

SPA Series

800-850MHz 8W RF Power Amplifier

Features

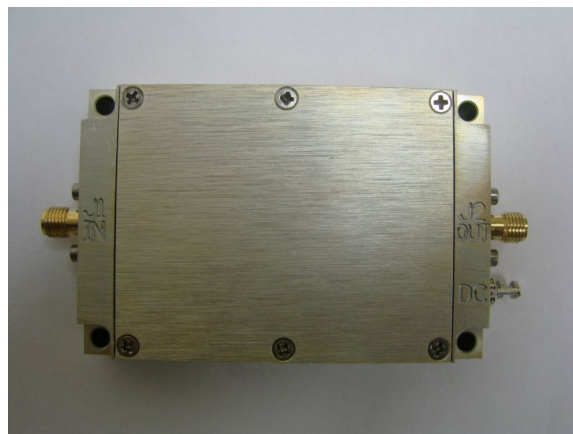
- Frequency Range: 800-850MHz
- Gain: 50dB
- P_{3dB}: +39dBm
- P_{sat}: +40dBm
- DC Power: +15V
- SMA Connector

Performance measured @ 825MHz

Description

SPA-825 is a 8 Watt (+39dBm) output RF Power Amplifier operating from single +15V DC power supply with frequency range in 800-850MHz.

Picture



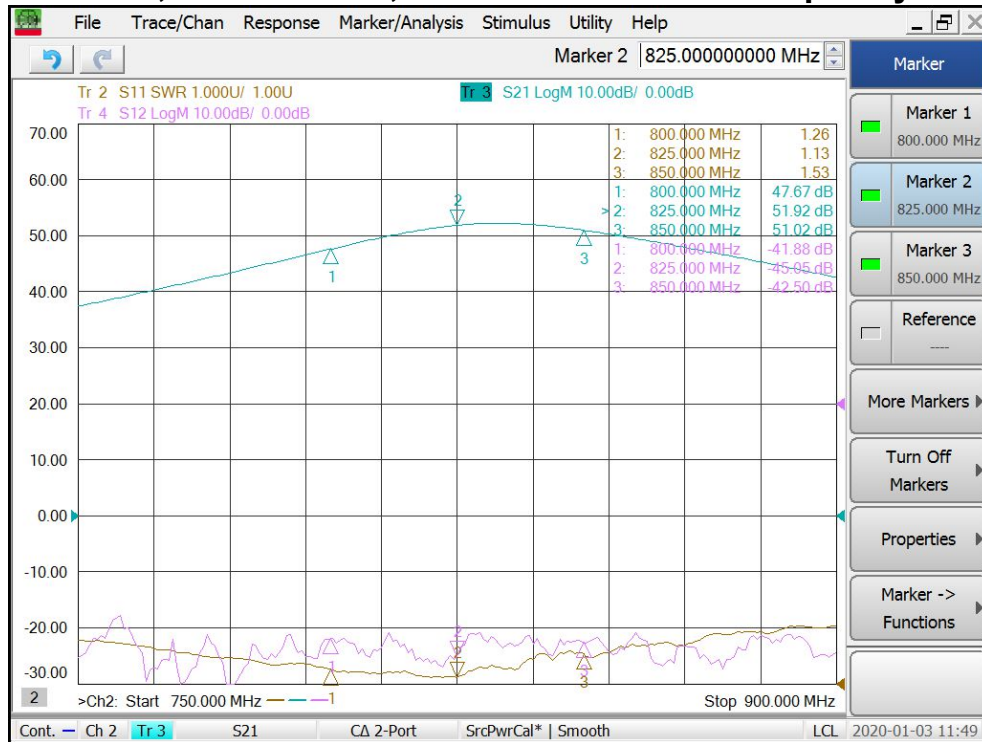
Electrical Specifications @ +25 °C, Z_{IN} = Z_{OUT} = 50 Ω, DC Voltage = +15V

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	800		850
Small Signal Gain @ 825MHz	dB	48	50	
Gain Flatness	dB		± 2.0	± 2.7
Output Power P _{3dB} @ 825MHz	dBm	+39		
Saturated Power P _{sat} @ P _{in} = +5dBm	dBm	+40		
Output IP3	dBm	+43	+44	
Reverse Isolation @ 825MHz	dB	-40	-45	
Noise Figure	dB		8.0	9.0
Efficiency at P _{out} = +39dBm	%	35	40	
VSWR Input @ 825MHz			1.2:1	1.5:1
DC Power Supply	V		+15	+17
Supply Current No RF Input	mA		780	830
P _{sat} =+40dBm	mA		2100	2300
Size (Excluding SMA Connector)	inch	3.000" x 2.000" x 0.625"		
Weight	Oz.	4.8 (135g)		

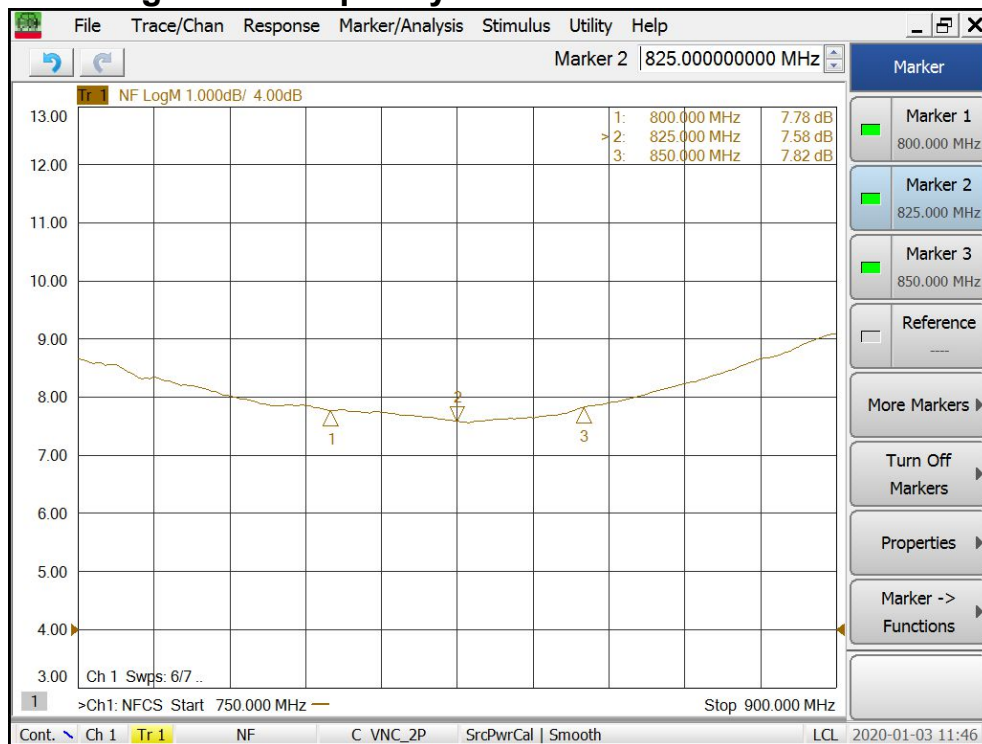
SPA Series

800-850MHz 8W RF Power Amplifier

Gain S21, Isolation S12, Return Loss S11 vs Frequency



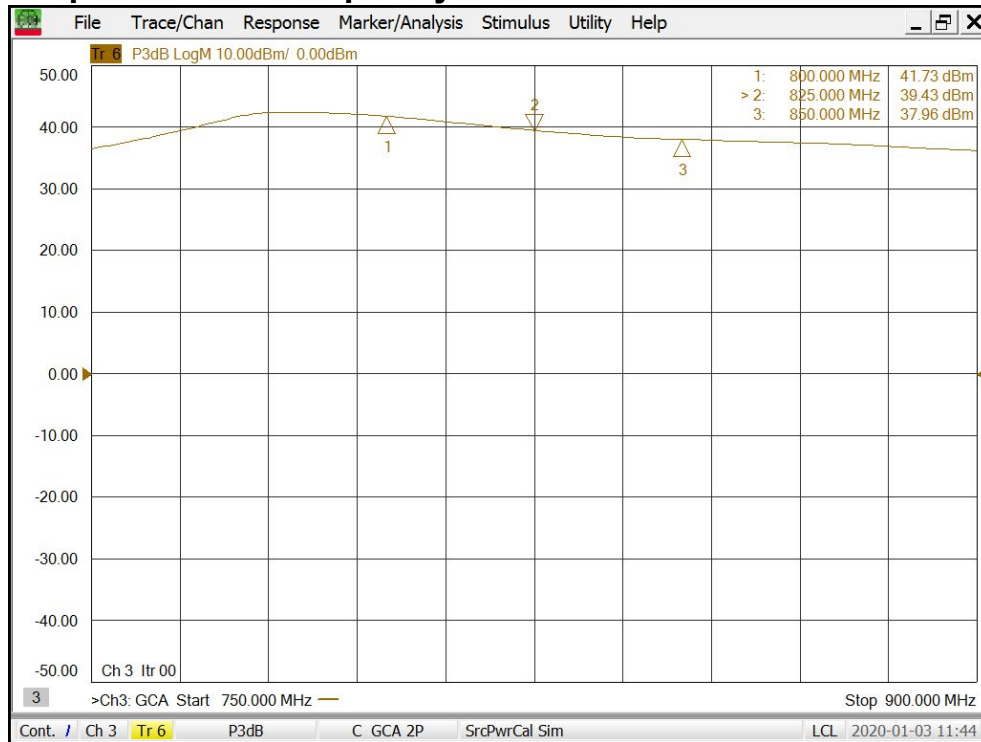
Noise Figure vs Frequency



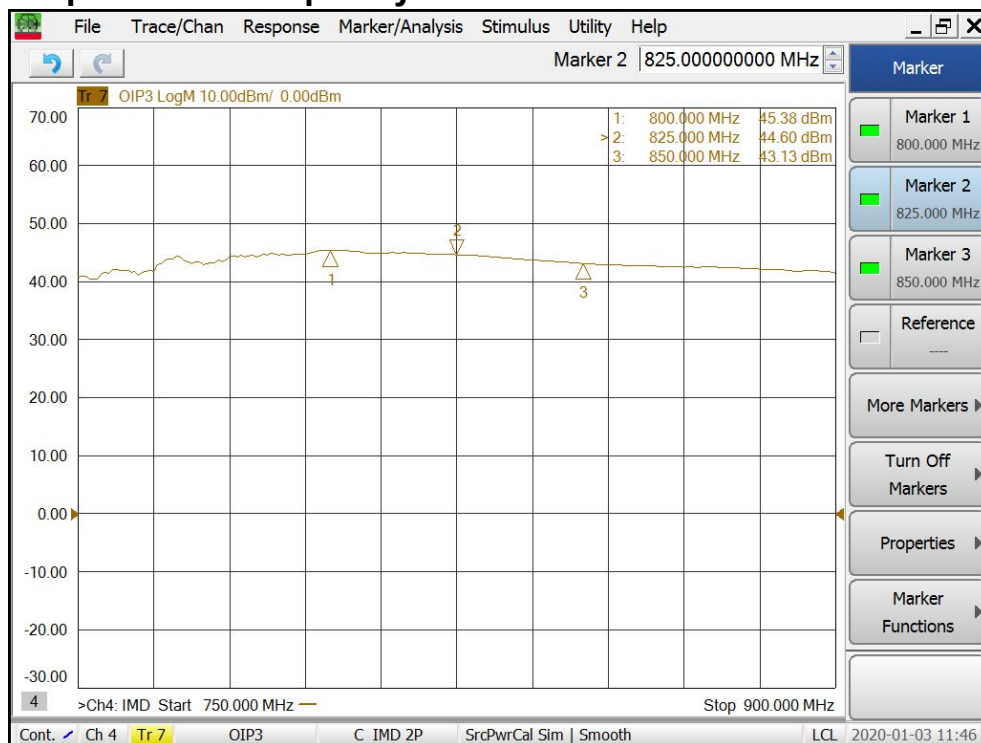
SPA Series

800-850MHz 8W RF Power Amplifier

Output P3dB vs Frequency



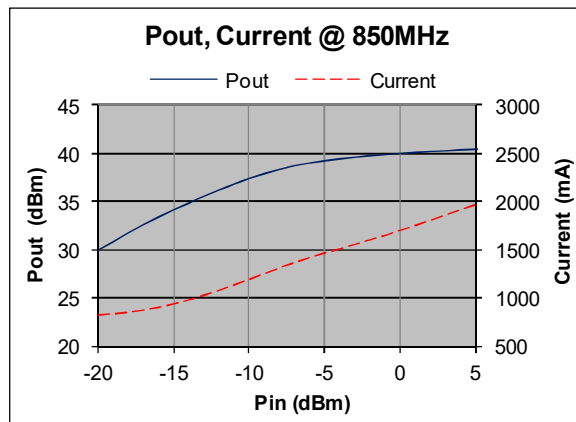
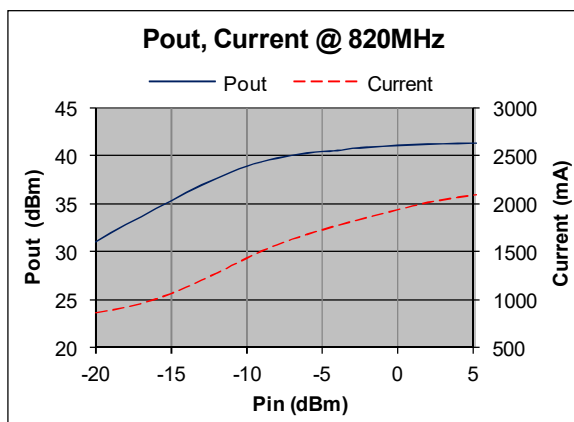
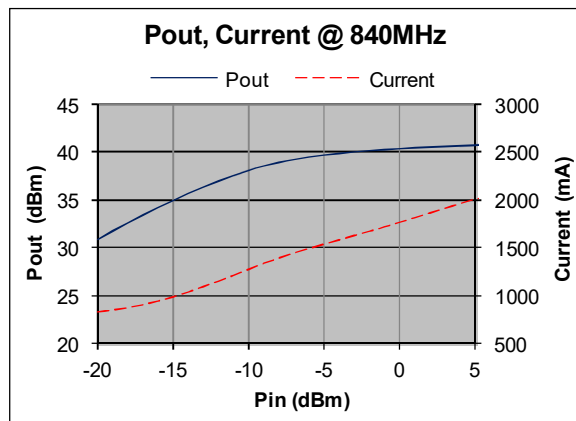
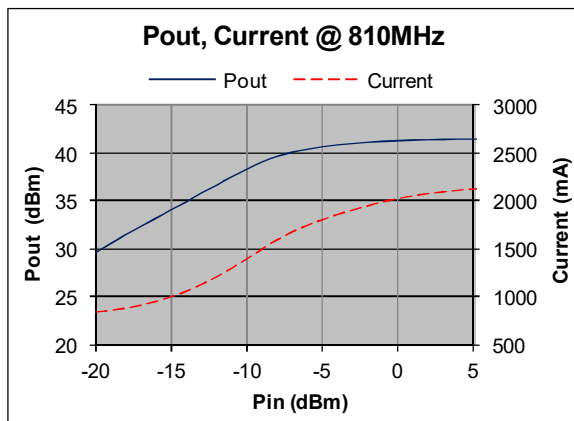
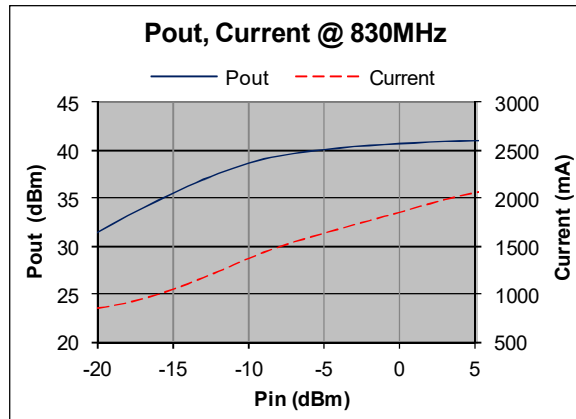
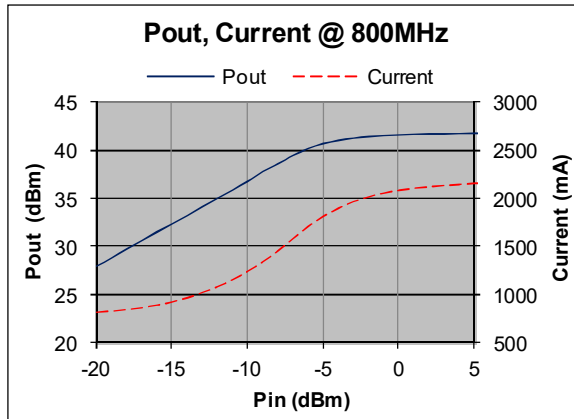
Output IP3 vs Frequency



SPA Series

800-850MHz 8W RF Power Amplifier

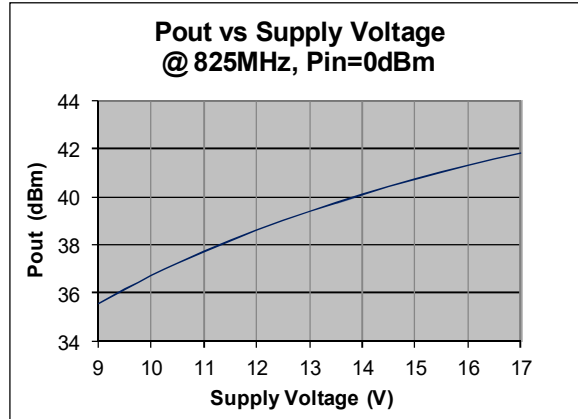
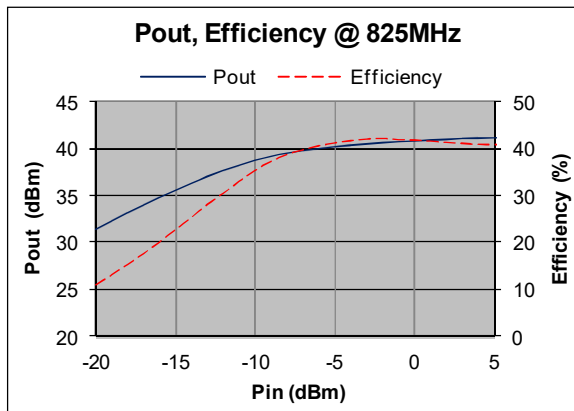
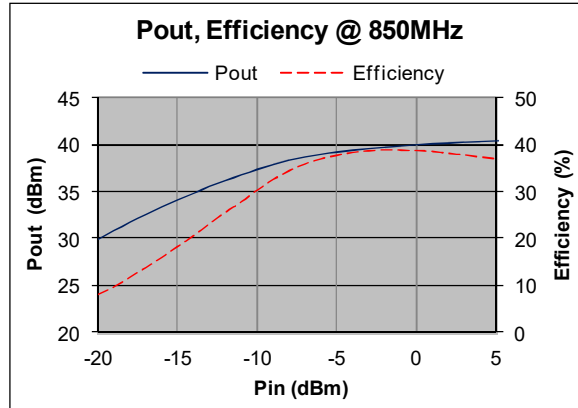
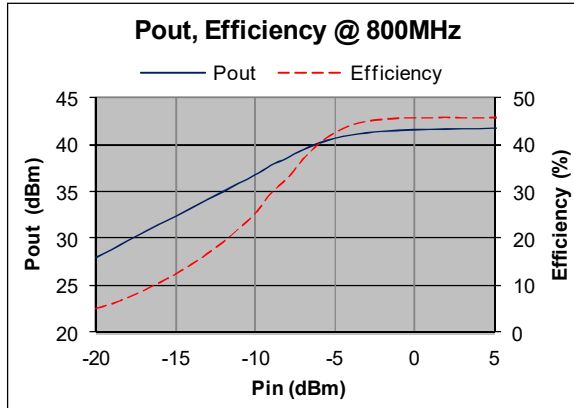
Typical Performance @ +25 °C



SPA Series

800-850MHz 8W RF Power Amplifier

Typical Performance @ +25 °C



SPA Series

800-850MHz 8W RF Power Amplifier

Absolute Maximum Ratings

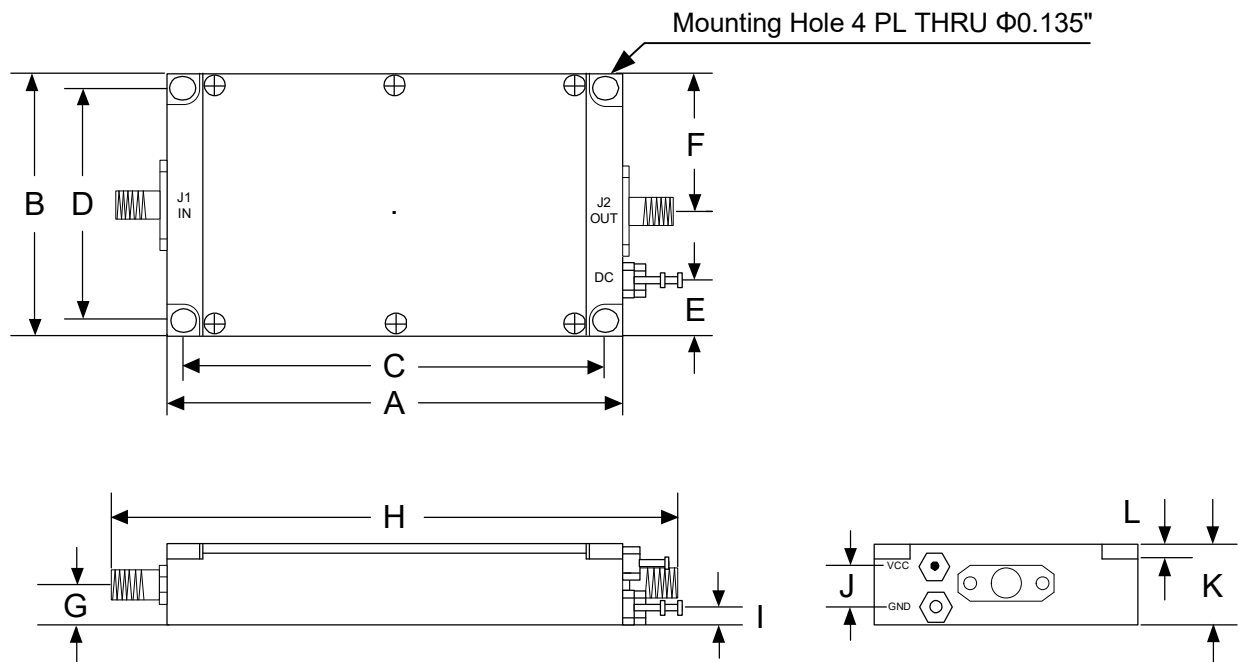
Parameter	Absolute Maximum
RF Input Power	+15dBm
DC Supply Voltage	+18V
Operating Temperature	-30 °C to +65 °C
Storage Temperature	-55 °C to +125 °C

ESD Sensitive Material



Warning: adequate heatsink required for continuous operation, keep amplifier base plate temperature under +65

Outline



	A	B	C	D	E	F	G	H	I
Inch	3.000	2.000	2.750	1.750	0.500	1.000	0.300	3.750	0.125
mm	76.20	50.80	69.85	44.45	12.70	25.40	7.62	95.25	3.18
	J	K	L						
Inch	0.300	0.625	0.150						
mm	7.62	15.88	3.81						