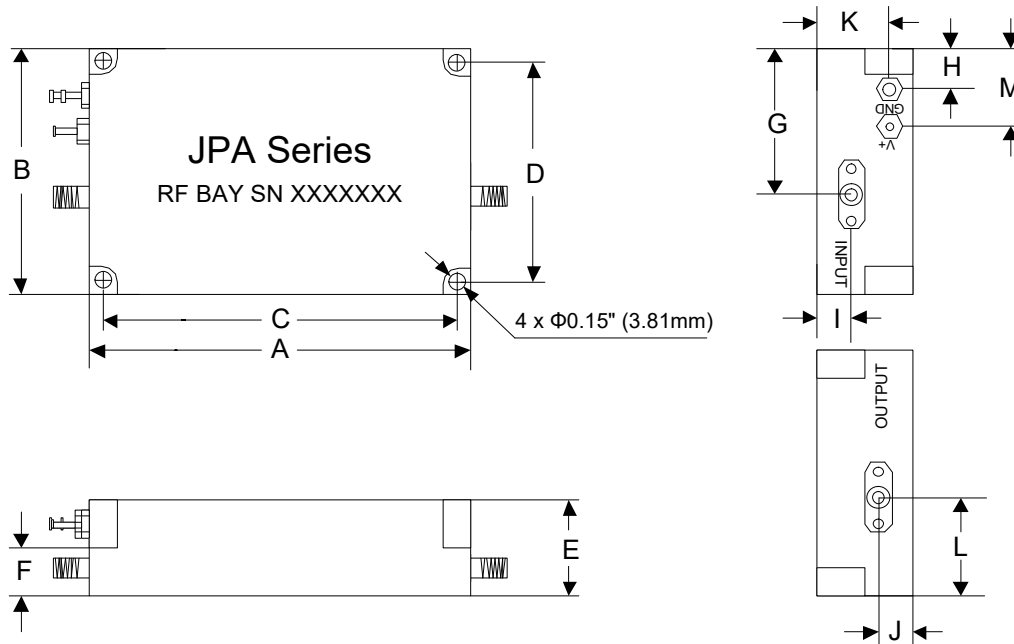
Warning and Caution:

- 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					