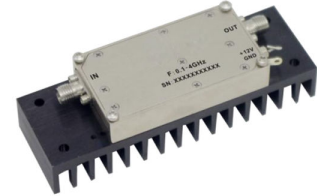




Ultra Wide Band Low Noise Amplifier 0.1GHz~4GHz

Features

- Gain: 38 dB Typical
- Noise Figure: 2.2 dB Typical
- P1dB Output Power: +25dBm Typical
- Supply Voltage: 12 V



Typical Applications

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

RF Microwave & VSAT
Fiber Optics

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.1		2	2		4	GHz
Gain	37	38		37	38		dB
Gain Flatness		±0.5	±1.0		±0.5	±1.0	dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0			±1.5		dB
Noise Figure		2.2	3.5		2.5	4.0	dB
Input VSWR		1.4	2.0		1.8	2.2	: 1
Output VSWR		1.4	1.8		1.6	2.2	: 1
Output 1dB Compression Point (P1dB)	23	25		22	24		dBm
Saturated Output Power (Psat)		27			26		dBm
Output Third Order Intercept (OIP3)		34			33		dBm
Supply Current (Vcc=+12V)		330	400		330	400	mA
Isolation S12		-60			-60		dB

Weight	Net	1.5 ounces(Max.)	Impedance	50ohms
	Including Heat sink	3.5 ounces		
Input / Output Connectors		SMA-Female	Material	Aluminum
Finish	Gold Plated	Package Sealing	Epoxy Sealed (Standard)	
			Hermetically Sealed (Option with extra charge)	



Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (RFIN)	-7dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing

Power OFF Procedure

Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

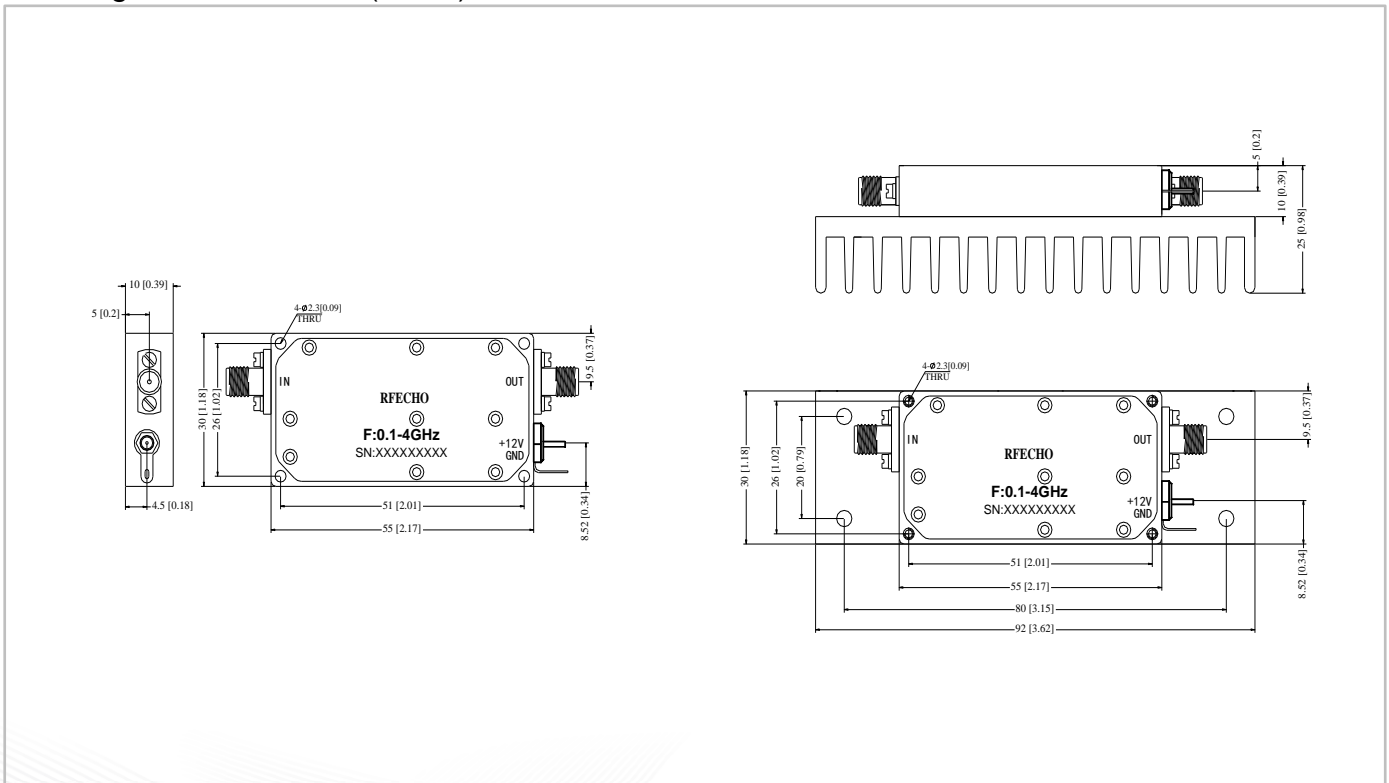
Environmental Specifications

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Outline Drawing:

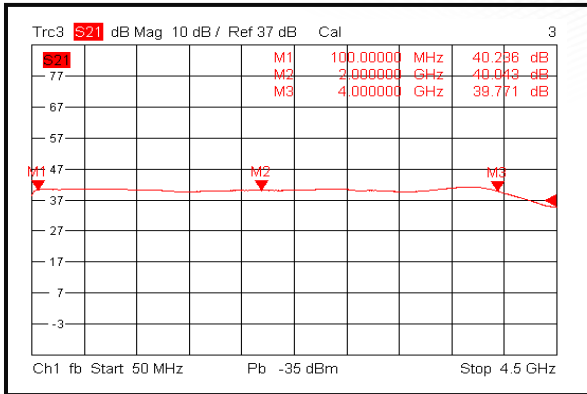
All Dimensions in mm (inches)
Housing Tolerances ± 0.1 (0.004)

Heat Sink required during operation(Sold Separately)

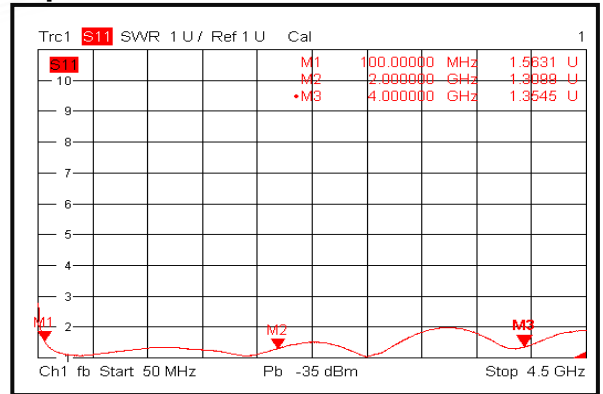




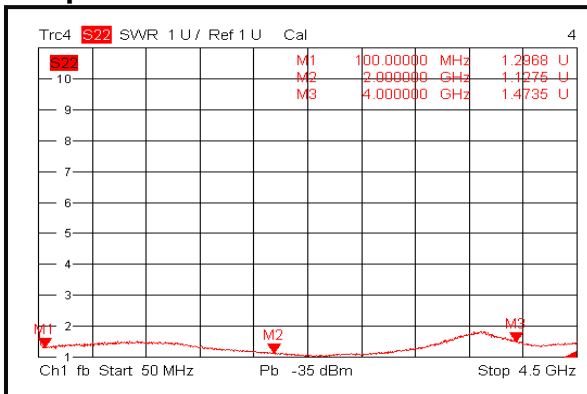
Gain @+25°C



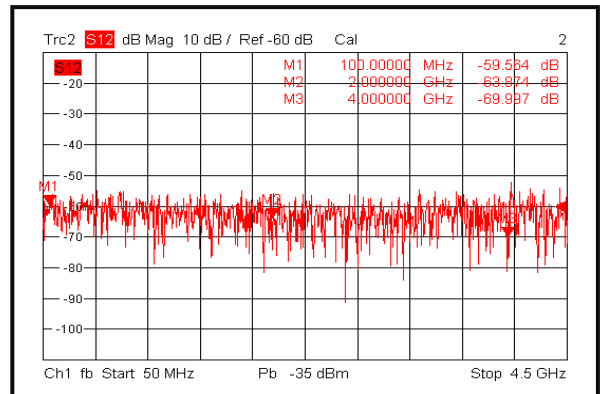
Input VSWR @+25°C



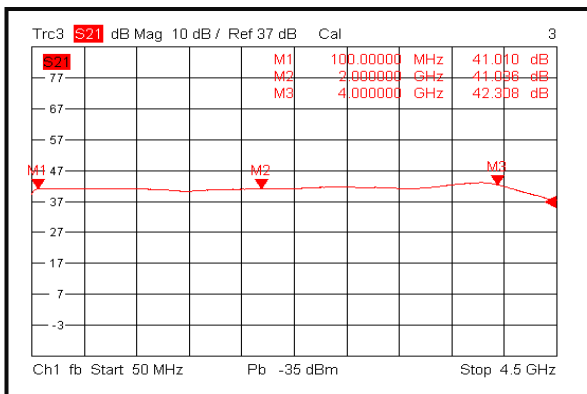
Output VSWR @+25°C



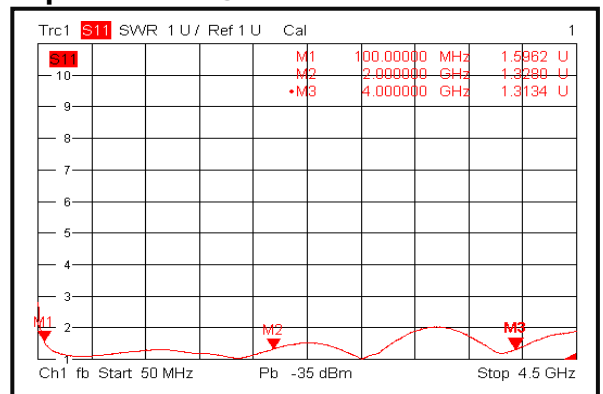
Isolation @+25°C



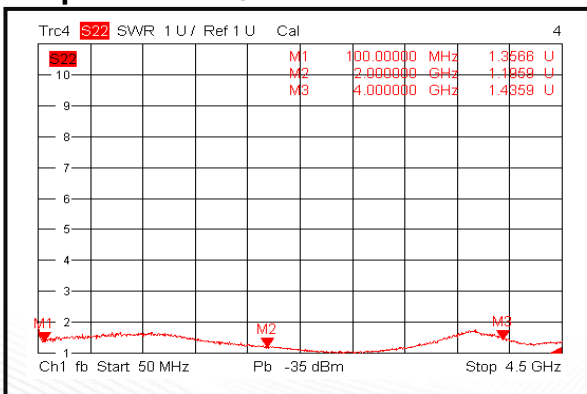
Gain @-40°C



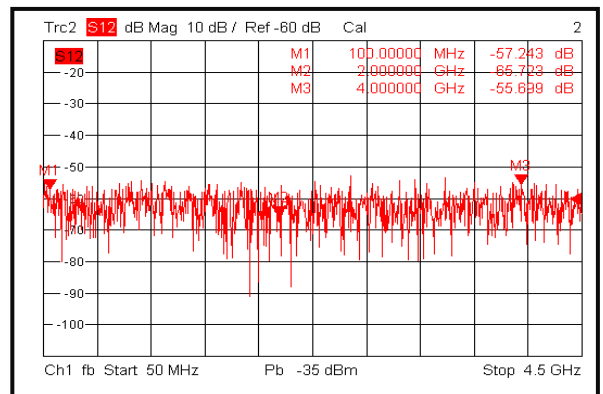
Input VSWR @-40°C



Output VSWR @-40°C

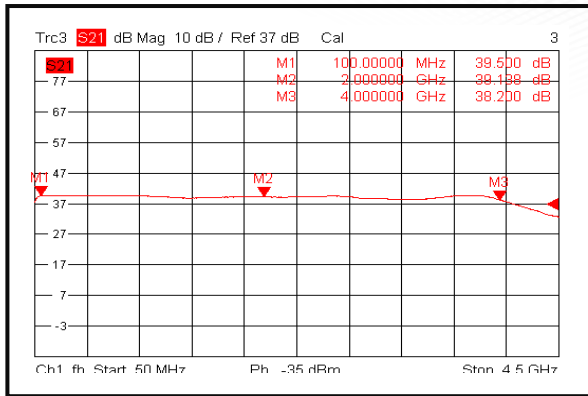


Isolation @-40°C

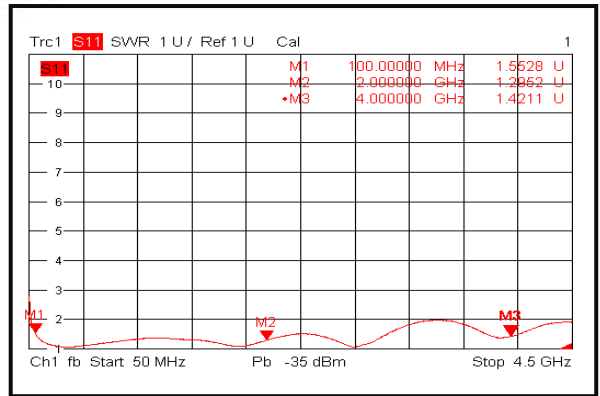




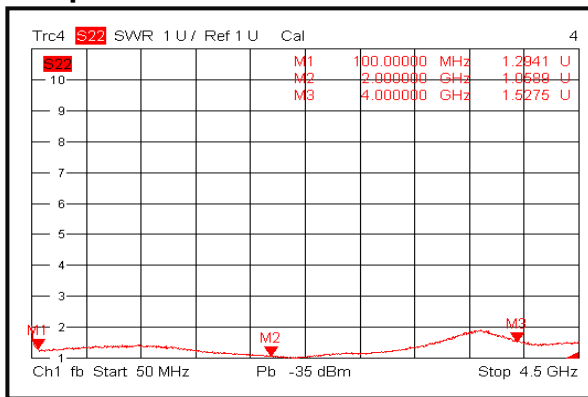
Gain @+85°C



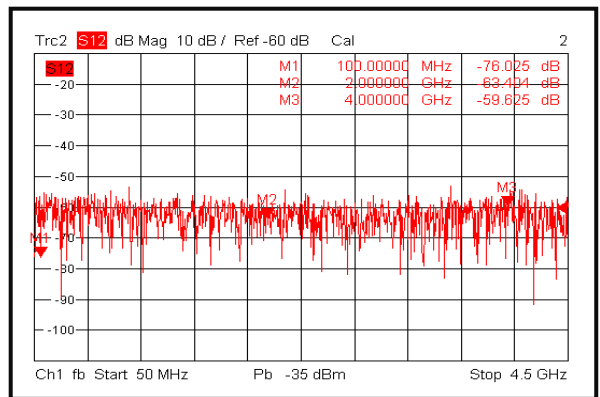
Input VSWR @+85°C



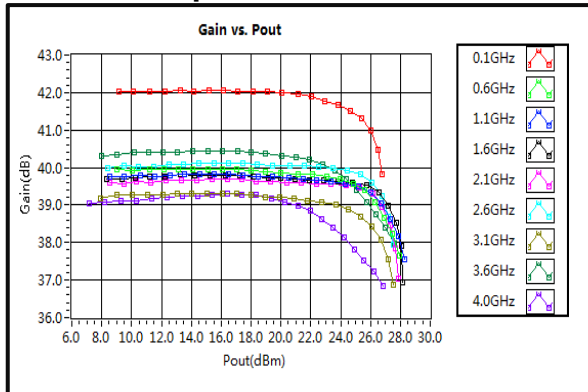
Output VSWR @+85°C



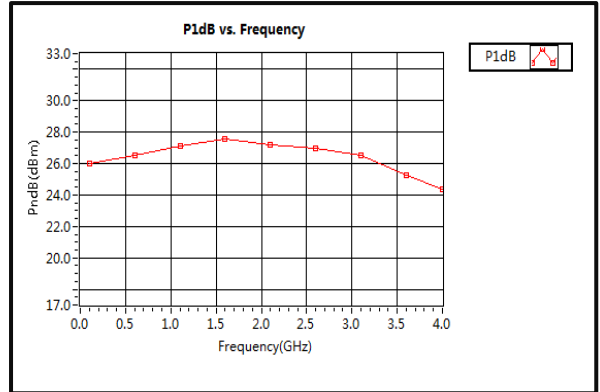
Isolation @+85°C



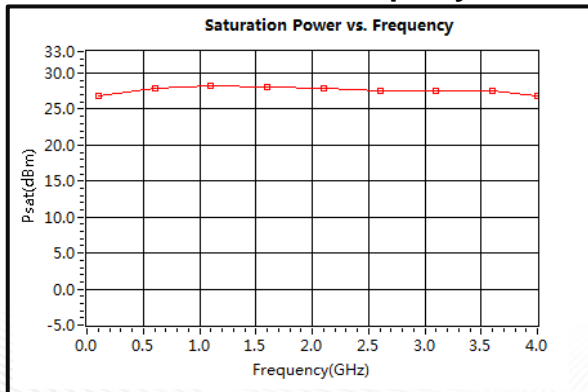
Gain vs. Output Power



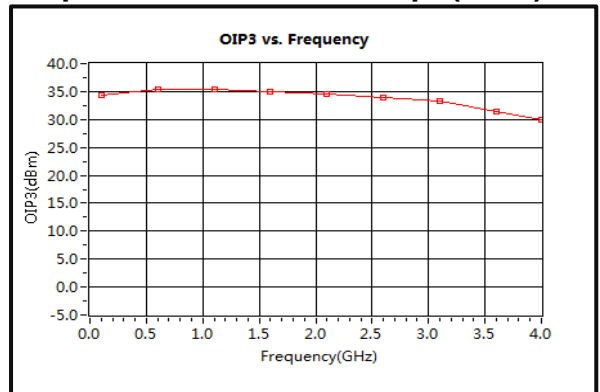
P1dB vs. Frequency



Saturation Power vs. Frequency

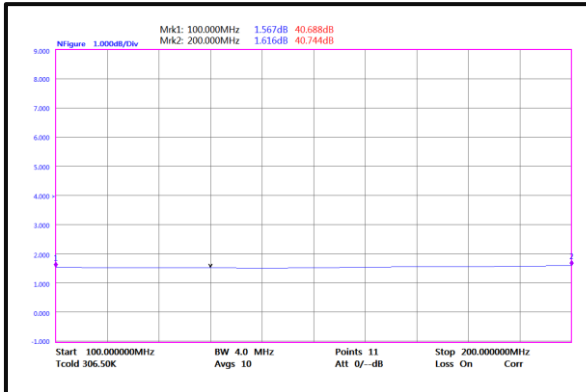


Output Third Order Intercept (OIP3)

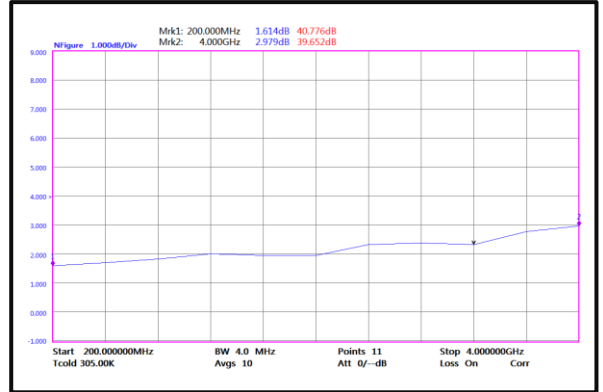




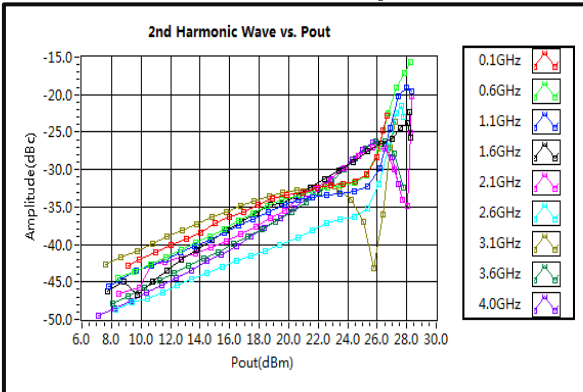
Noise Figure (100-200MHz)



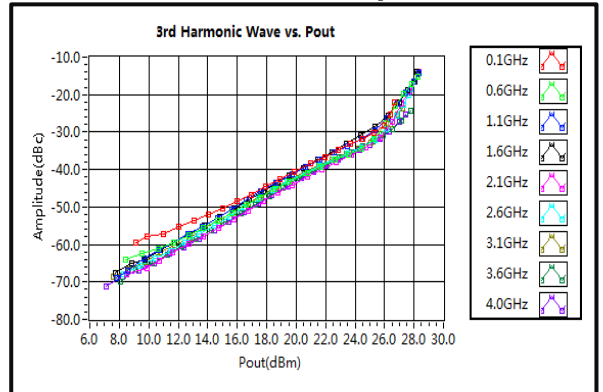
Noise Figure (0.2-4GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

