



# Wide Band Low Noise Amplifier 12GHz~18GHz

## Features

- Gain: 19dB Typical
- Noise Figure: 1.8dB Typical
- P1dB Output Power: +15dBm Typical
- Supply Voltage: +4V @ 90mA
- 50 Ohm Matched Input / Output



## Typical Applications

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

RF Microwave & VSAT  
Fiber Optics

Parameter	Min.	Typ.	Max.	Units
Frequency Range	12		18	GHz
Gain	17	19		dB
Gain Flatness		±0.6	±1.0	dB
Gain Variation Over Temperature(-40°C~+85°C)		±0.8		dB
Noise Figure		1.8	2.5	dB
Input VSWR		1.8	2.0	: 1
Output VSWR		1.8	2.0	: 1
Output 1dB Compression Point (P1dB)	14	16		dBm
Saturated Output Power (Psat)		17		dBm
Output Third Order Intercept (OIP3)		24		dBm
Supply Current (I <sub>dd</sub> ) (V <sub>cc</sub> =+4V)		90	120	mA
Isolation S12		-36		dB

Weight	0.35 ounces	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	+4.5V
RF Input Power	+10dBm

### Biassing Up Procedure

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

### Power OFF Procedure

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

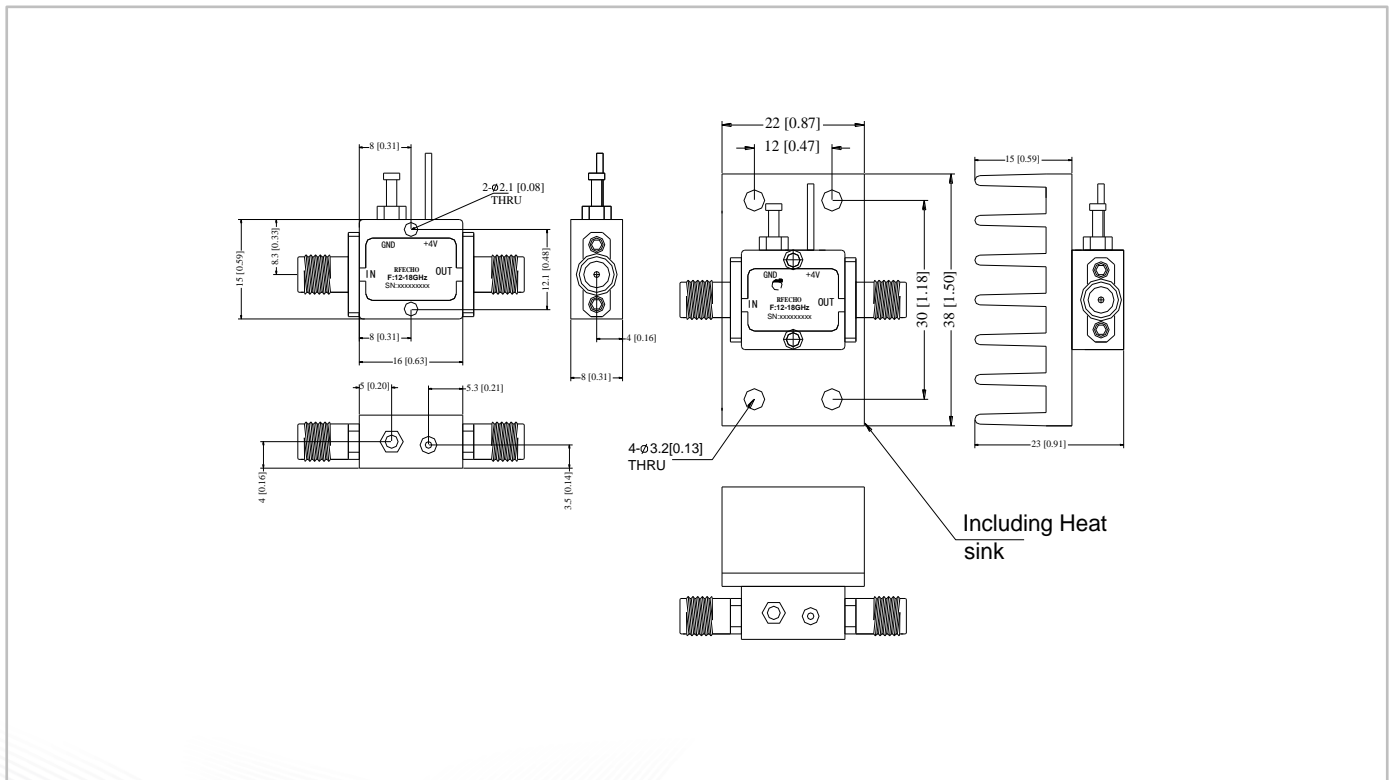
### Environmental Specifications

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:

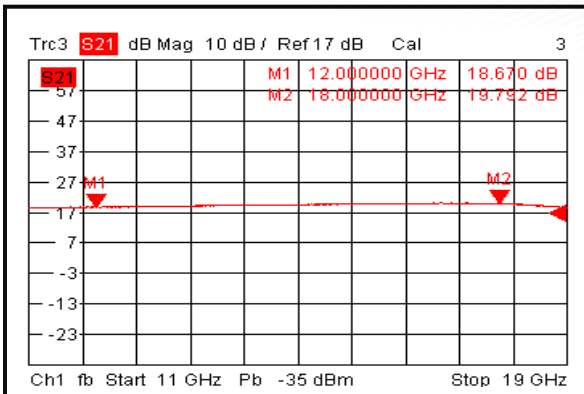
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

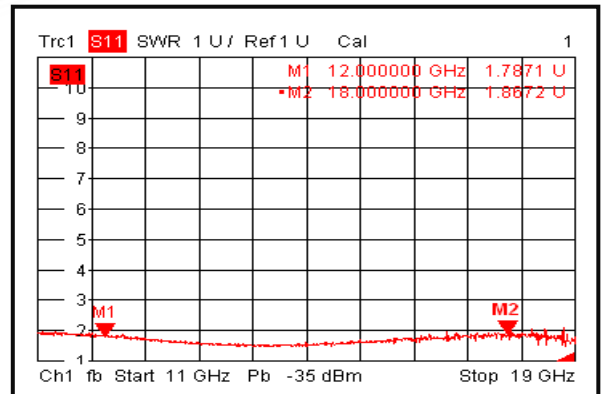




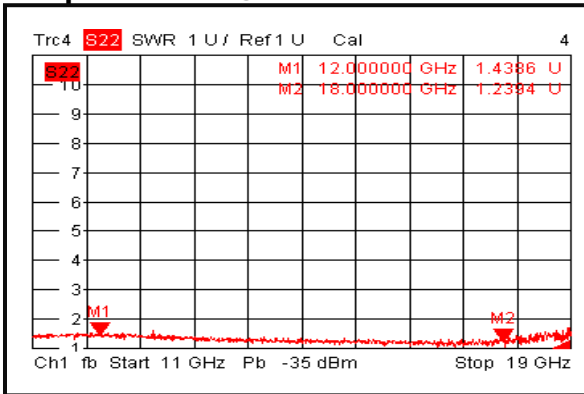
### Gain @+25°C



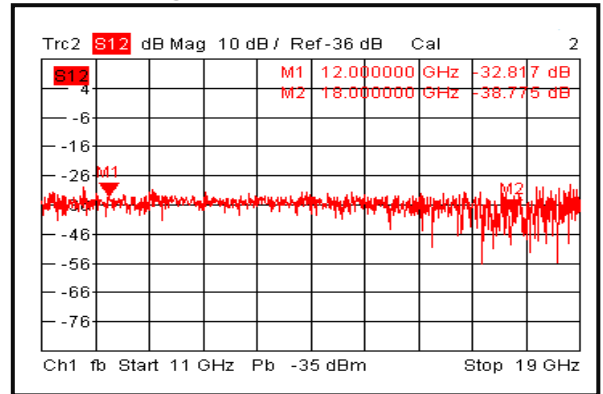
### Input VSWR @+25°C



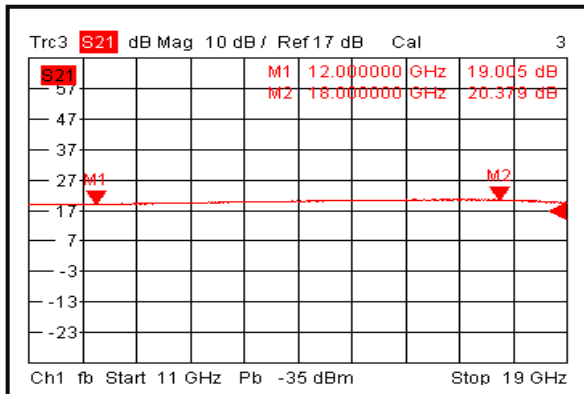
### Output VSWR @+25°C



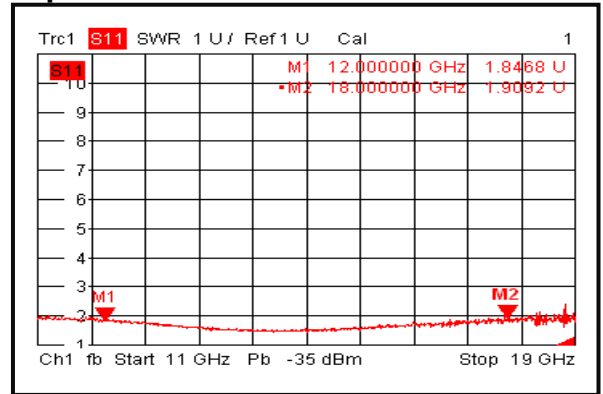
### Isolation @+25°C



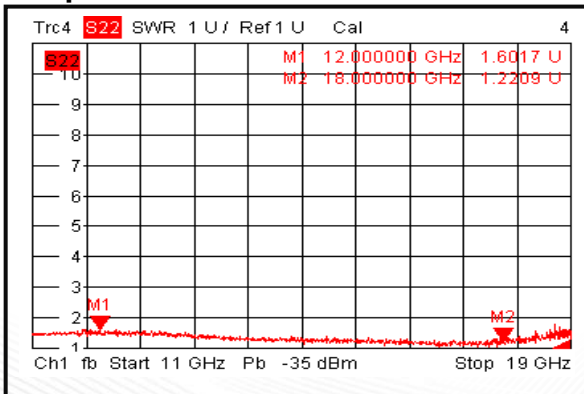
### Gain @-40°C



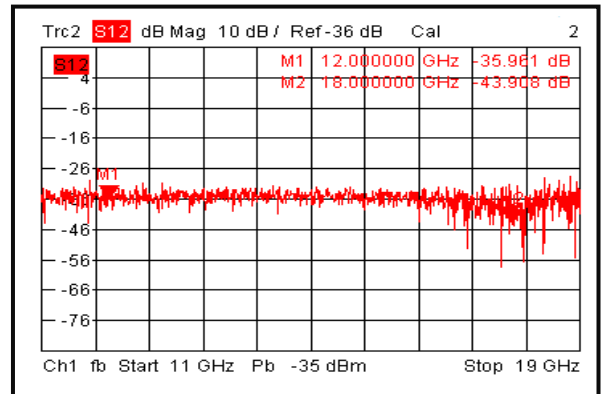
### Input VSWR @-40°C



### Output VSWR @-40°C

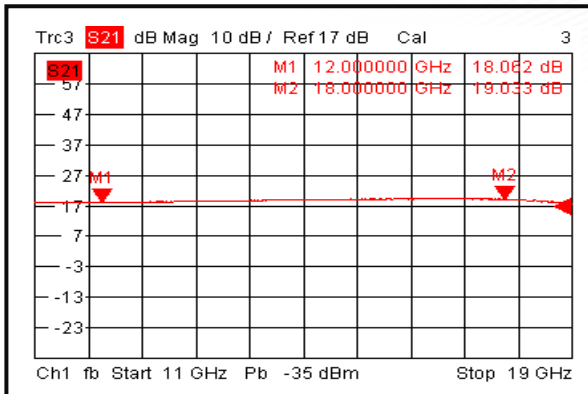


### Isolation @-40°C

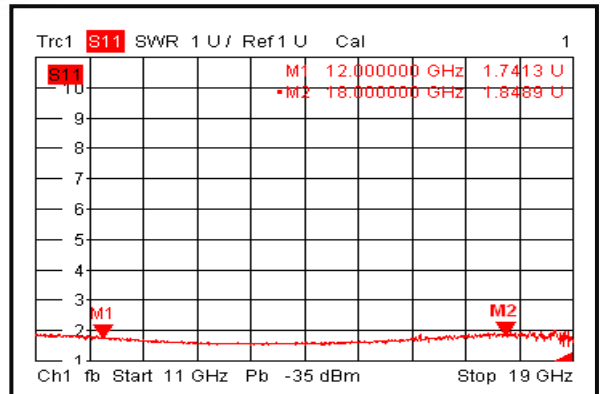




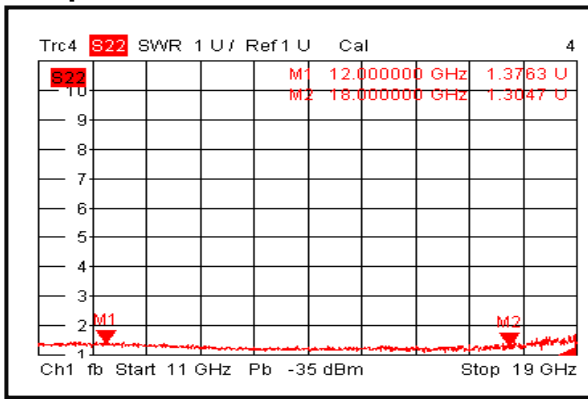
### Gain @+85°C



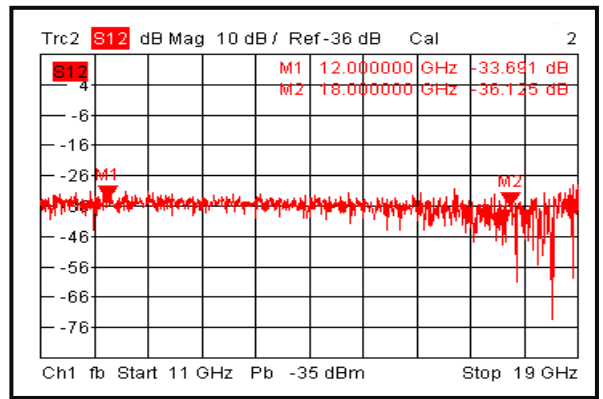
### Input VSWR @+85°C



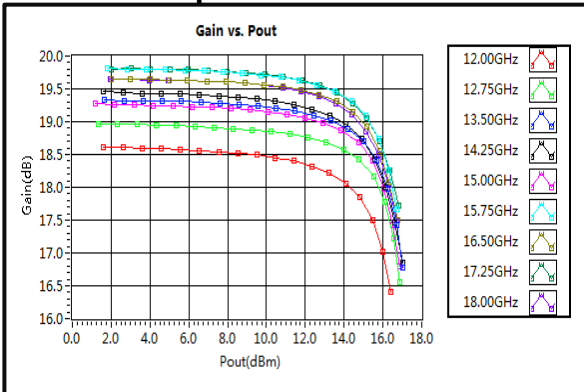
### Output VSWR @+85°C



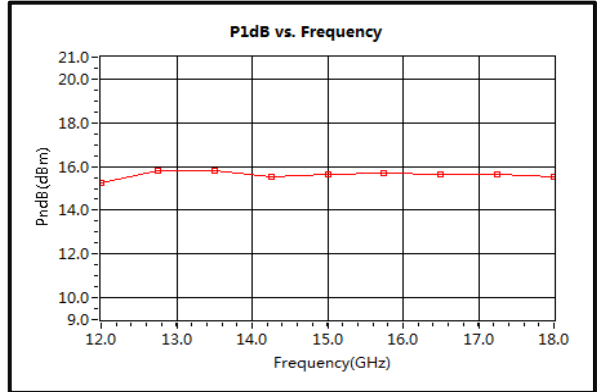
### Isolation @+85°C



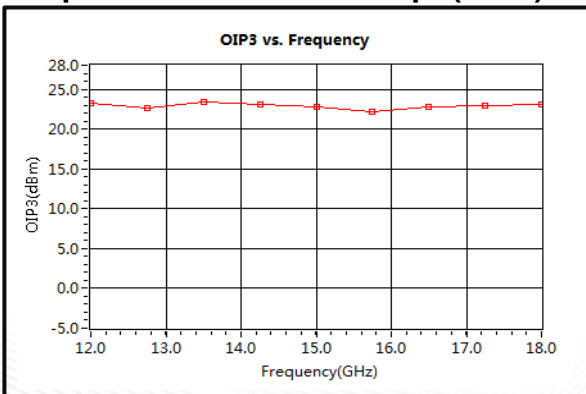
### Gain vs. Output Power



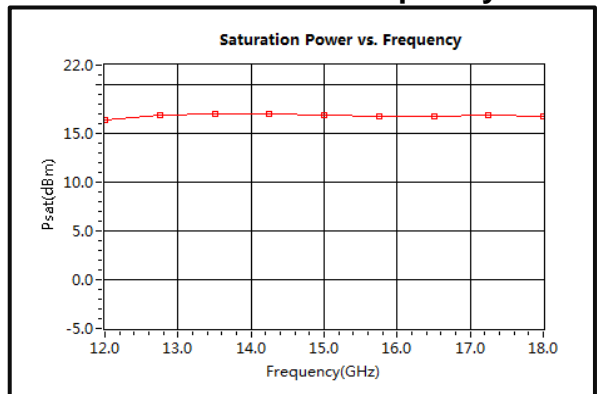
### P1dB vs. Frequency



### Output Third Order Intercept (OIP3)

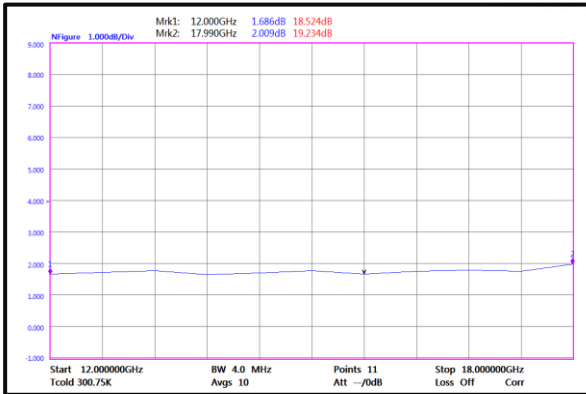


### Saturation Power vs. Frequency

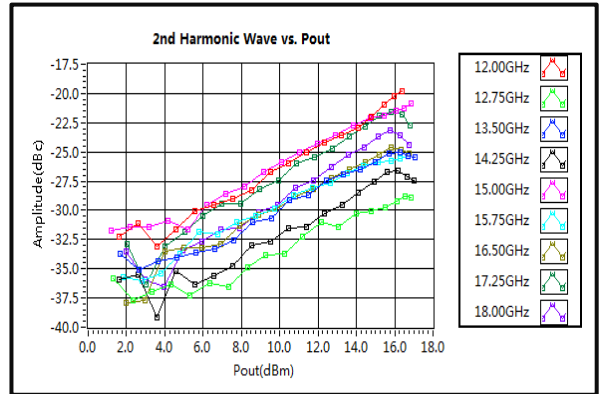




### Noise Figure



### 2nd Harmonic Wave Output Power



### 3rd Harmonic Wave Output Power

