Ultra Wide Band Low Noise Amplifier 0.1GHz~15GHz

Features

- Gain: 45dB Typical
- Noise Figure: 2.2dB Typical
- P1dB Output Power: 21dBm Typical
- Supply Voltage: +12V @ 300mA
- 50 Ohm Matched Input / Output
- Size: 1.379” x 1.891” x0.473”

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		8	8		15	GHz
Gain	45	47		43	45		dB
Gain Flatness		±1.5			±1.5		dB
Gain Variation Over Temperature (-40ºC~+85ºC)		±1.0			±1.5		dB
Noise Figure		2.2	3.5		2.2	3.0	dB
Input VSWR		1.6	2.3		1.6	2.0	: 1
Output VSWR		1.6	2.0		1.6	2.0	: 1
Output 1dB Compression Point (P1dB)	20	22		15	20		dBm
Saturated Output Power (Psat)		23			21		dBm
Output Third Order Intercept (OIP3)		25			23		dBm
Supply Current (Idd) (Vcc=+12V)		300			300		mA
Isolation S12		-60			-60		dB

Weight	1.76 ounces	Impedance	50ohms
Input / Output Connectors	SMA-Female	Material	Aluminum
Finish	Nickel Plated	Package Sealing	Epoxy Sealing (Standard)
			Hermetically Sealed (Option with extra charge)

Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (RFIN)	-20dBm

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

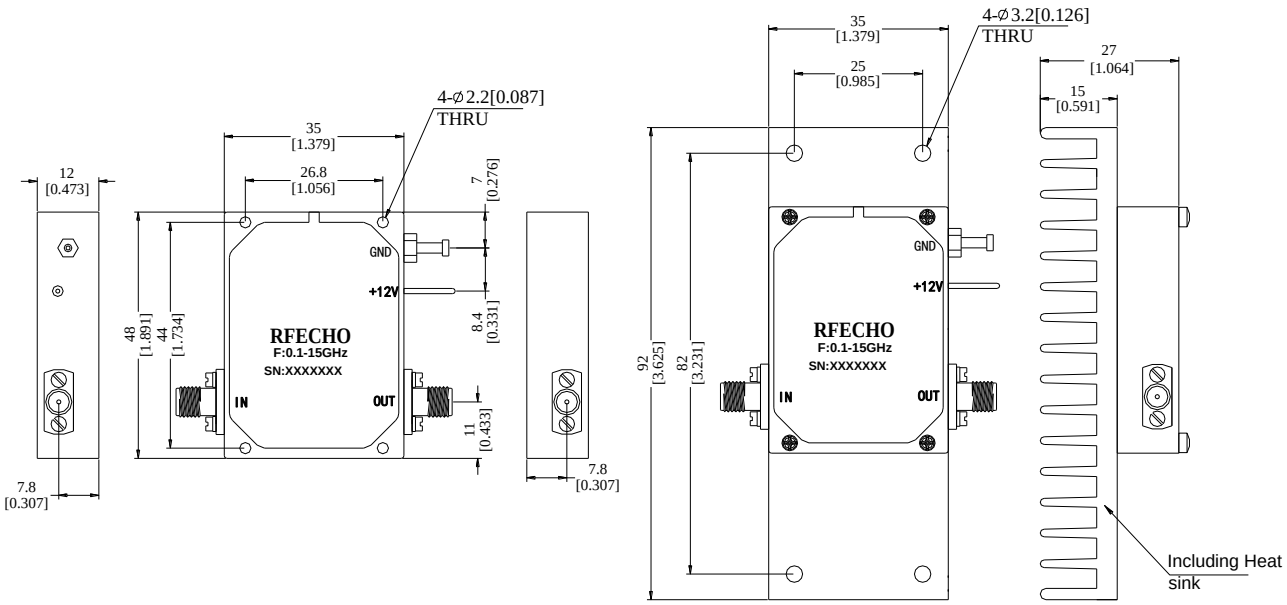
Environmental Specifications

Operational Temperature	-40ºC~+85ºC
Storage Temperature	-50ºC~+105ºC
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 35ºc, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions

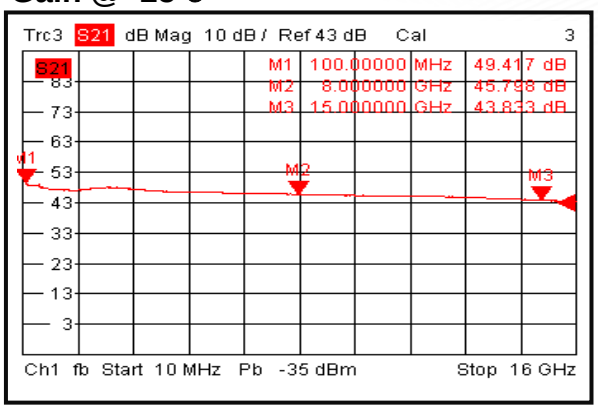
Outline Drawing:

All Dimensions in mm (inches)

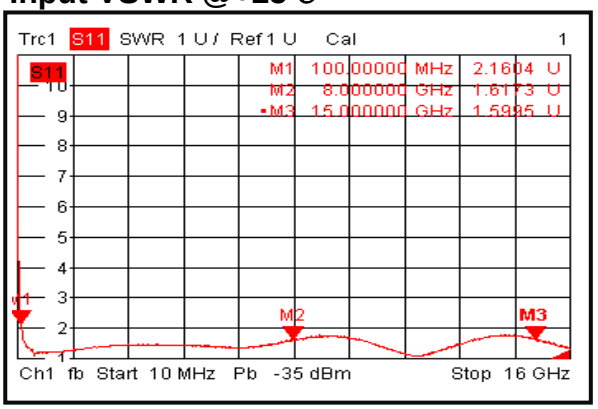
Heat Sink required during operation(Sold Separately)



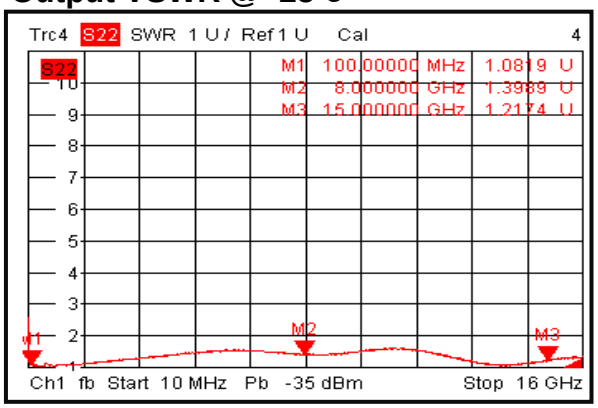
Gain @+25℃



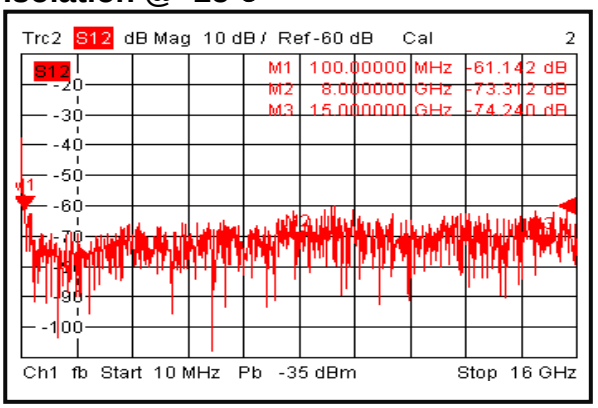
Input VSWR @+25℃



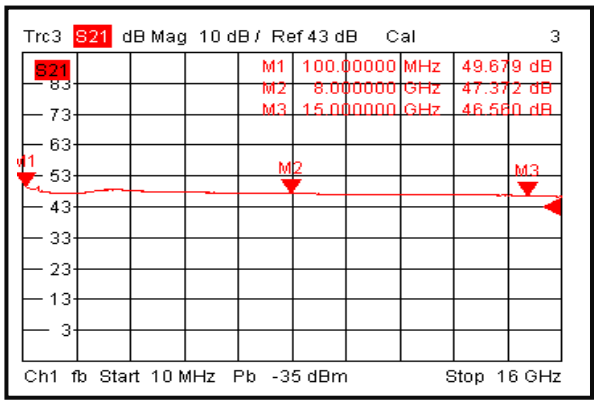
Output VSWR @+25℃



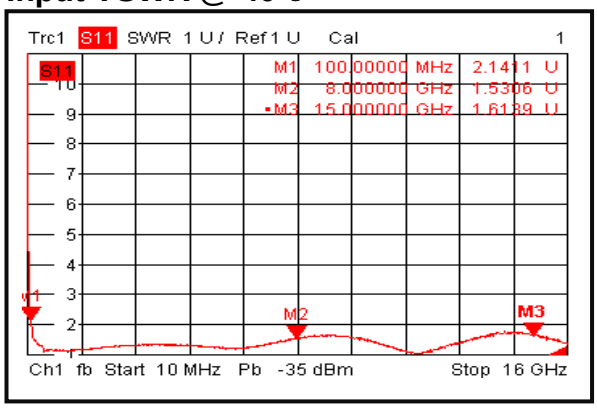
Isolation @+25℃



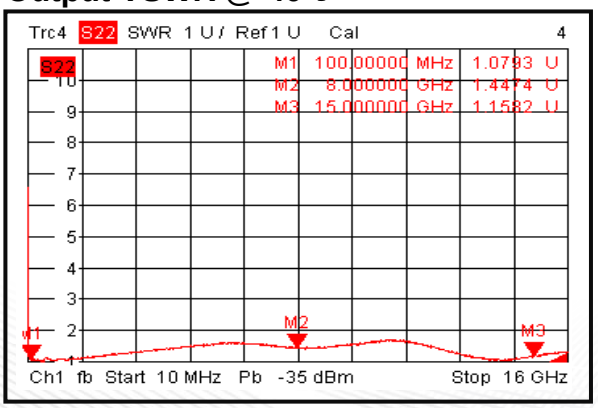
Gain @-40℃



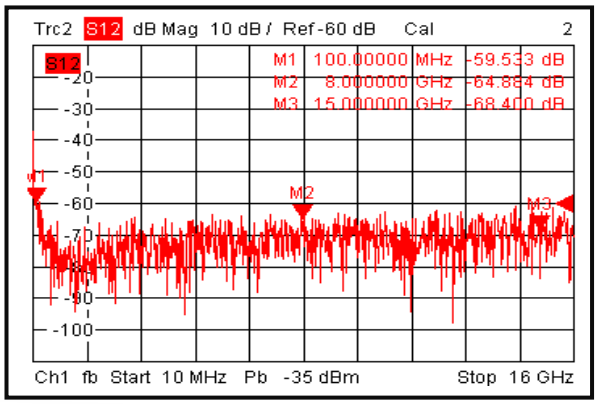
Input VSWR @-40℃



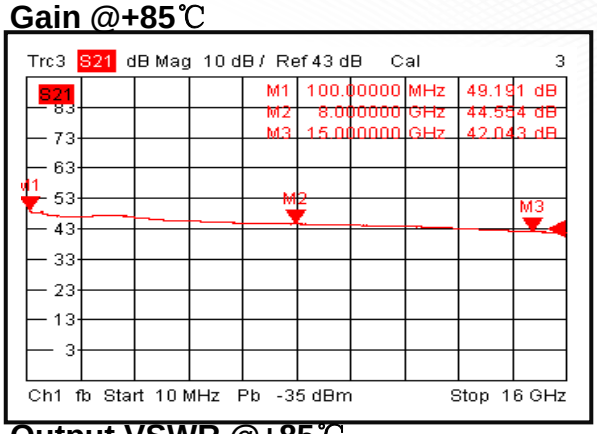
Output VSWR @-40℃



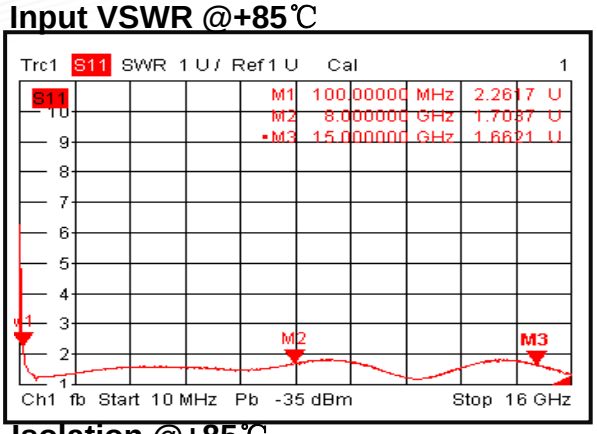
Isolation @-40℃



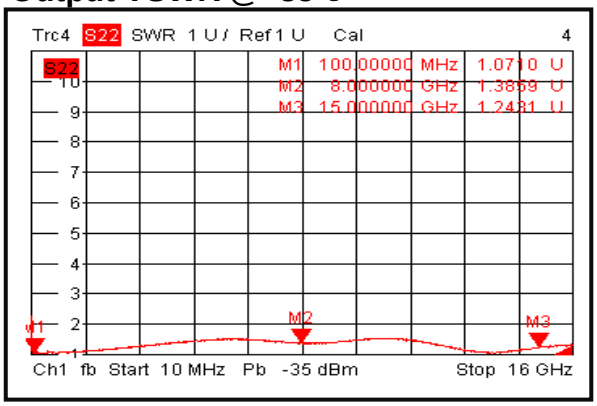
Gain @+85℃



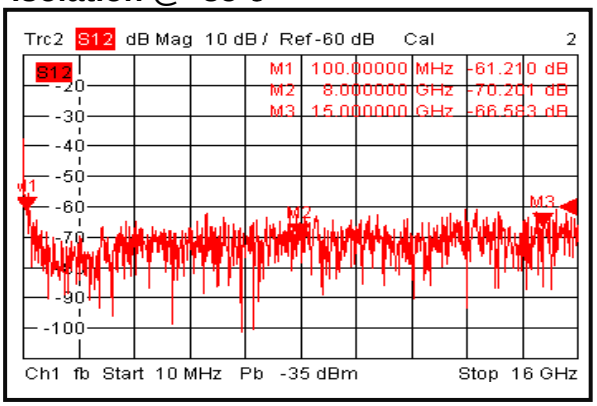
Input VSWR @+85℃



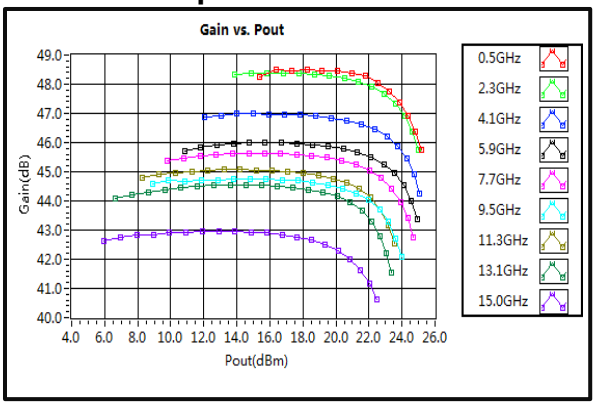
Output VSWR @+85℃



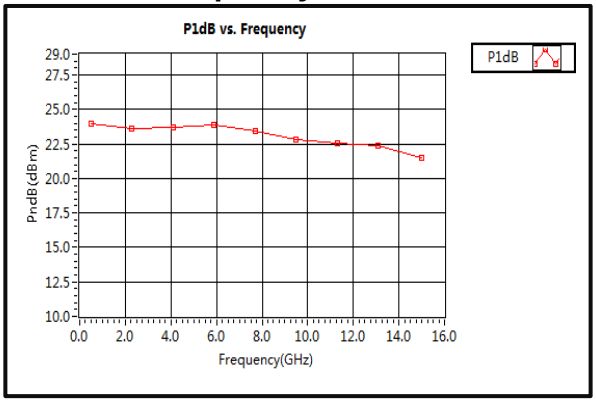
Isolation @+85℃



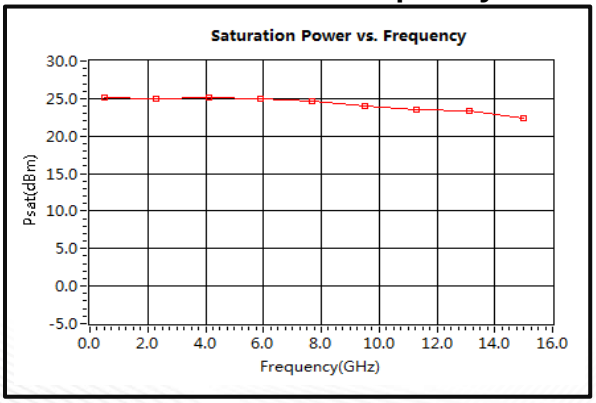
Gain vs. Output Power



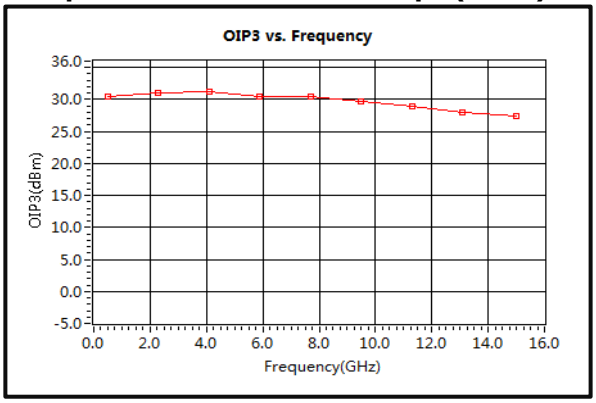
P1dB vs. Frequency



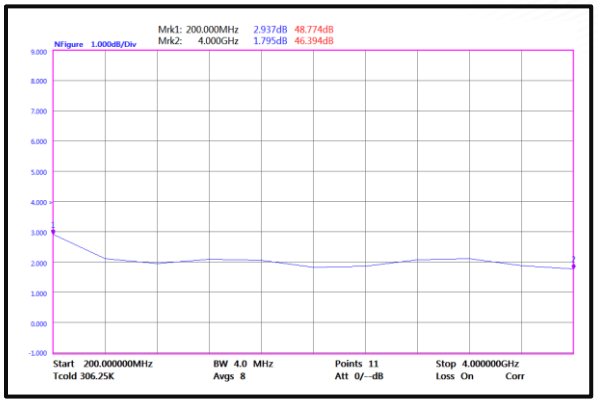
Saturation Power vs. Frequency



Output Third Order Intercept (OIP3)

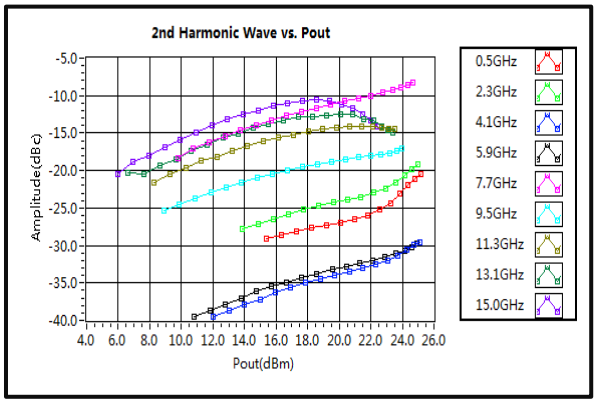


Noise Figure(0.2-4GHz)

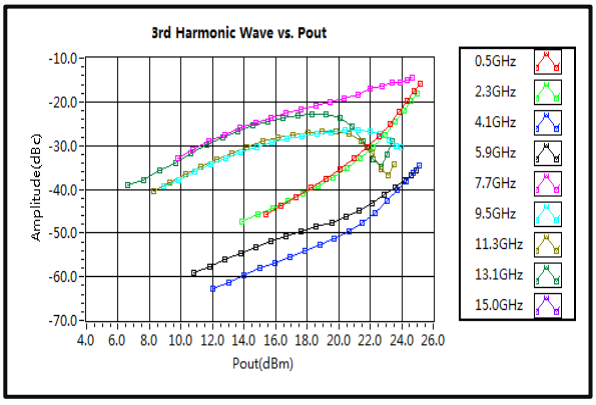


Noise Figure(4-15GHz)

2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power