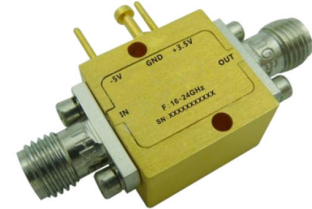




# Wide Band Low Noise Amplifier 16GHz~24GHz

## Features

- Gain: 23dB Typical
- Noise Figure: 1.8dB Typical
- P1dB Output Power: +18dBm Typical
- Supply Voltage: +3.5V, -5V



## Typical Applications

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

RF Microwave & VSAT  
Fiber Optics

Parameter	Min.	Typ.	Max.	Units
Frequency Range	16		24	GHz
Gain	20	23	27	dB
Gain Flatness		±0.5		dB
Gain Variation Over Temperature (-40 ~ +85)		±1.0		dB
Noise Figure		1.8	2.3	dB
Input VSWR		2.0		: 1
Output VSWR		1.8		: 1
Output 1dB Compression Point (P1dB)	13	18		dBm
Saturated Output Power (Psat)		20		dBm
Output Third Order Intercept (OIP3)		25		dBm
Supply Current (Vcc=+3.5V,Vgg=-5V)		100	180	mA
Isolation S12		-55		dB

Weight	0.35ounces	Impedance	50ohms
Input /Output Connectors	SMA - Female	Material	Aluminum
Finish	Gold Plated	Package Seal	Epoxy Sealed (Standard)
			Hermetically Sealed(Option with extra charge)



### Absolute Maximum Ratings

Operating Voltage	+4.5V@25°C
RF Input Power (RFIN)	+20dBm@25°C

### Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect -5V biasing
Step 4	Connect +3.5V biasing

### Power OFF Procedure

Step 1	Turn off +3.5V biasing
step2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

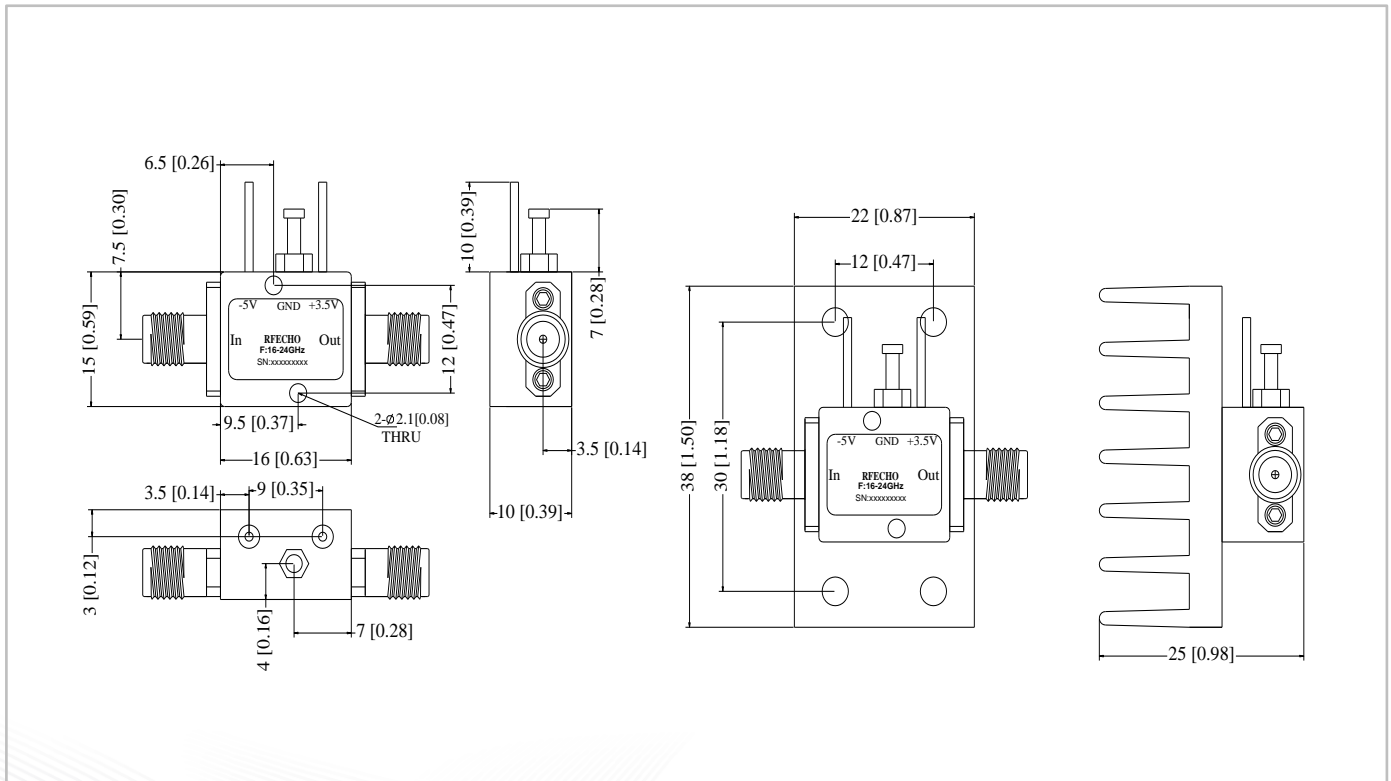
### Environmental Specifications

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

### Outline Drawing:

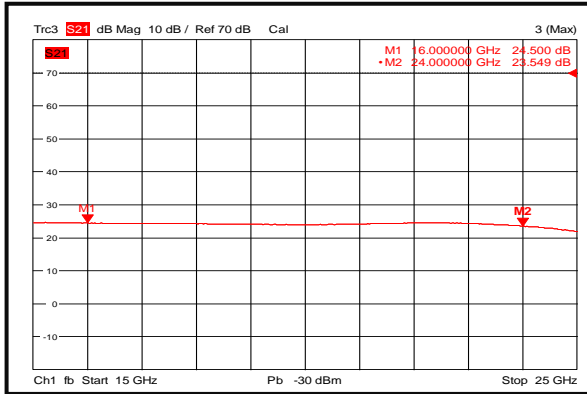
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

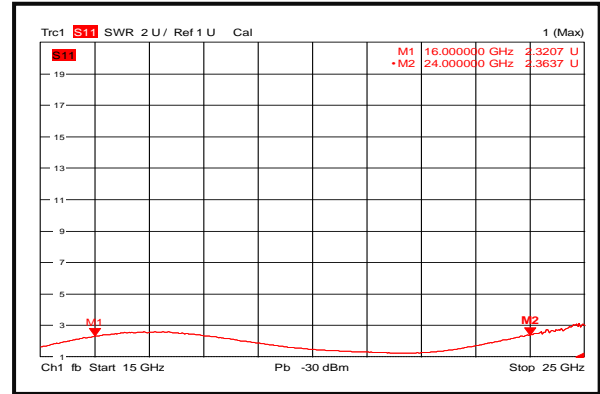




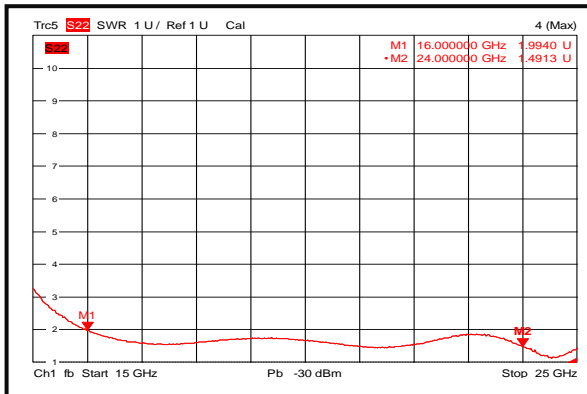
### Gain @+25°C



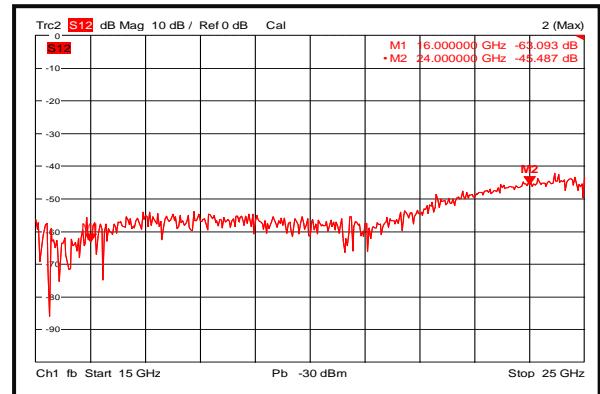
### Input VSWR @+25°C



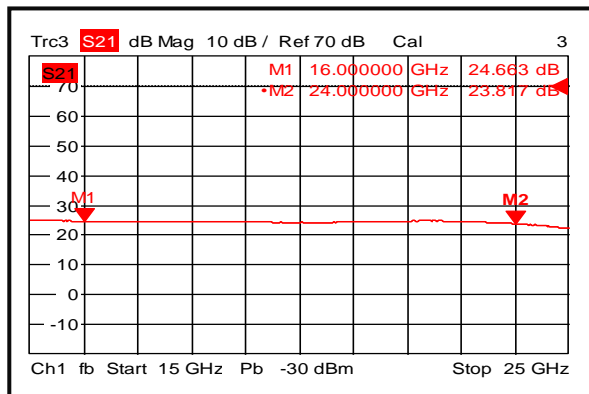
### Output VSWR @+25°C



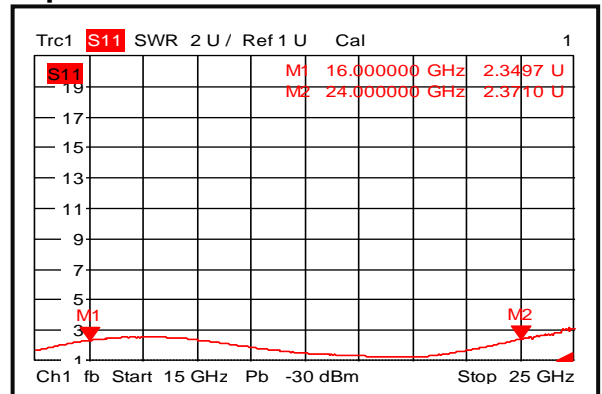
### Isolation @+25°C



### Gain @-40°C

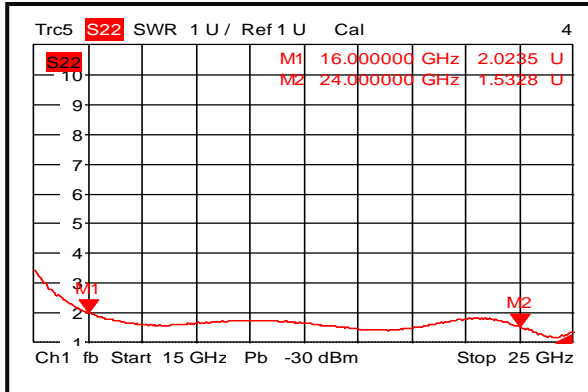


### Input VSWR @-40°C

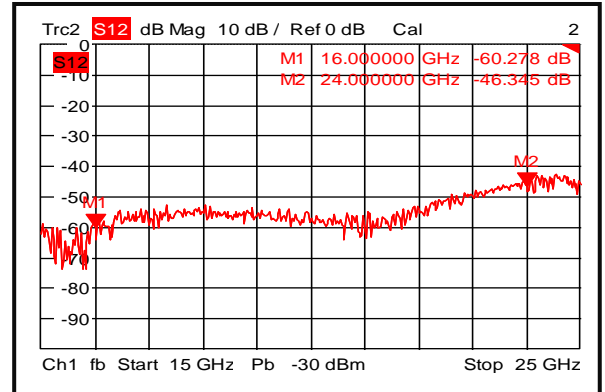




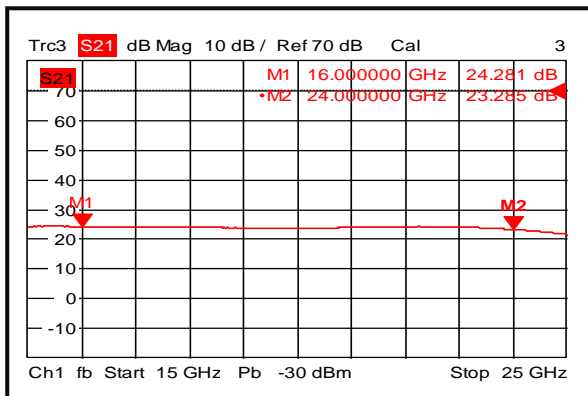
### Output VSWR @-40°C



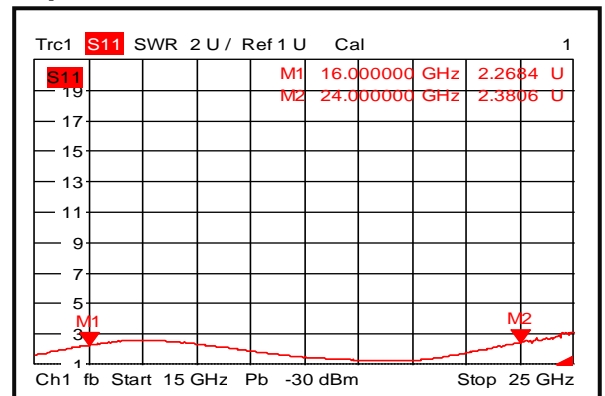
### Isolation @-40°C



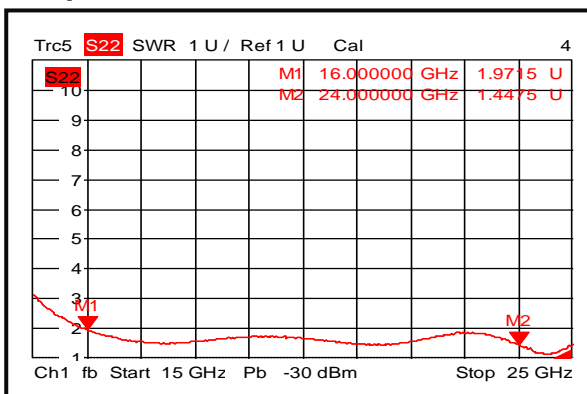
### Gain @+85°C



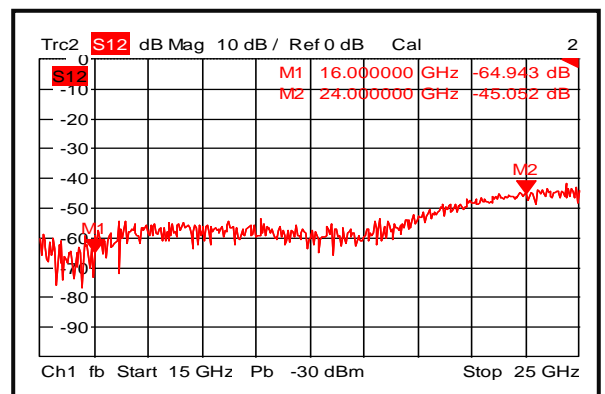
### Input VSWR @+85°C



### Output VSWR @+85°C

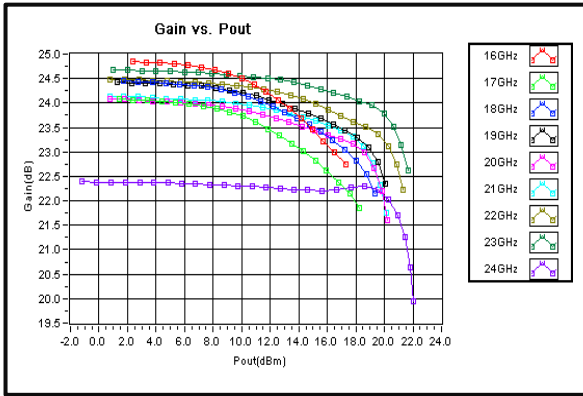


### Isolation @+85°C

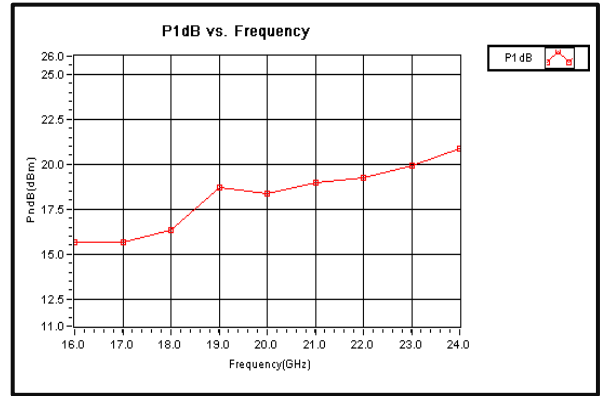




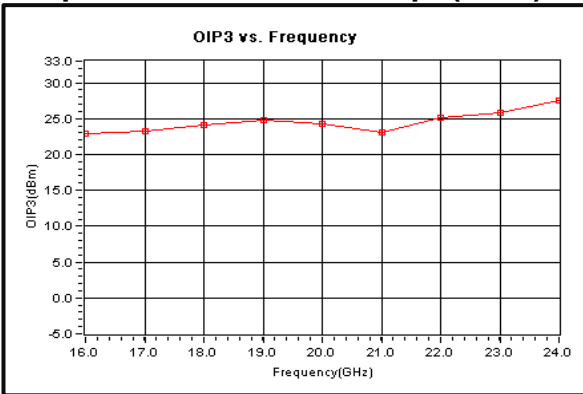
### Gain vs. Output Power



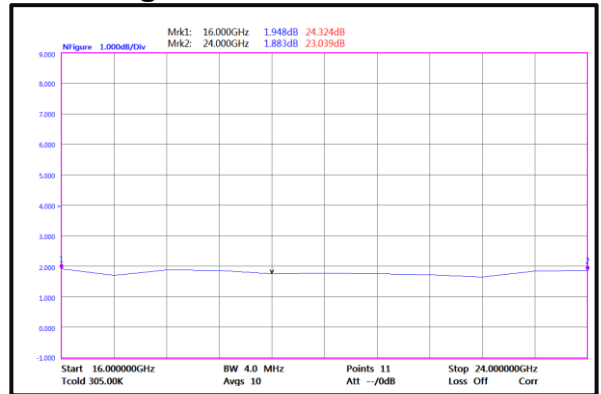
### P1dB vs. Frequency



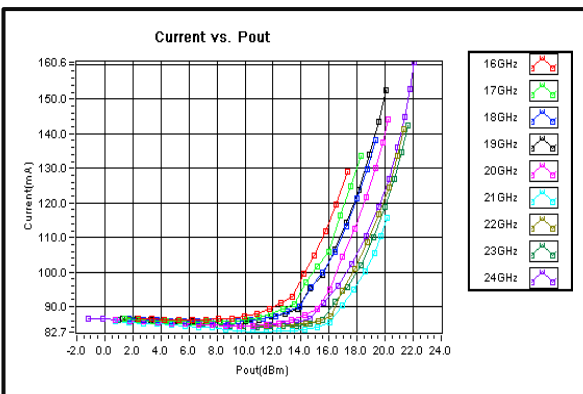
### Output Third Order Intercept (OIP3)



### Noise Figure



### Current



### 2nd Harmonic Wave Output Power

