JPA-20-150-10

JPA Series — 20-150MHz 10W RF Power Amplifier

Features

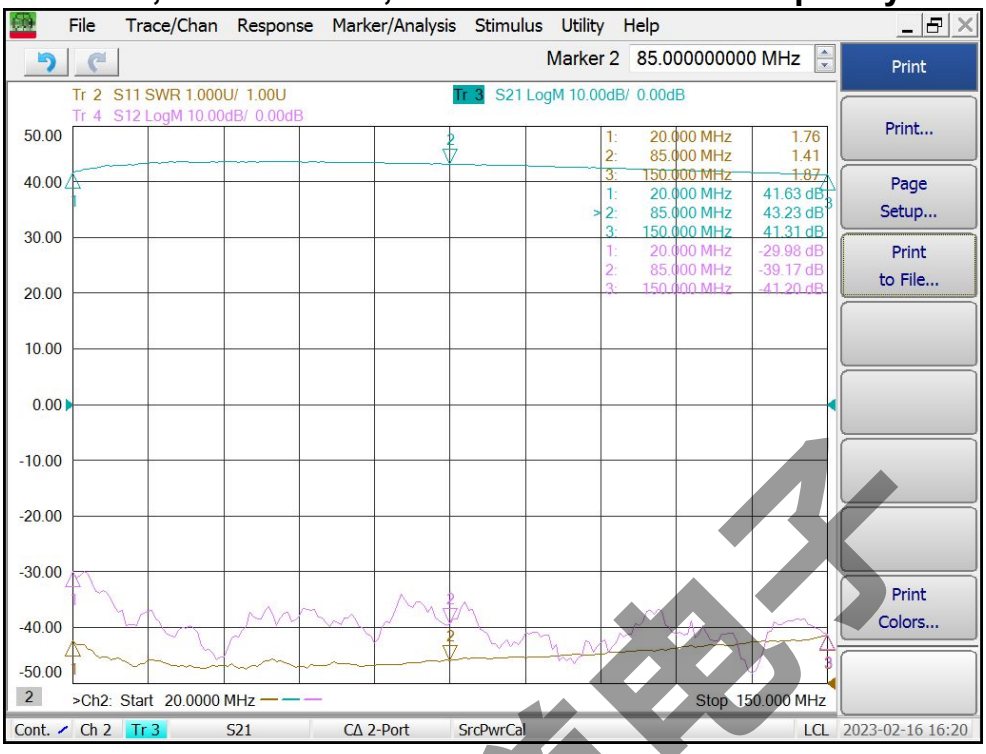
- Frequency Range: 20-150MHz
- Small Signal Gain: 40dB
- P_{out}: +40dBm (10W)
- DC Power: +28V @ 900mA
- DC Power Reverse Protected
- RF Connector: SMA Female
- GaN RF Power Amplifier
- Class AB Power Amplifier

Picture

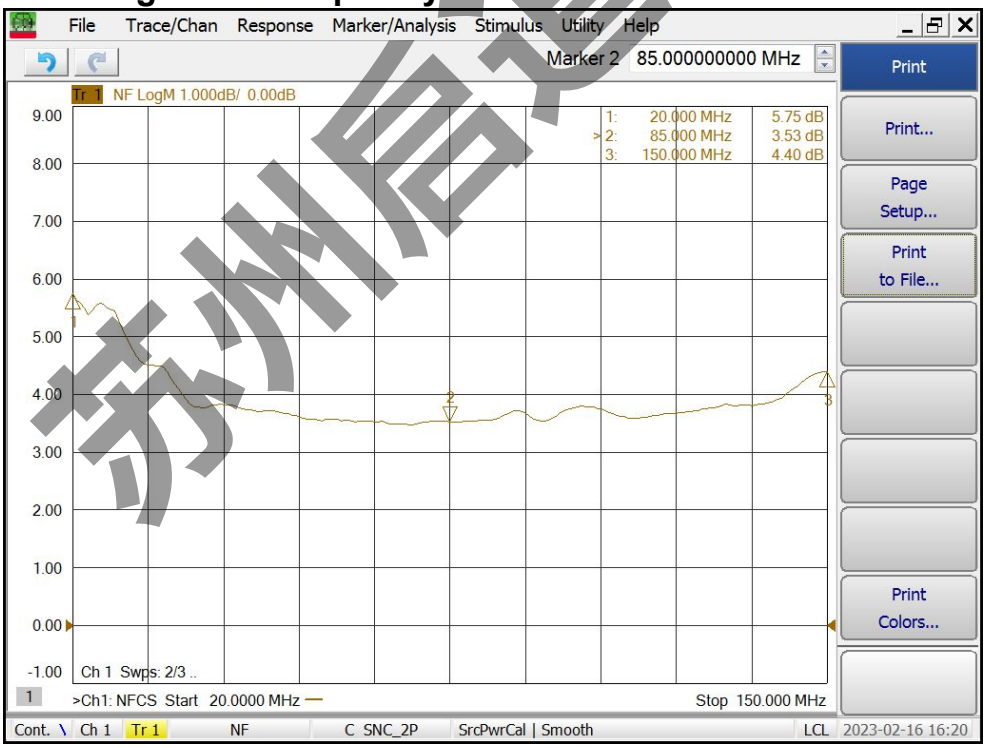
Electrical Specifications @+25°C, Z_{in}=Z_{out}=50 Ω, DC Power Supply = +28VDC

Parameter		Unit	Minimum	Typical	Maximum
Frequency Range		MHz	20		150
Small Signal Gain (S_{21})	f = 20MHz	dB		41	
(P_{IN} = -40dBm)	f = 85MHz	dB	40	43	
	f = 150MHz	dB		41	
Gain Flatness		dB		±1.0	±1.5
Output Power P_{1dB}	f = 20MHz	dBm		+38.0	
	f = 85MHz	dBm	+39.0	+40.0	
	f = 150MHz	dBm		+39.5	
Output Power P_{out}	f = 20MHz	dBm		+40.0	
@ P_{in}=+3dBm	f = 85MHz	dBm	+40.0	+41.0	
	f = 150MHz	dBm		+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	mA		200	250
	P_{OUT} = +40dBm	mA		900	1100

Gain S21, Isolation S12, Return Loss S11 vs Frequency



Noise Figure vs Frequency



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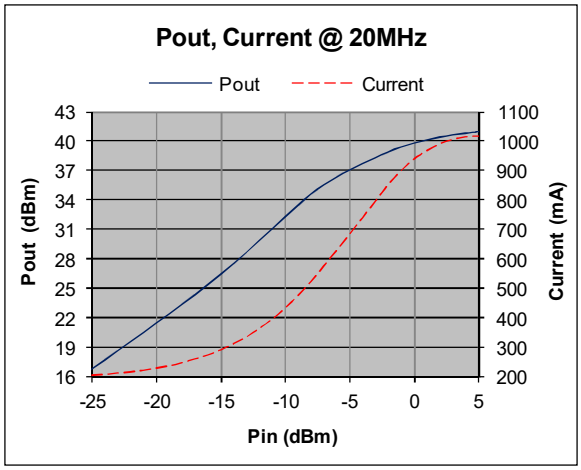
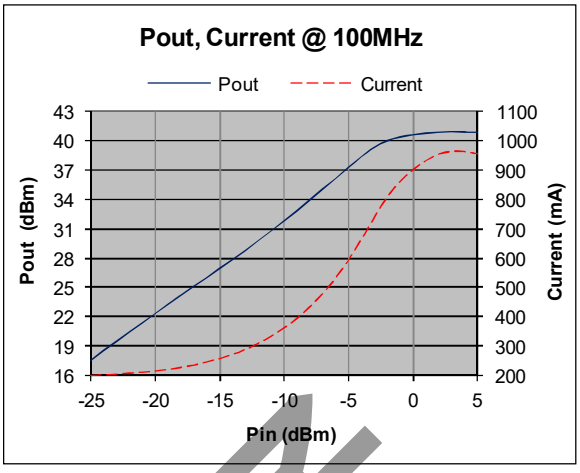
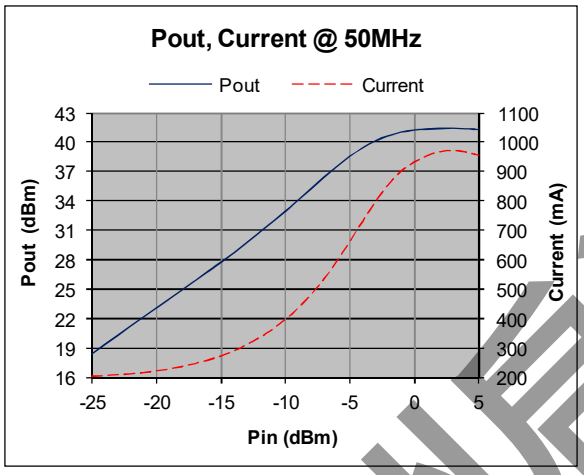
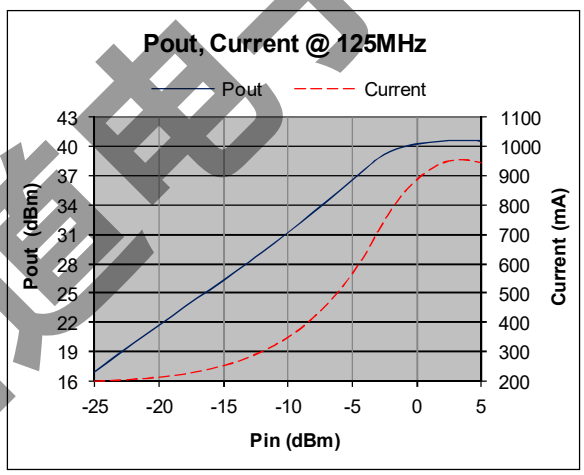
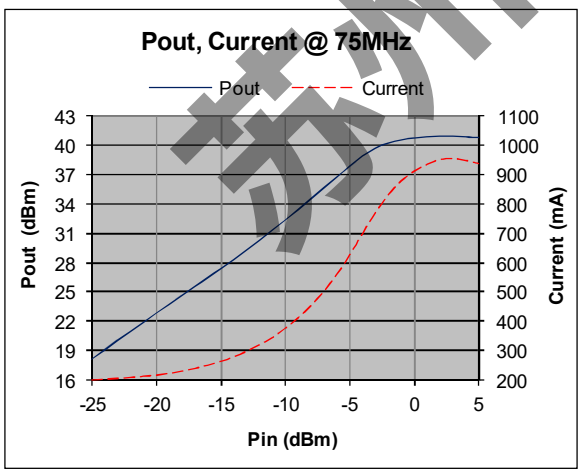
Typical Performance @ +25°C

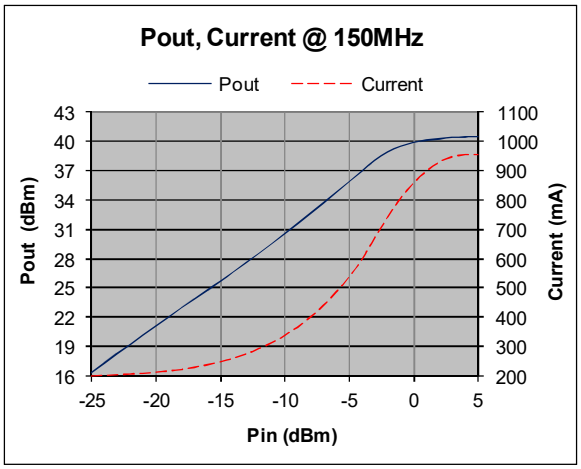




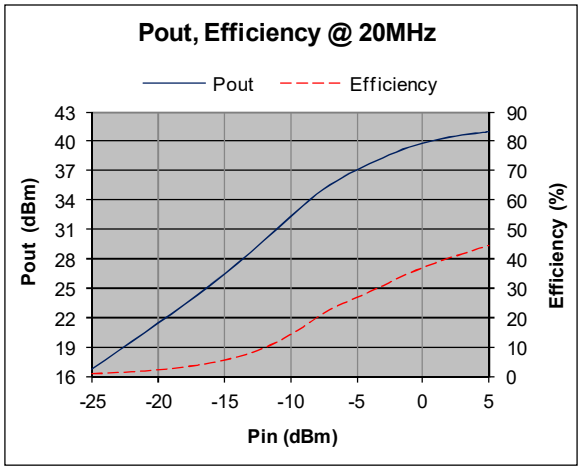


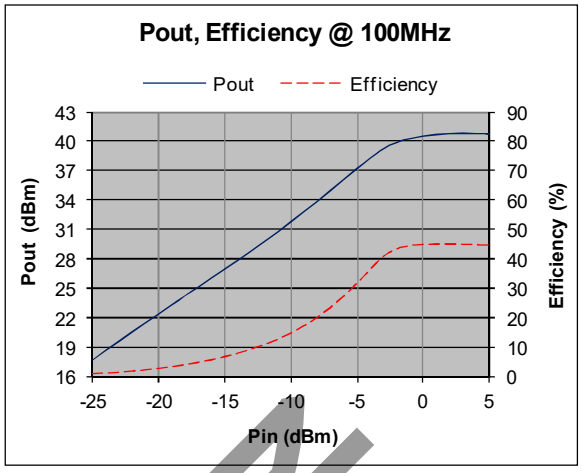


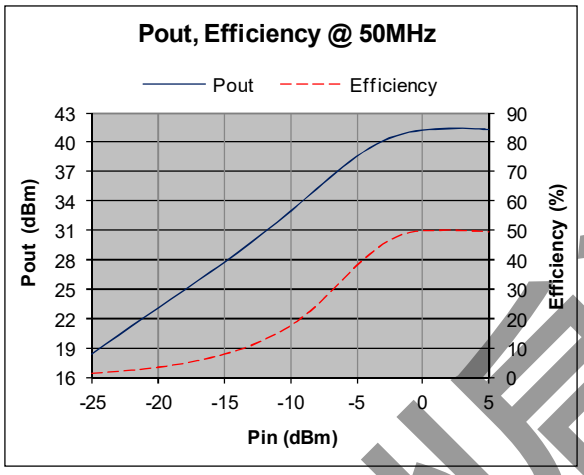


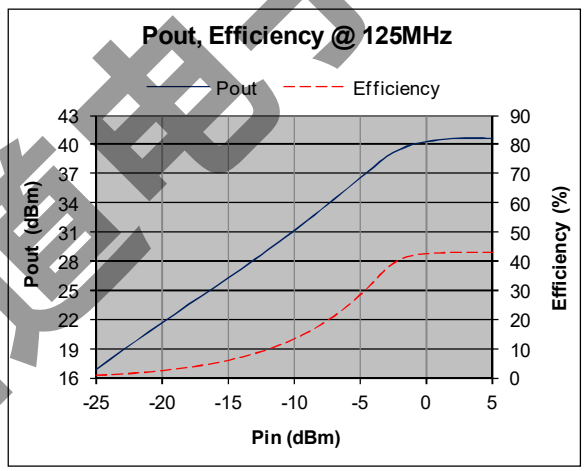


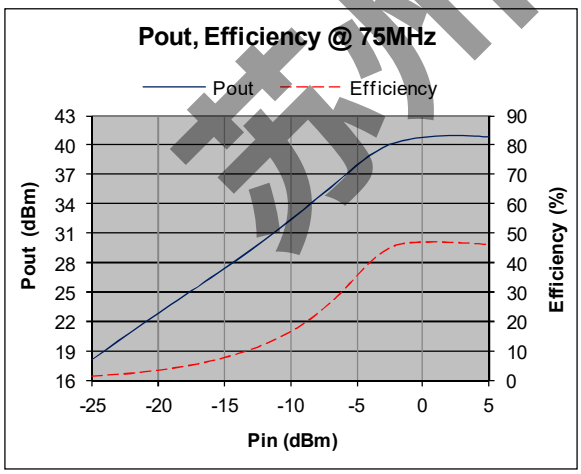
Typical Performance @ +25°C

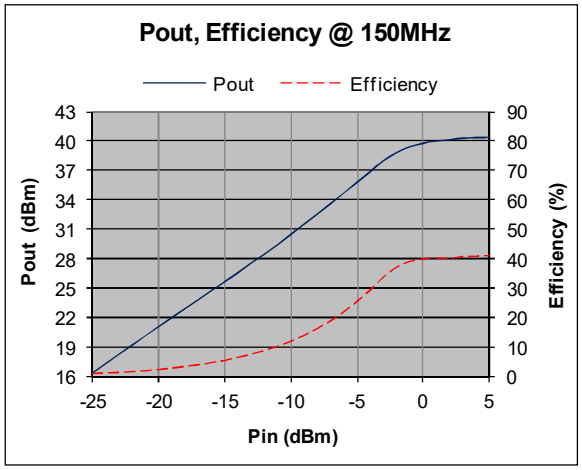












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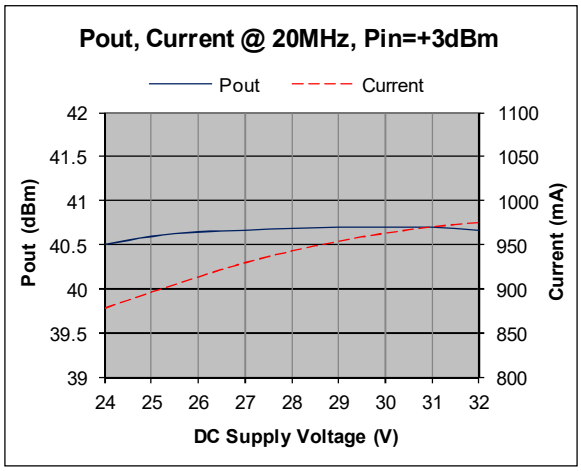
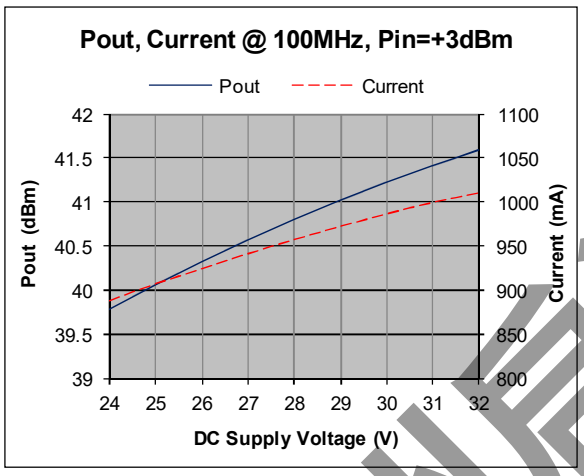
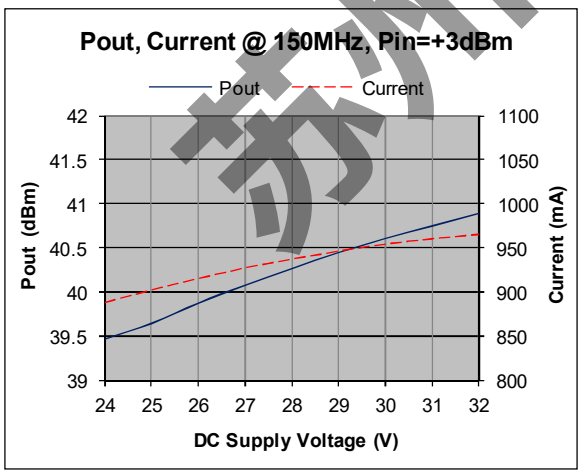
Typical Performance @ +25°C







JPA Series — 20-150MHz 10W RF Power Amplifier

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:

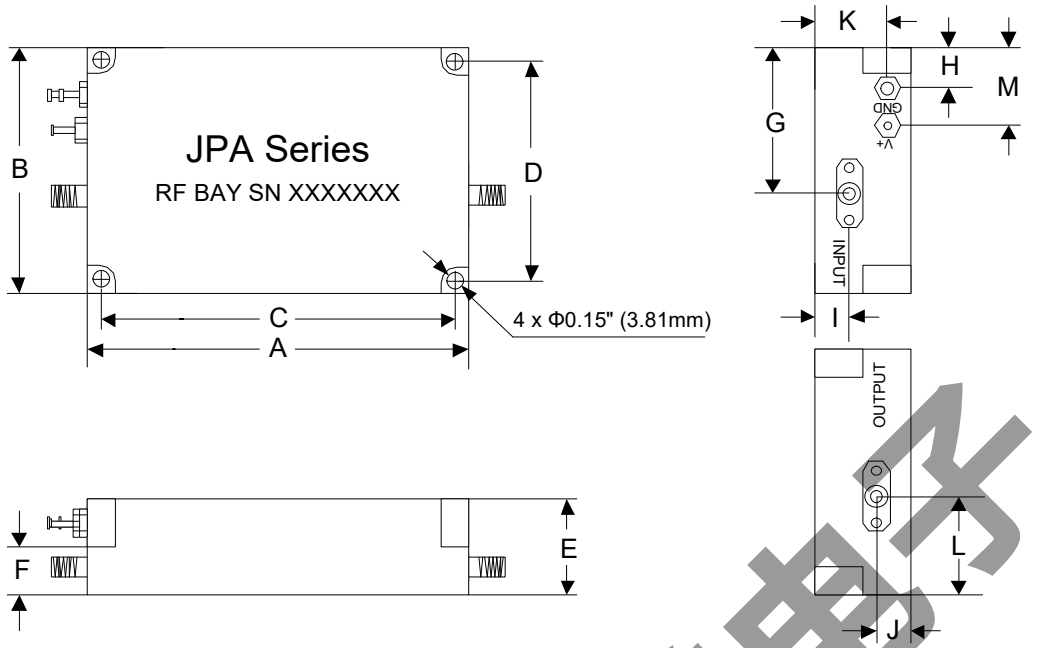
1) **Adequate heatsink must be used. Cooling Fan highly recommended. Amplifier operational baseplate temperature must be within datasheet operating temperature range.**

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.**

JPA Series *20-150MHz 10W 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					