



Ultra Wide Band Low Noise Amplifier 1GHz~12GHz

Features

- Gain: 17dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +18dBm Typical
- Supply Voltage: +5V



Typical Applications

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

RF Microwave & VSAT
Fiber Optics

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	1		6	6		12	GHz
Gain	15	17		14	16		dB
Gain Flatness		± 0.8			± 0.8		dB
Gain Variation Over Temperature (-40°C~+85°C)		± 0.6			± 0.6		dB
Noise Figure		1.6	2.2		2.0	2.5	dB
Input VSWR		1.5			1.6		: 1
Output VSWR		1.4			1.4		: 1
Output 1dB Compression Point (P1dB)	15	18		12	16		dBm
Saturated Output Power (Psat)		19			15		dBm
Output Third Order Intercept (OIP3)		23			27		dBm
Supply Current (Vdd=+5V)		70	85		70	85	mA
Isolation S12		-25			-27		dB

Weight	0.35ounces	Impedance	50ohms
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	+5.5V
RF Input Power (RFIN)	+12dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect -5V biasing
Step 4	Connect +5V biasing

Power OFF Procedure

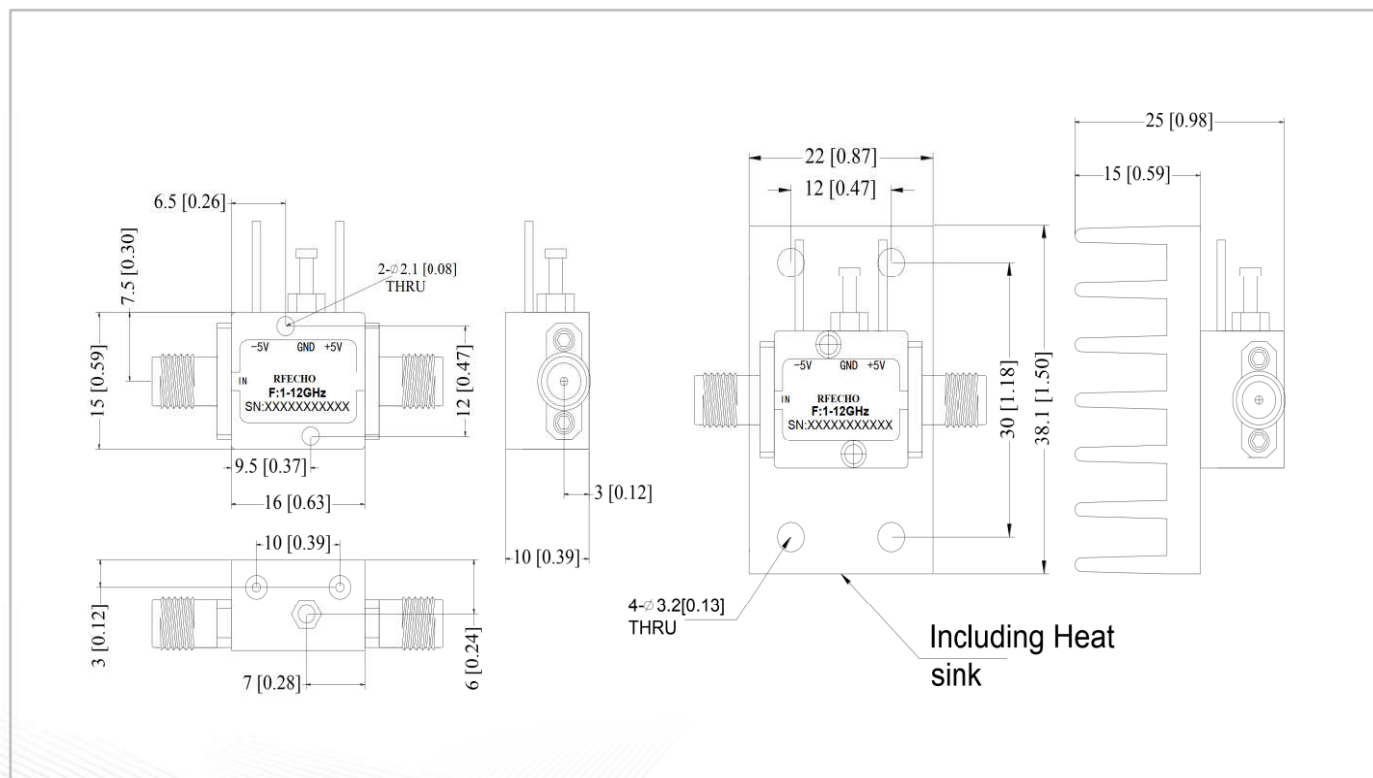
Step 1	Turn off +5V biasing
Step 2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

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

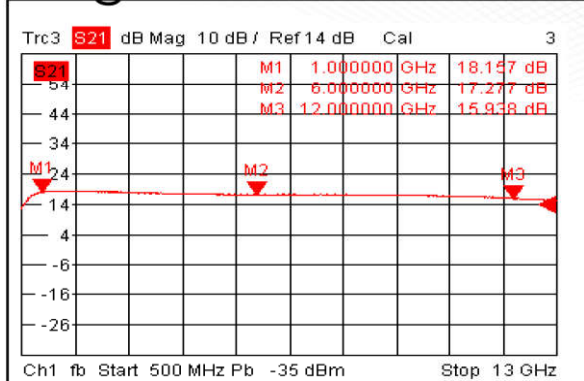
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

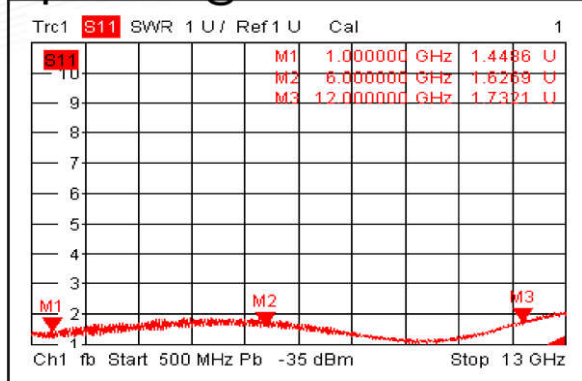




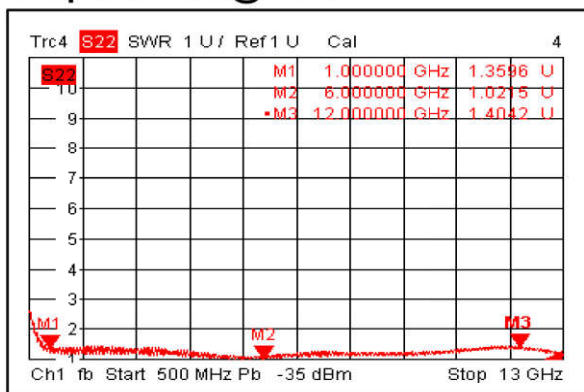
Gain @+25°C



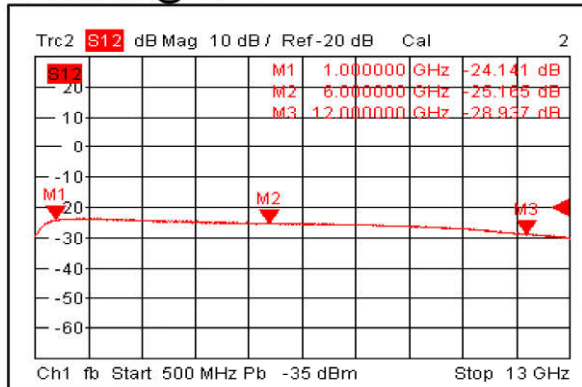
Input VSWR @+25°C



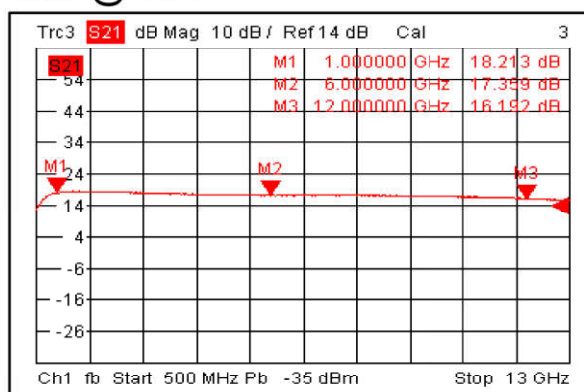
Output VSWR @+25°C



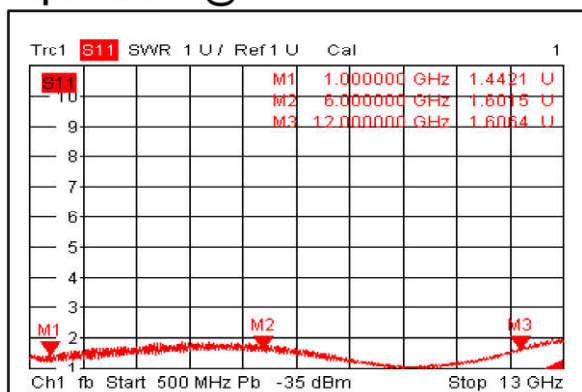
Isolation @+25°C



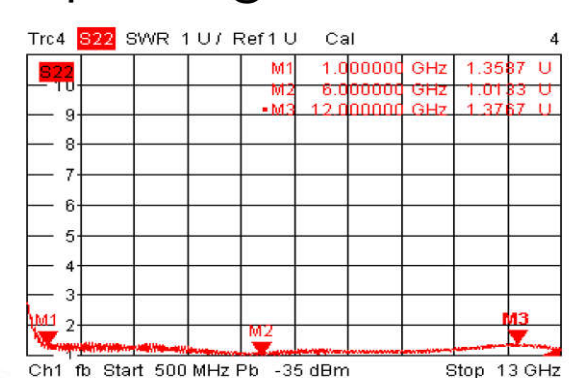
Gain @-40°C



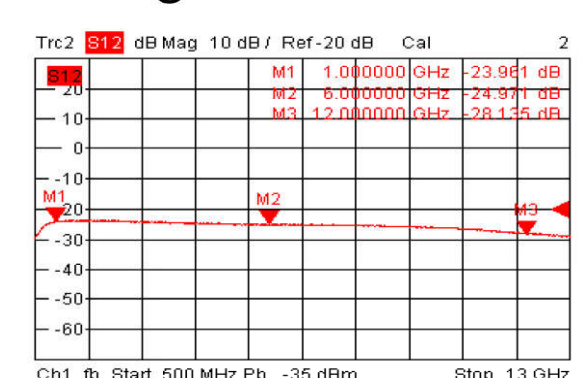
Input VSWR @-40°C



Output VSWR @-40°C

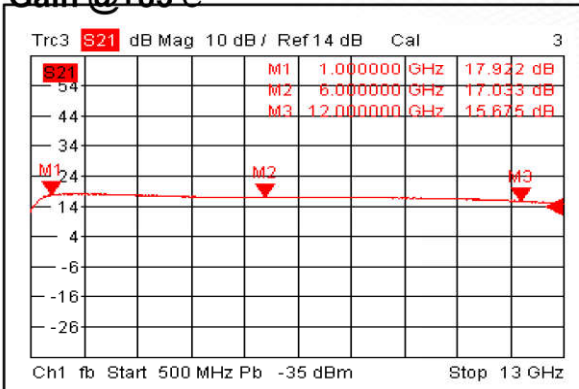


Isolation @-40°C

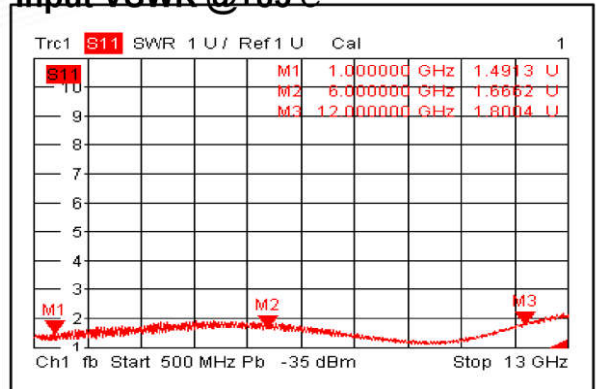




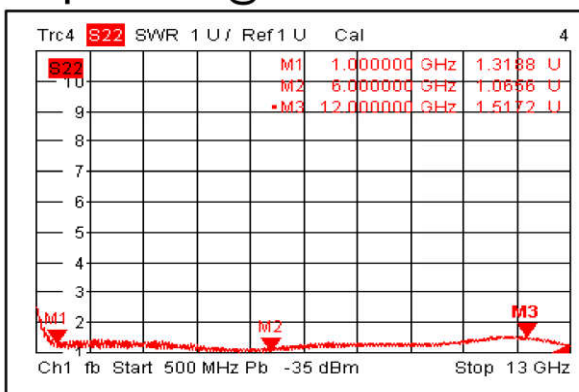
Gain @+85°C



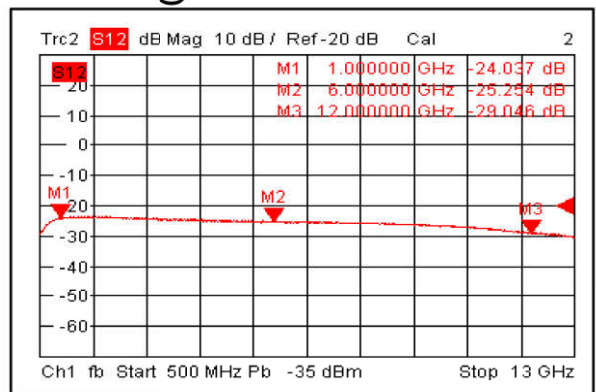
Input VSWR @+85°C



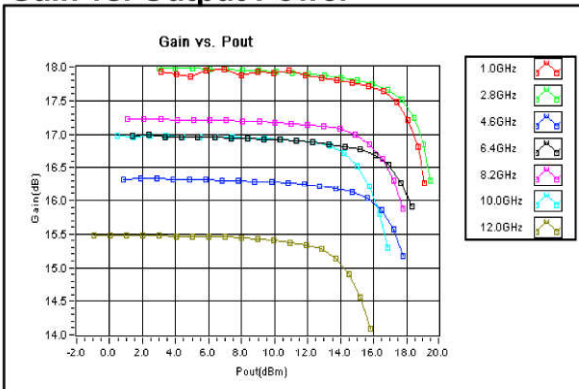
Output VSWR @+85°C



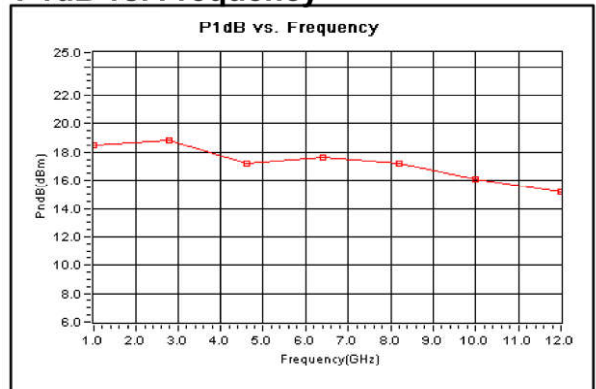
Isolation @+85°C



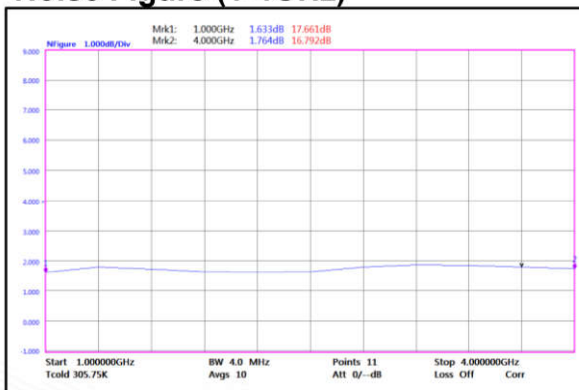
Gain vs. Output Power



P1dB vs. Frequency



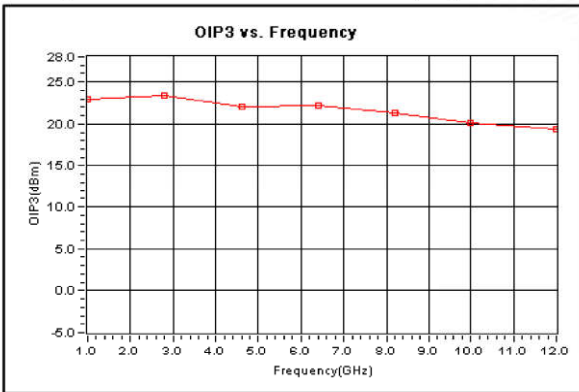
Noise Figure (1-4GHz)



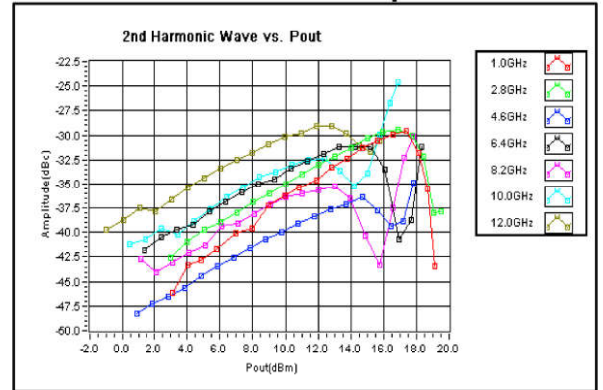
Noise Figure (4-12GHz)



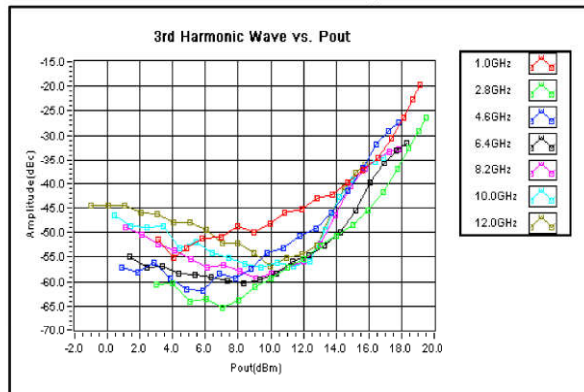
Output Third Order Intercept (OIP3)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

