



# Low Noise Amplifier 16GHz~45GHz

## Features

- Gain: 36dB Typical
- Noise Figure: 6.5dB Typical
- P1dB Output Power: +21dBm Typical
- Supply Voltage: +12V @ 300mA
- 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		16		45	GHz
Gain	@(16GHz-16.6GHz)	29.5dB	32		dB
	@(16.6GHz-45GHz)	32dB	36		dB
Gain Flatness			±3.0		dB
Gain Variation Over Temperature (-40°C~+85°C)			±1.5		dB
Noise Figure			6.5	8.5	dB
Input VSWR			2.2		: 1
Output VSWR			2.2		: 1
Output 1dB Compression Point (P1dB)		17	21		dBm
Saturated Output Power (Psat)			22		dBm
Output Third Order Intercept (OIP3)			30		dBm
Supply Current (Idd) (Vcc=+12V)			300	400	mA
Isolation S12			-60		dB

Weight	1.6 ounces (Max.)	Impedance	50ohms
Input /Output Connectors	2.92mm-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)	-8dBm

### Biassing 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

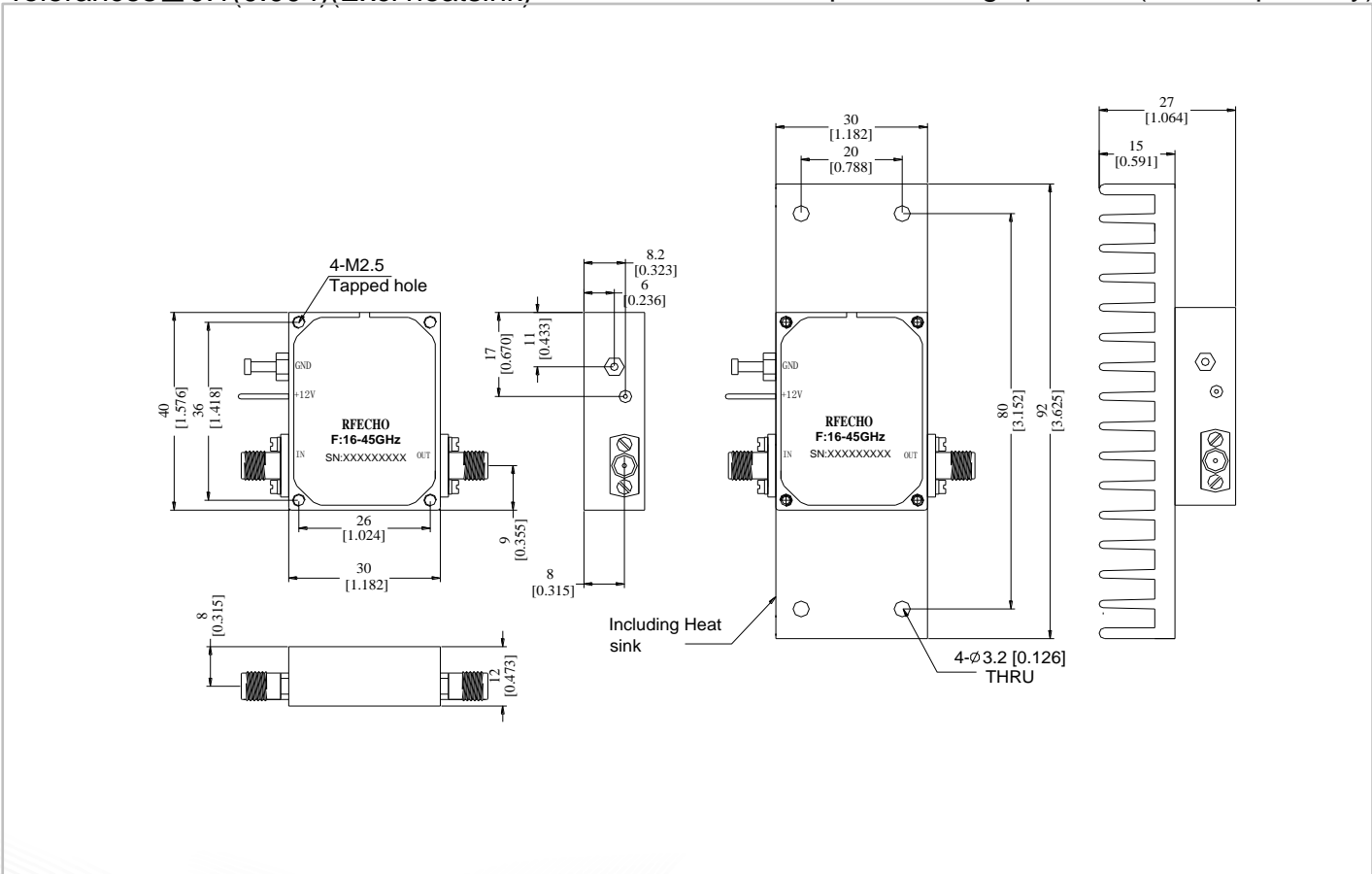
Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH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

### Outline Drawing:

All Dimensions in mm (inches)

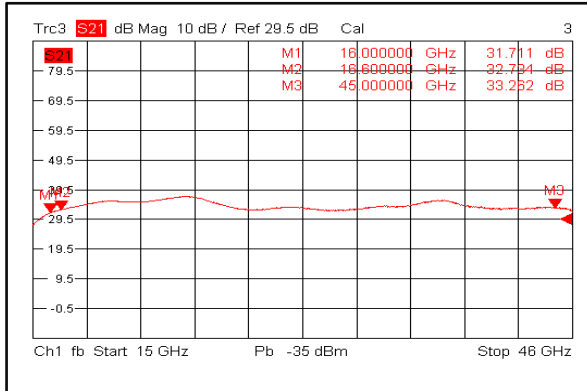
Tolerances  $\pm 0.1$  (0.004) (Excl heatsink)

Heat Sink required during operation (Sold Separately)

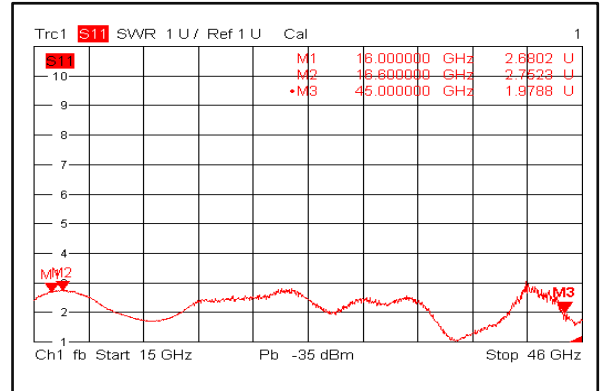




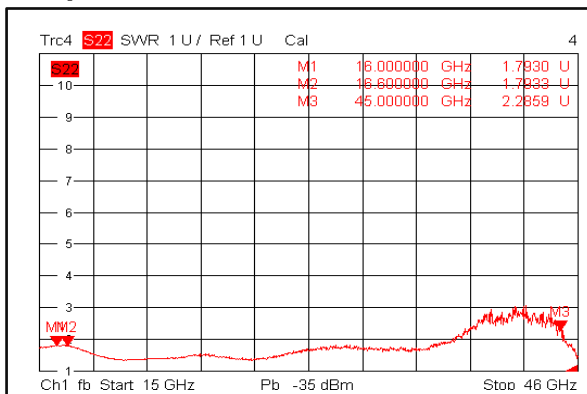
### Gain @+25°C



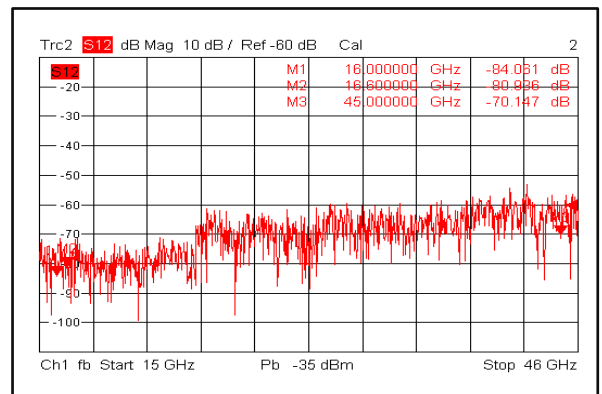
### Input VSWR @+25°C



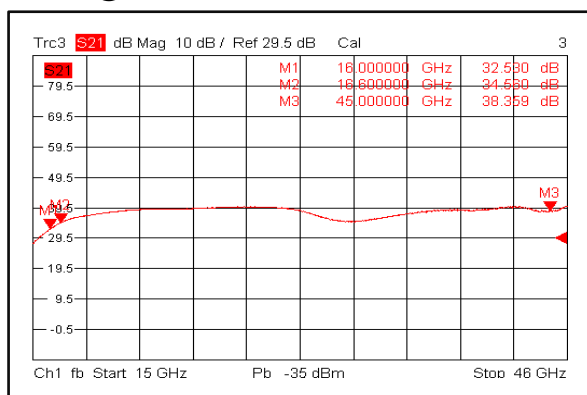
### Output VSWR @+25°C



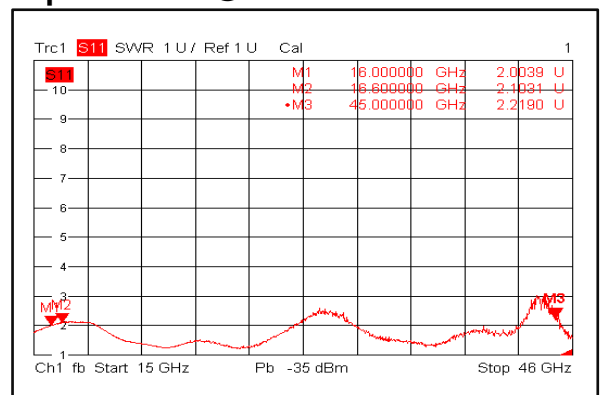
### Isolation @+25°C



### Gain @-40°C

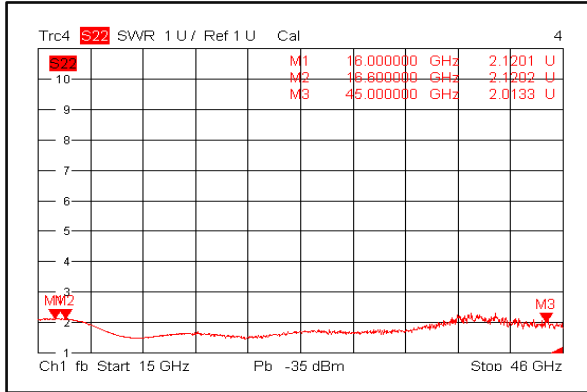


### Input VSWR @-40°C

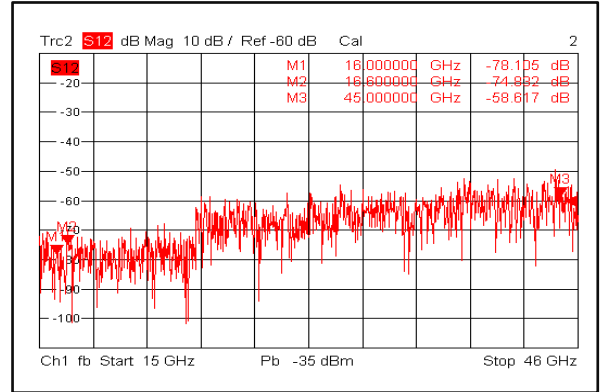




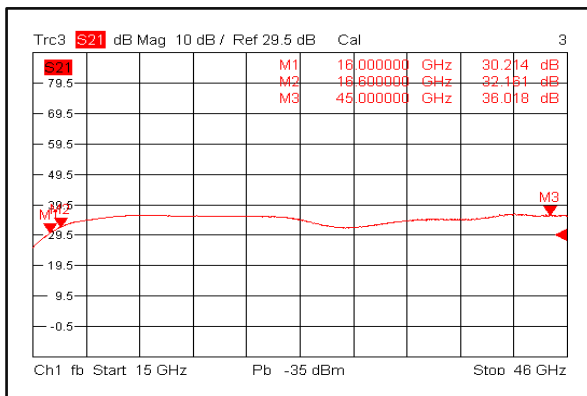
### Output VSWR @-40°C



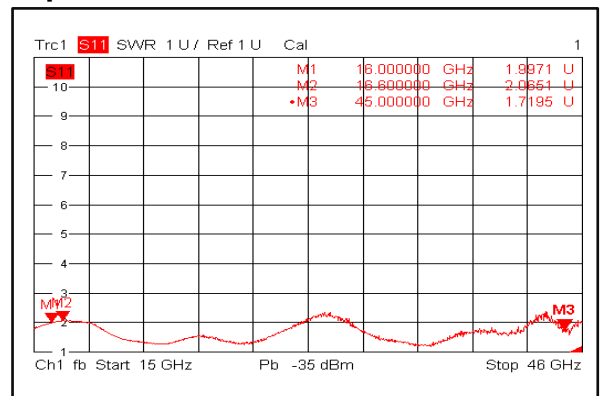
### Isolation @-40°C



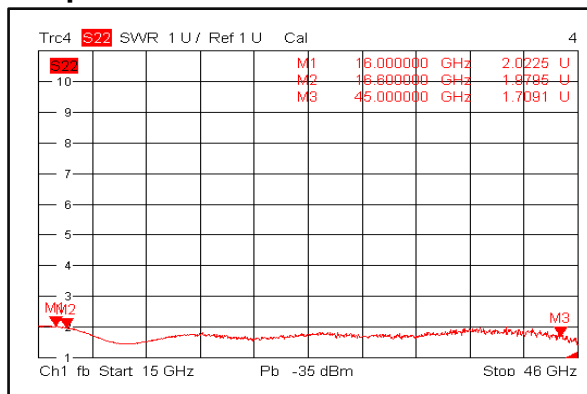
### Gain @+85°C



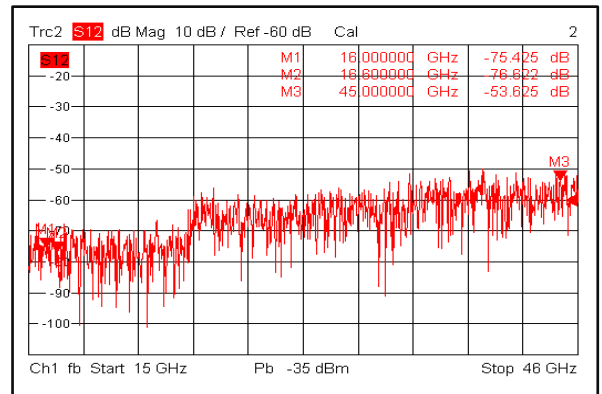
### Input VSWR @+85°C



### Output VSWR @+85°C

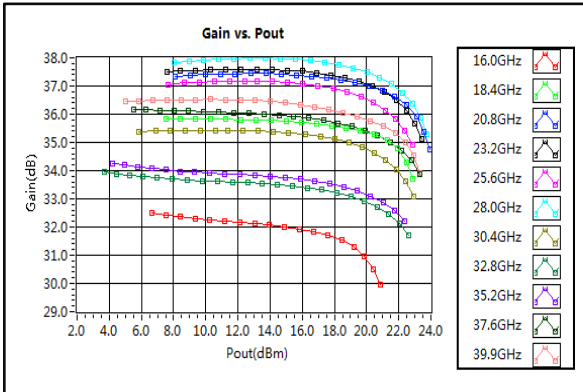


### Isolation @+85°C

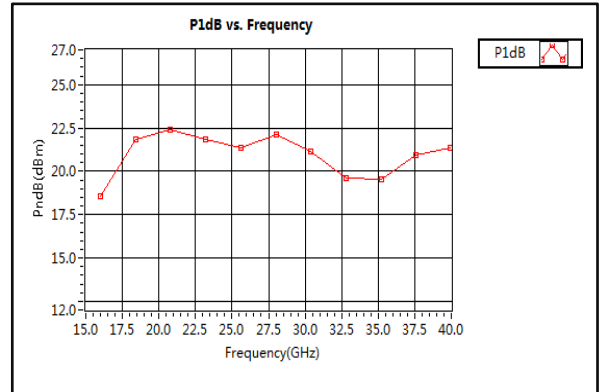




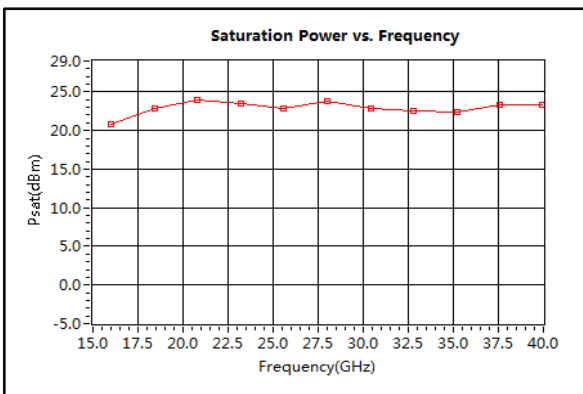
### Gain vs. Output Power



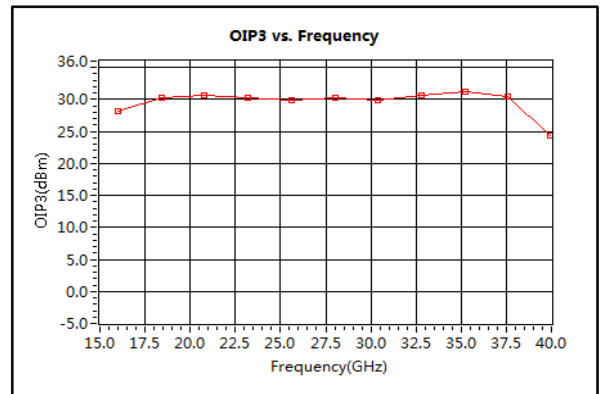
### P1dB vs. Frequency



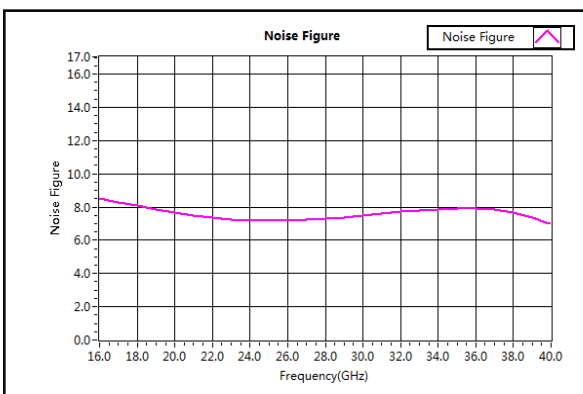
### Saturation Power vs. Frequency



### Output Third Order Intercept (OIP3)



### Noise Figure



### 2nd Harmonic Wave Output Power

