

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

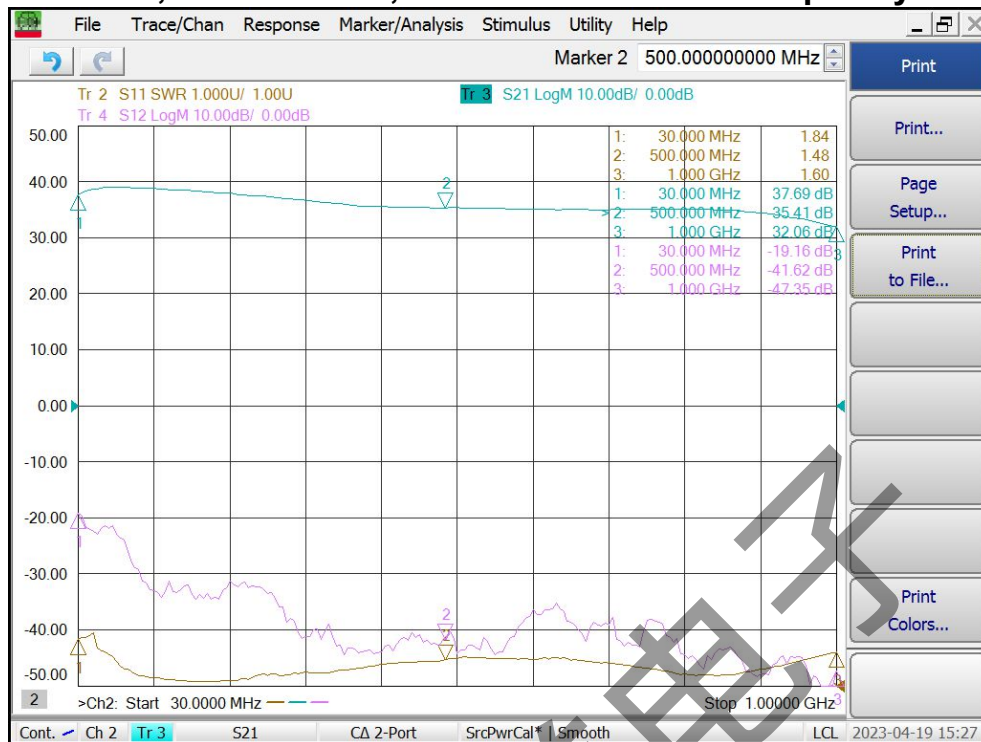
Electrical Specifications @+25°C, $Z_{in}=Z_{out}=50\ \Omega$, DC Power Supply = +28VDC

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

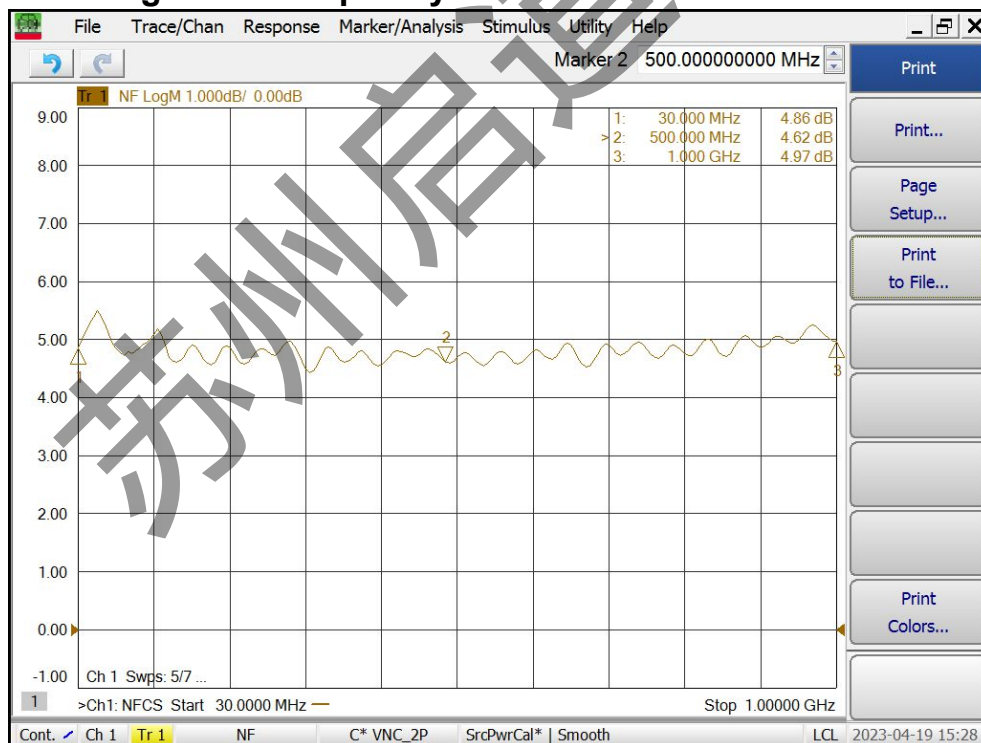
JPA Series

30-1000MHz 10W RF Power Amplifier

Gain S21, Isolation S12, Return Loss S11 vs Frequency



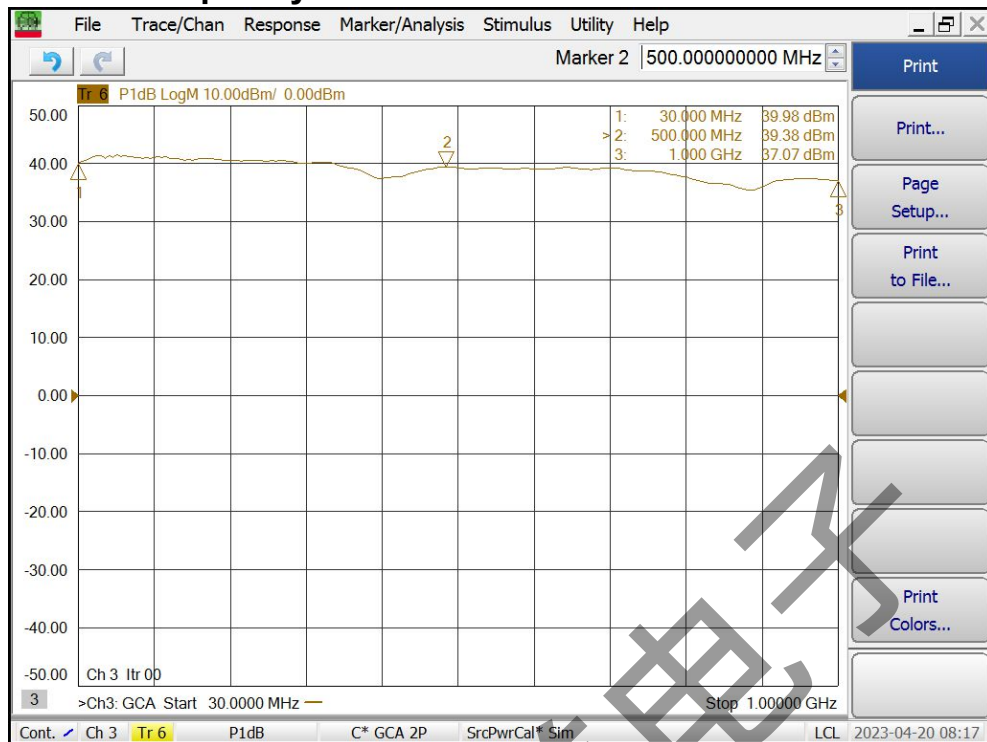
Noise Figure vs Frequency



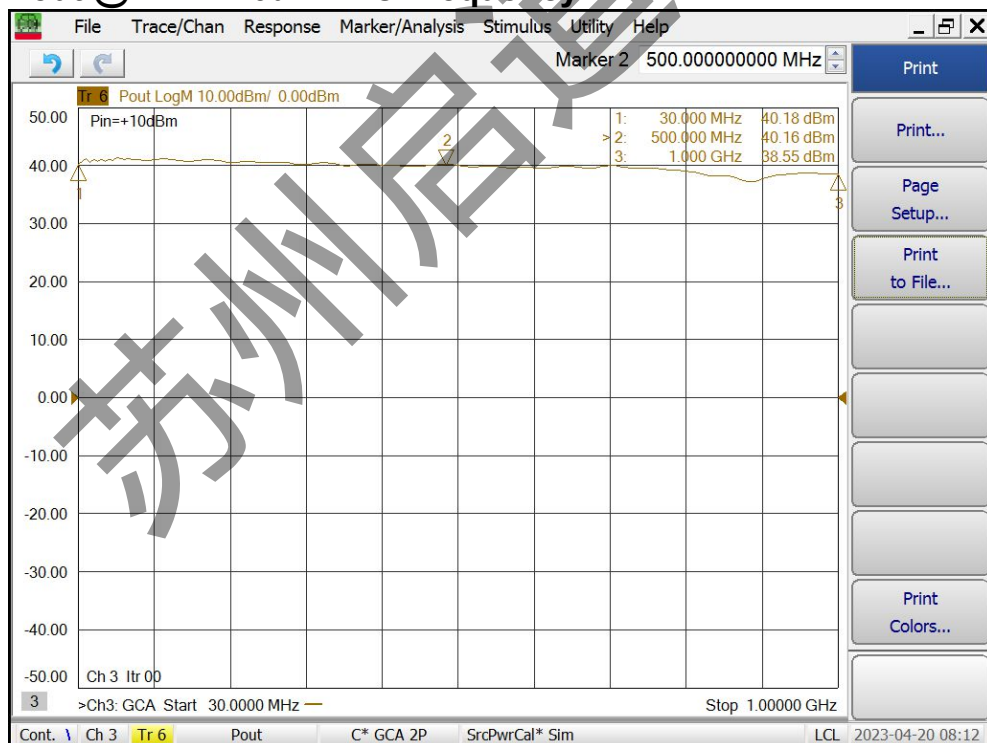
JPA Series

30-1000MHz 10W RF Power Amplifier

P_{1dB} vs Frequency



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

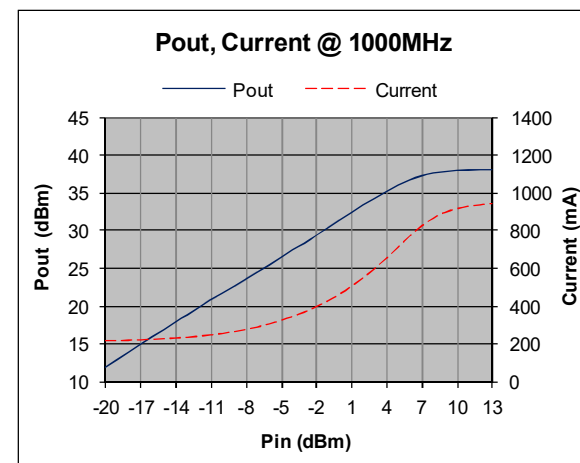
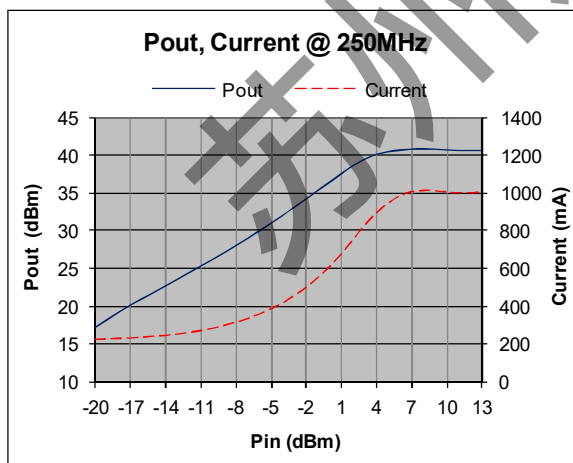
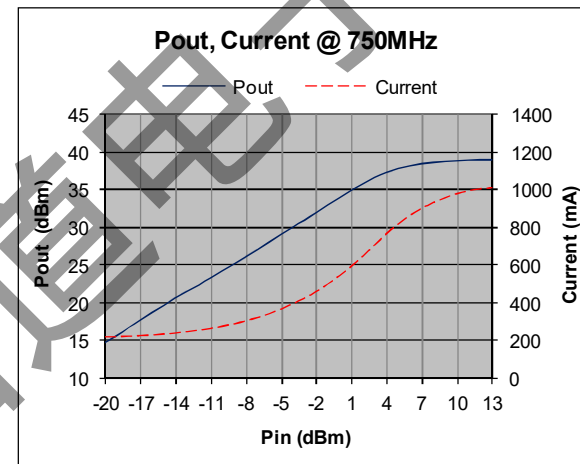
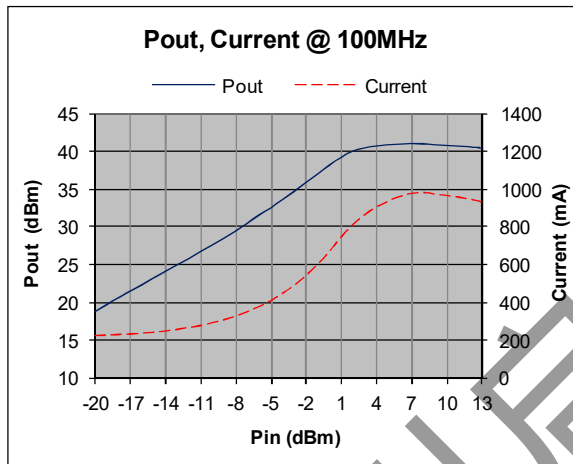
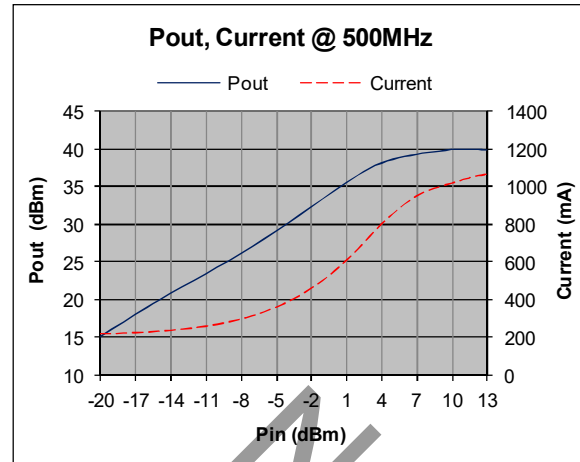
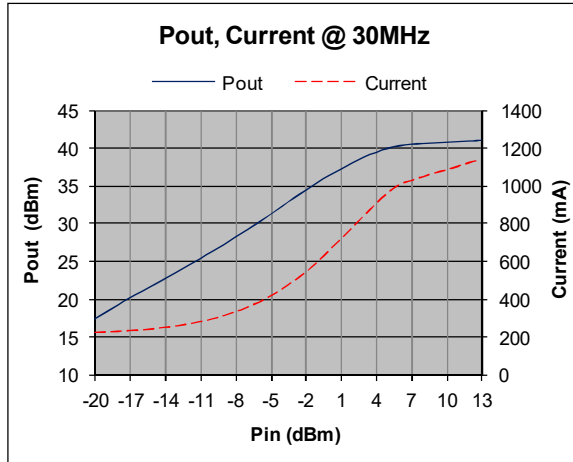




JPA Series

30-1000MHz 10W RF Power Amplifier

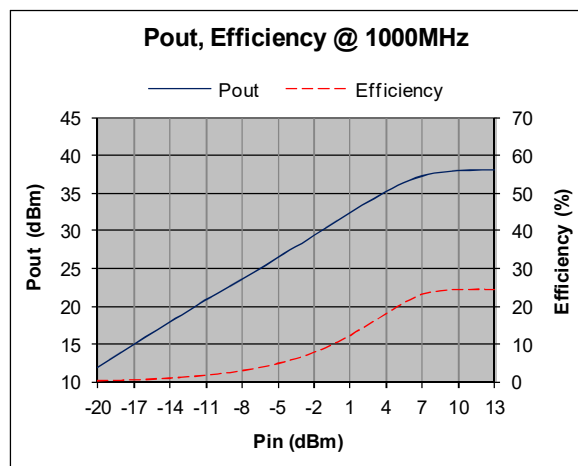
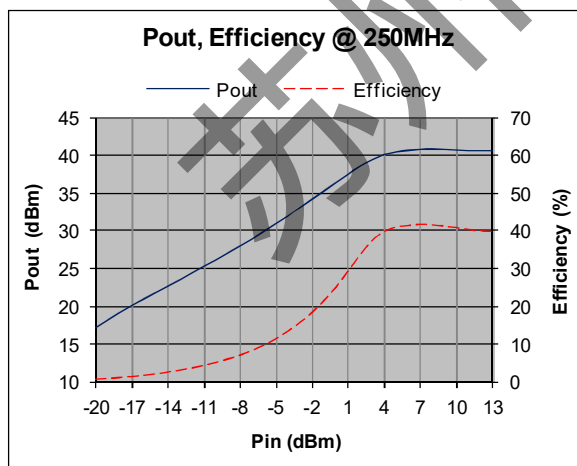
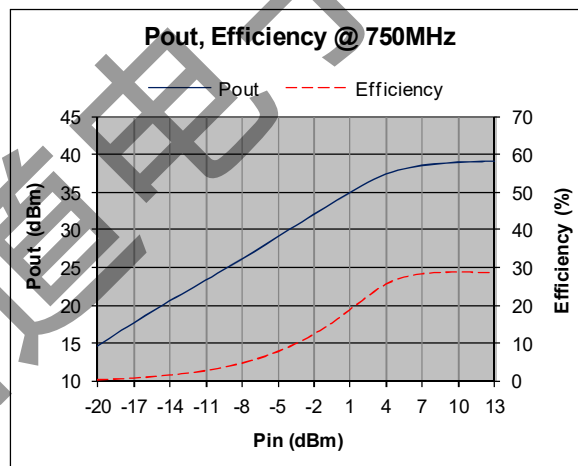
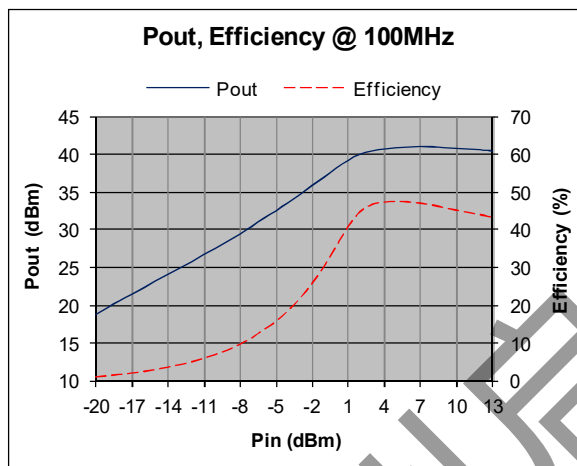
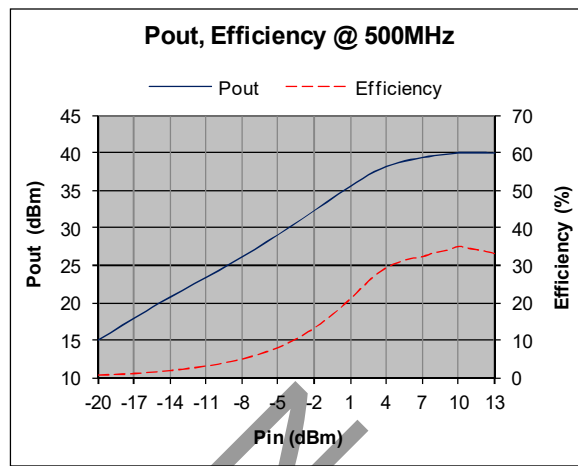
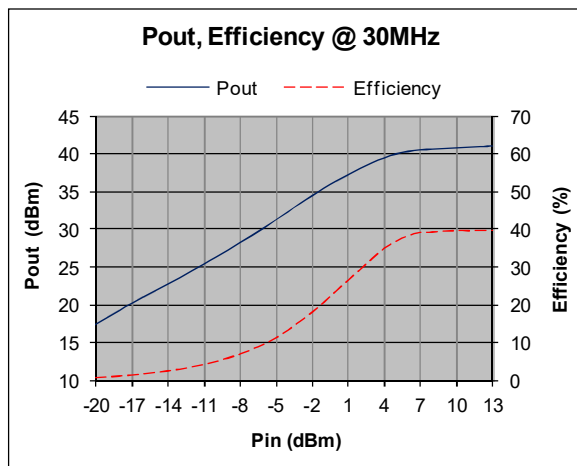
Typical Performance @ +25°C



JPA Series

30-1000MHz 10W RF Power Amplifier

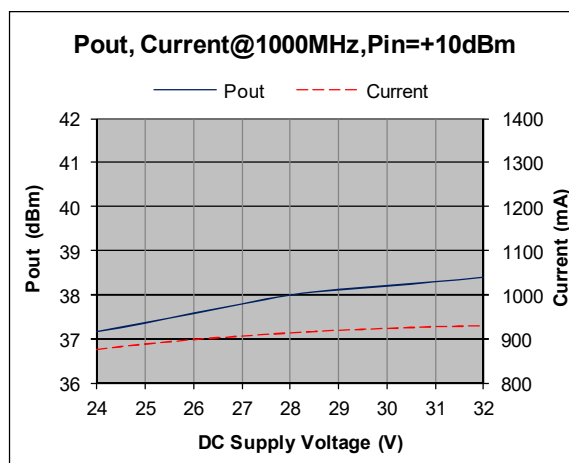
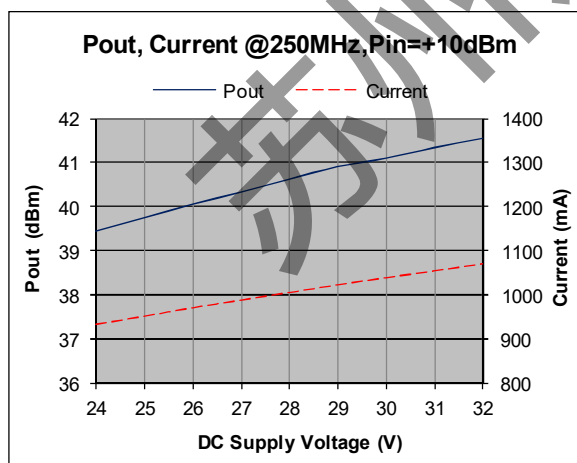
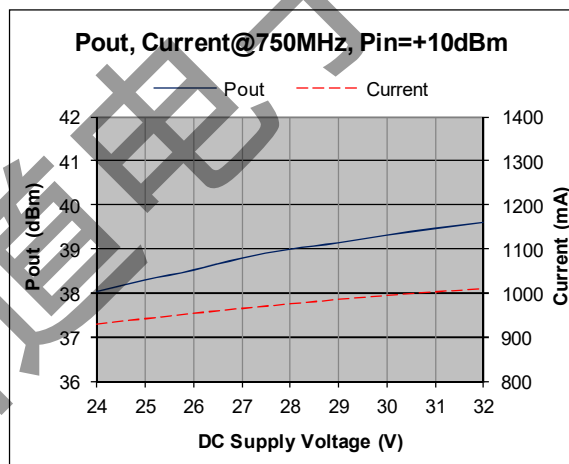
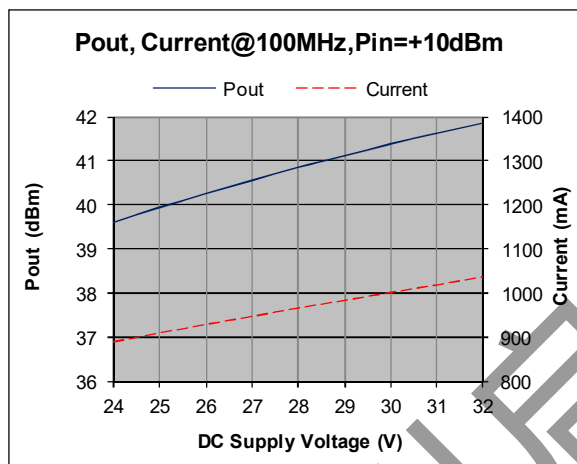
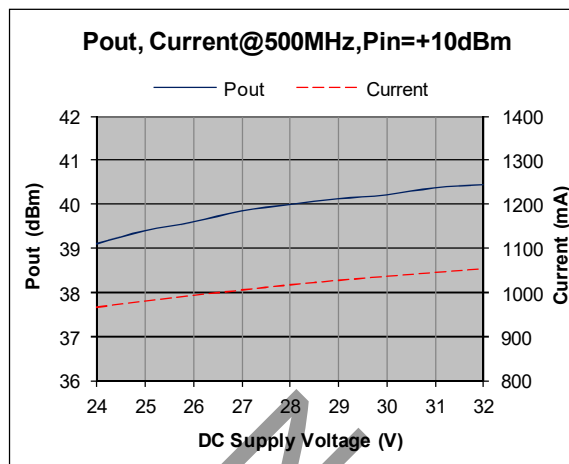
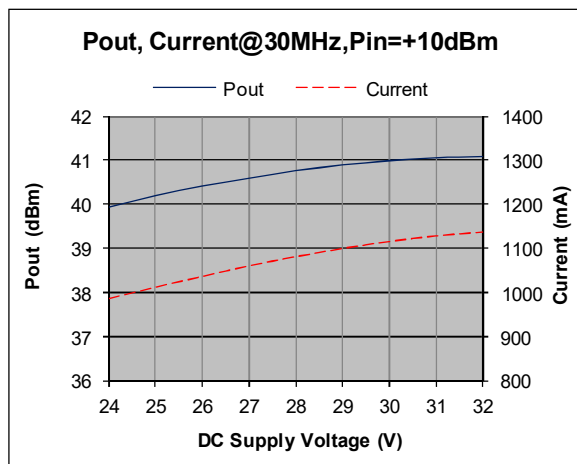
Typical Performance @ +25°C



JPA Series

30-1000MHz 10W RF Power Amplifier

Typical Performance @ +25°C



JPA Series**30-1000MHz 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

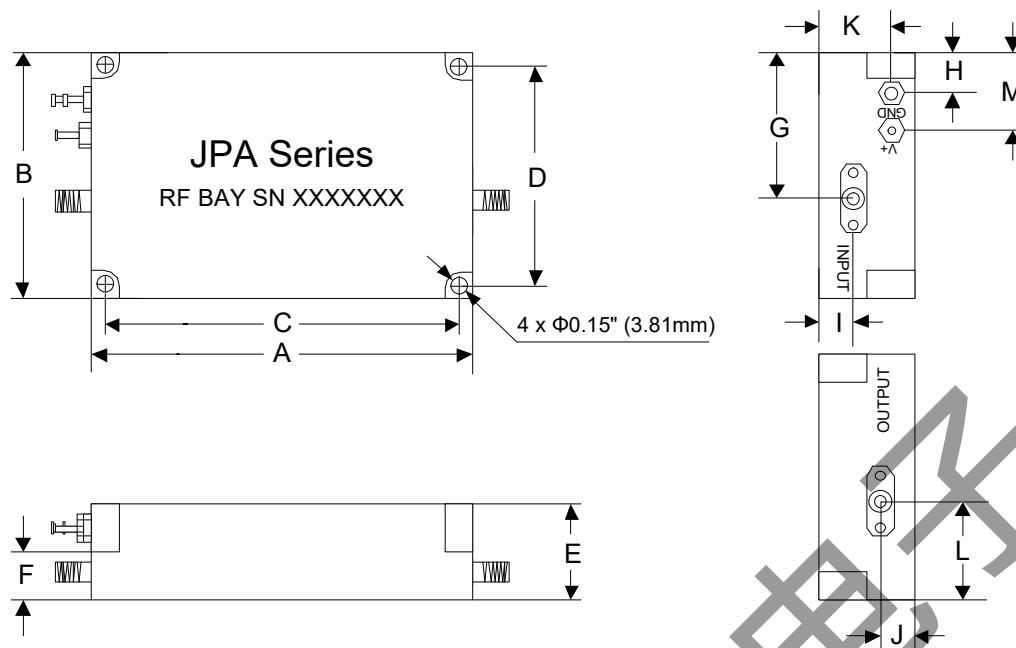
ESD Sensitive Material**Warning and Caution:**

- 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

30-1000MHz 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					