

JPA Series

20-150MHz 10W RF Power Amplifier

Features

- Frequency Range: 20-150MHz
- Small Signal Gain: 40dB
- P_{out}: +40dBm (10W)
- DC Power: +28V @ 900mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- GaN RF Power Amplifier
- Class AB Power Amplifier

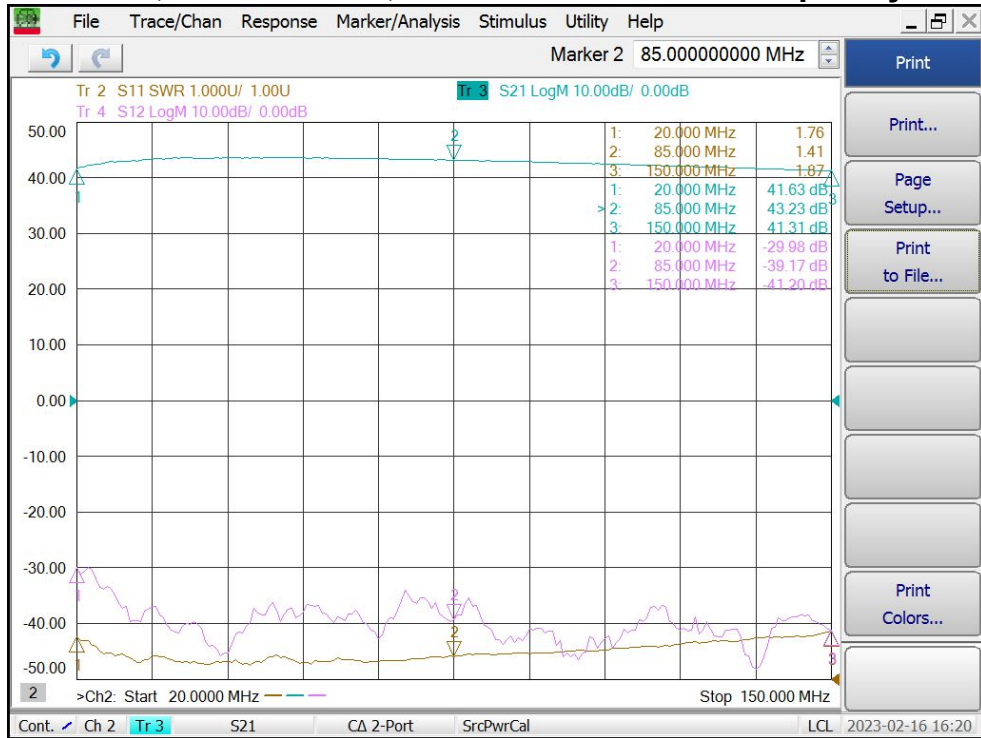
Picture



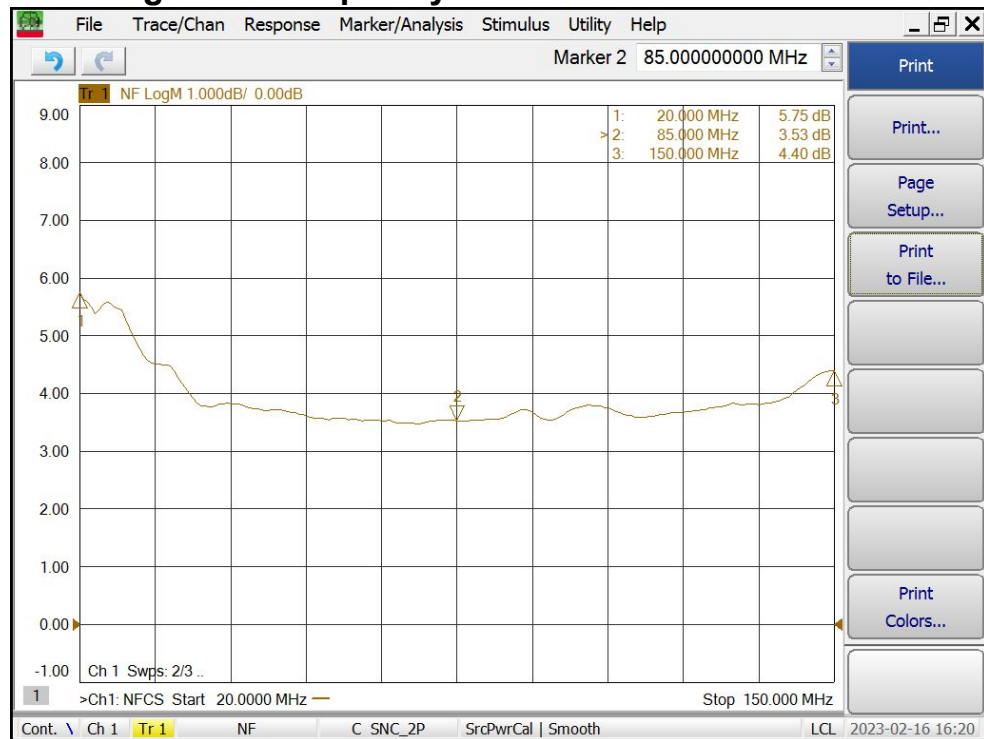
Electrical Specifications @+25°C, Z_{in}=Z_{out}=50 Ω, DC Power Supply = +28VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	20		150
Small Signal Gain (S ₂₁) (P _{IN} = -40dBm)	f = 20MHz		41	
	f = 85MHz	40	43	
	f = 150MHz		41	
Gain Flatness	dB		±1.0	±1.5
Output Power P _{1dB}	f = 20MHz		+38.0	
	f = 85MHz	+39.0	+40.0	
	f = 150MHz		+39.5	
Output Power P _{out} @ P _{in} =+3dBm	f = 20MHz		+40.0	
	f = 85MHz	+40.0	+41.0	
	f = 150MHz		+40.0	
Efficiency P _{IN} = 0dBm, f = 85MHz	%		45	
Noise Figure @ f = 85MHz	dB		4.0	5.0
Reverse Isolation (S ₁₂)	dB		-40	
VSWR-Input (S ₁₁) f = 85MHz			1.5:1	2.0:1
DC Supply Voltage	V	24	28	32
DC Supply Current	No RF Input		200	250
	P _{OUT} = +40dBm		900	1100

Gain S21, Isolation S12, Return Loss S11 vs Frequency



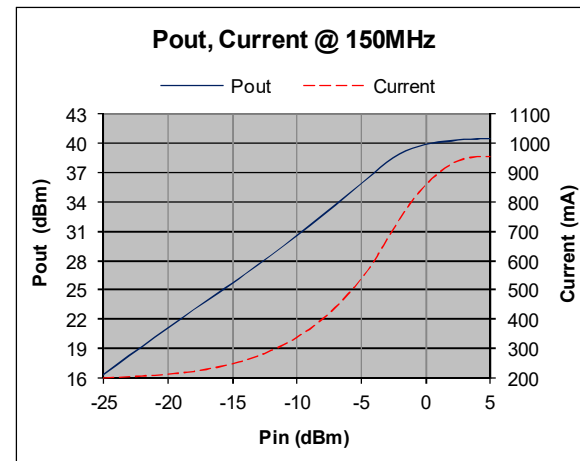
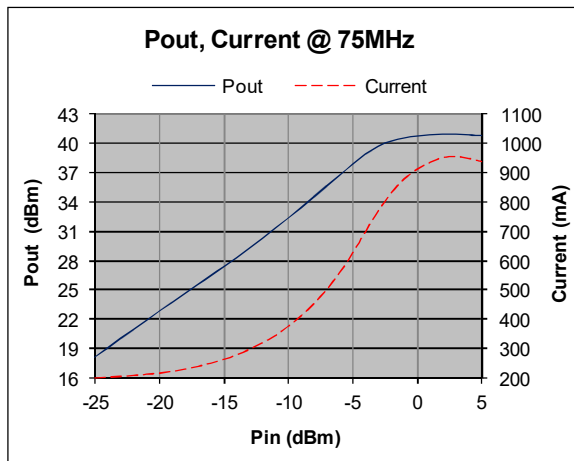
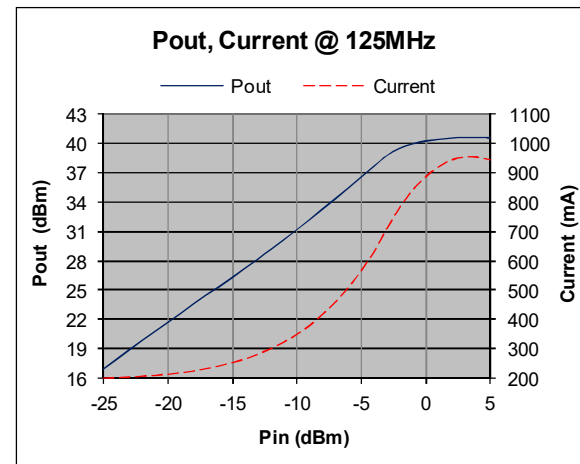
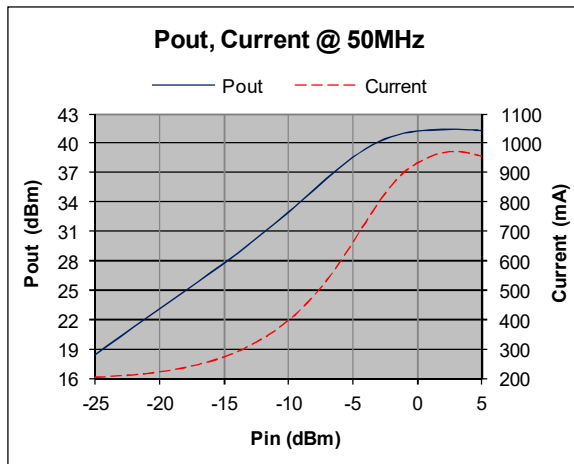
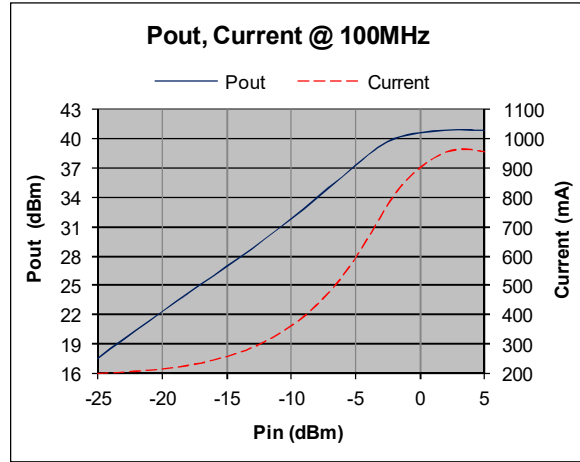
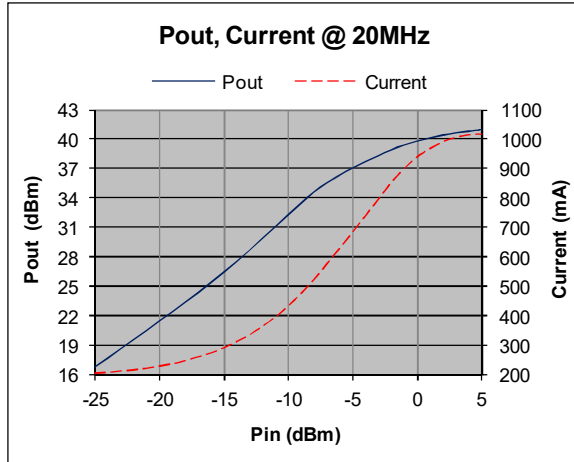
Noise Figure vs Frequency



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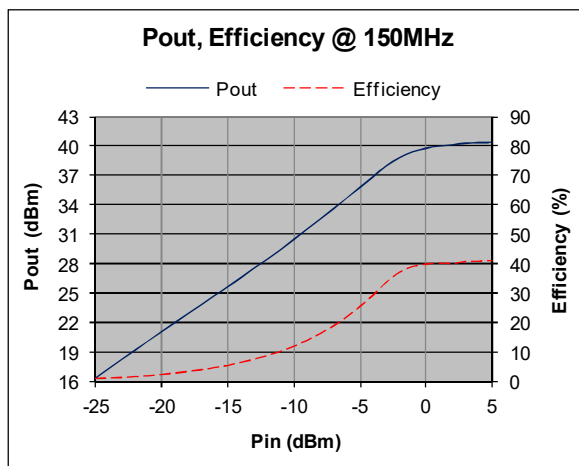
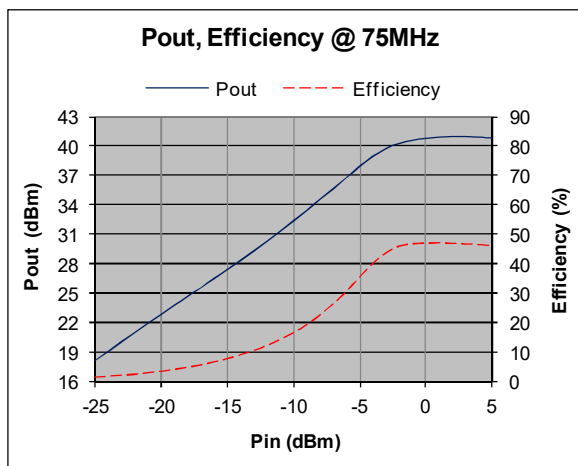
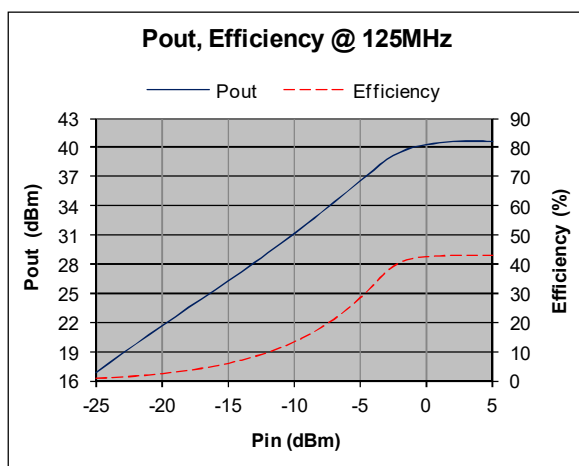
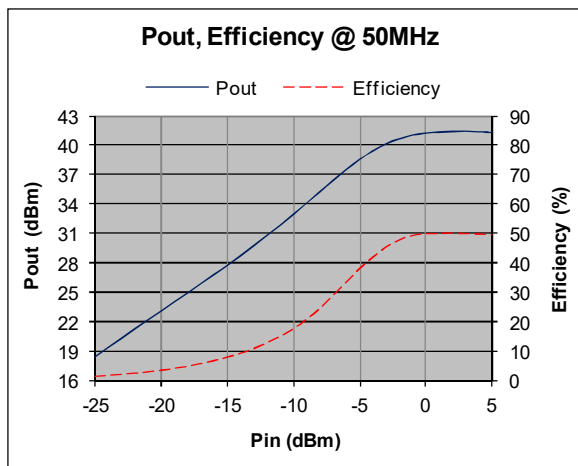
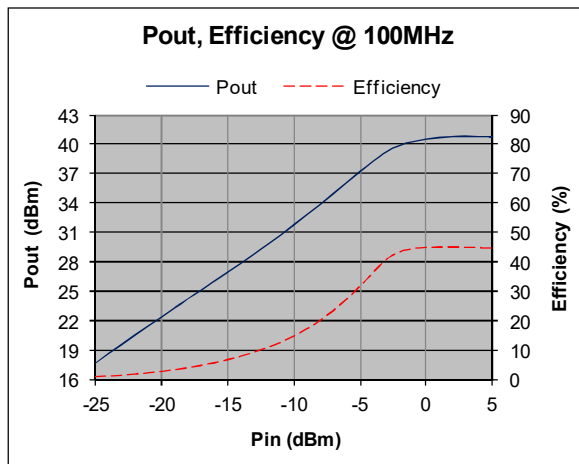
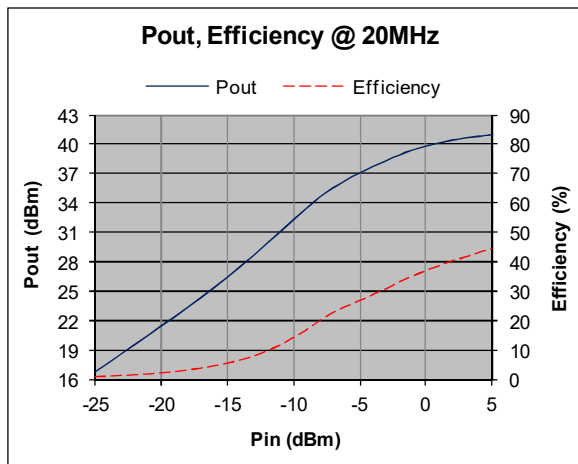
Typical Performance @ +25°C



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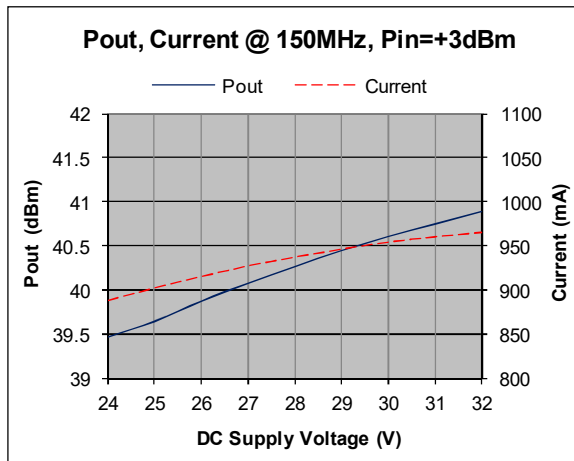
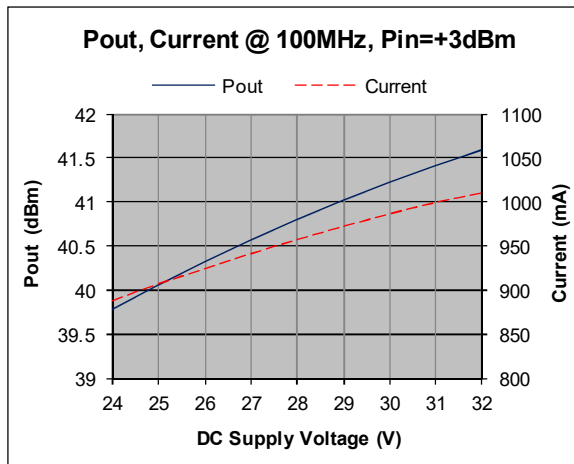
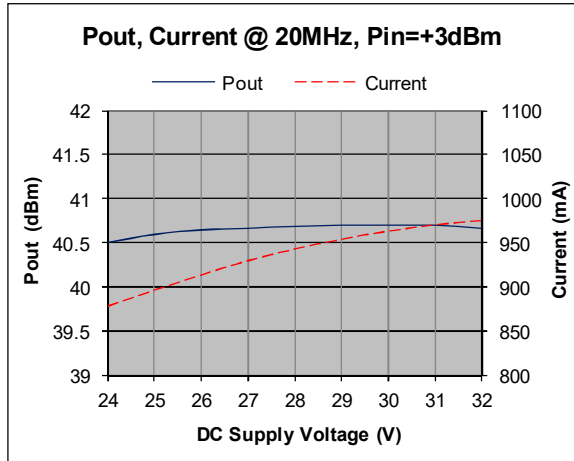
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Absolute Maximum Ratings

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

ESD Sensitive Material



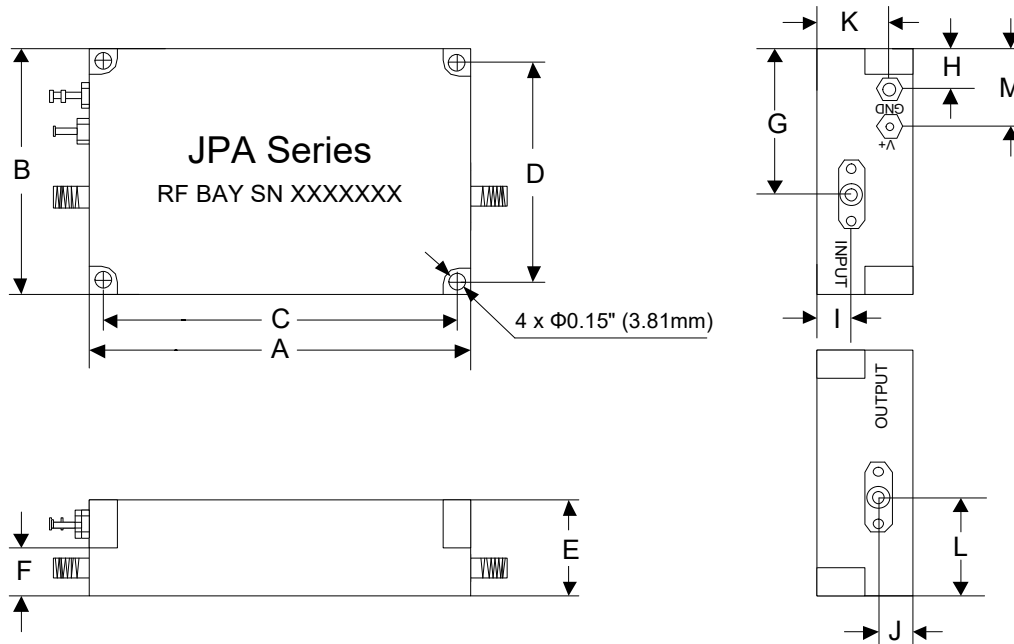
Warning and Caution:

- 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					