



# Low Noise Amplifier 18GHz~40GHz

## Features

- Gain: 40dB Typical
- Noise Figure: 5.5dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +12V @ 500mA
- 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	18		40	GHz
Gain	33	40		dB
Gain Flatness		±2.0	±3.5	dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.5		dB
Noise Figure		5.5	6.5	dB
Input VSWR		2.0	2.8	: 1
Output VSWR		2.0	2.8	: 1
Output 1dB Compression Point (P1dB)	16	20		dBm
Saturated Output Power (Psat)		23		dBm
Output Third Order Intercept (OIP3)		30		dBm
Supply Current (Idd) (Vdd=+12V)		500	600	mA
Isolation S12		-65		dB

Weight	1.9 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)	-5dBm

### 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

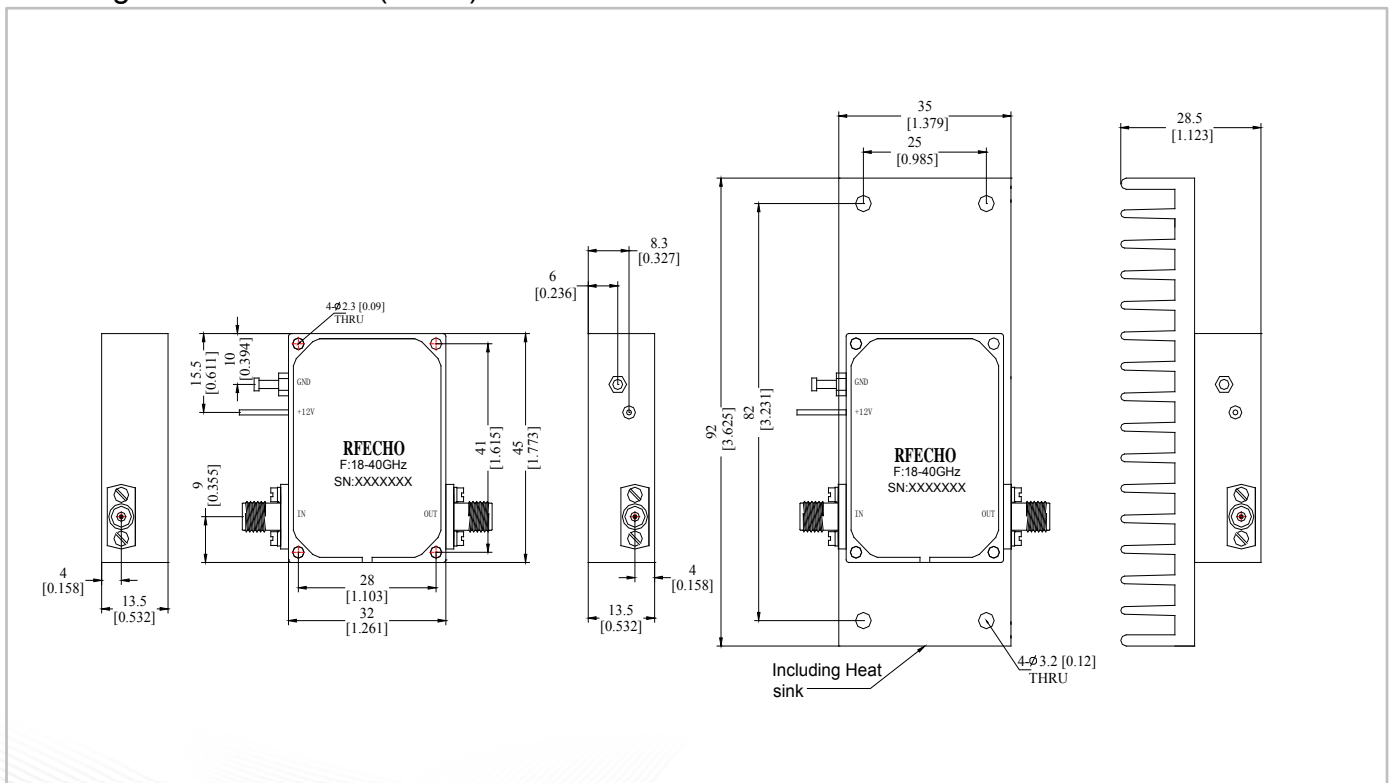
### Environmental Specifications

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:

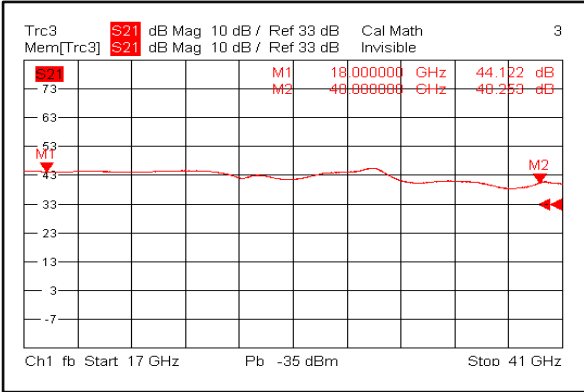
All Dimensions in mm (inches)  
Housing Tolerances  $\pm 0.1$  (0.004)

Heat Sink required during operation(Sold Separately)

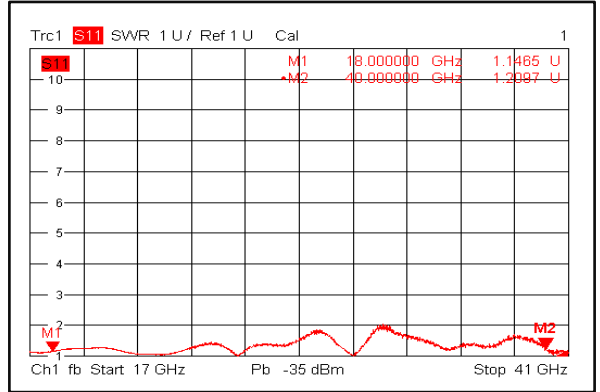




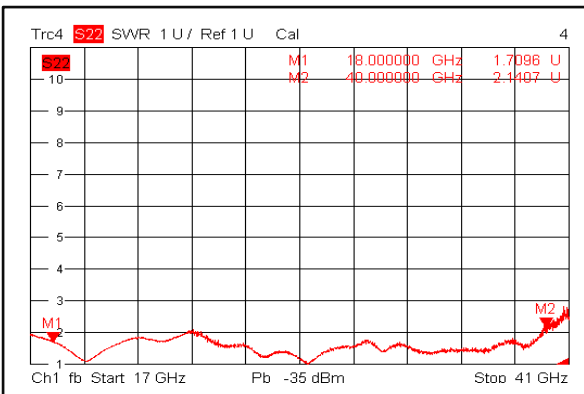
### Gain @+25°C



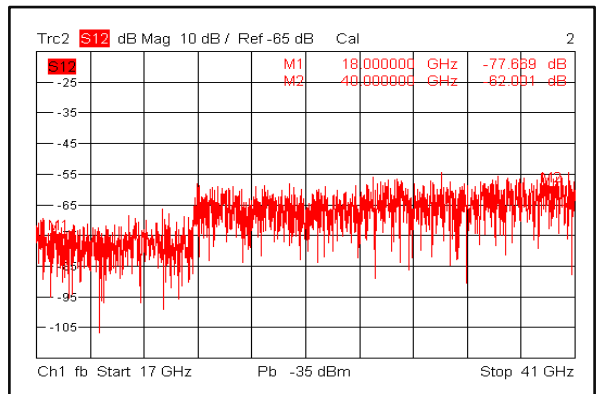
### Input VSWR @+25°C



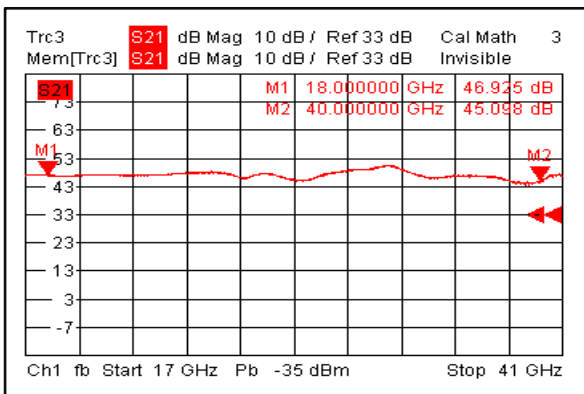
### Output VSWR @+25°C



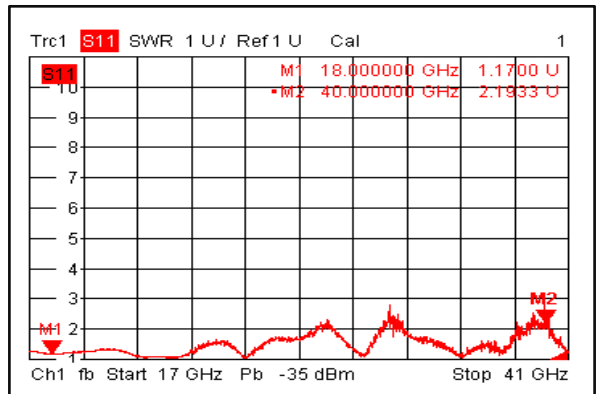
### Isolation @+25°C



### Gain @-40°C

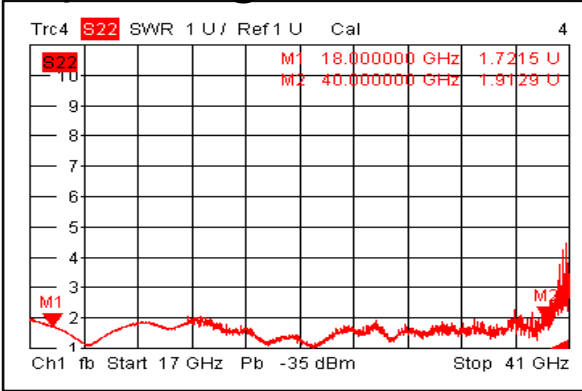


### Input VSWR @-40°C

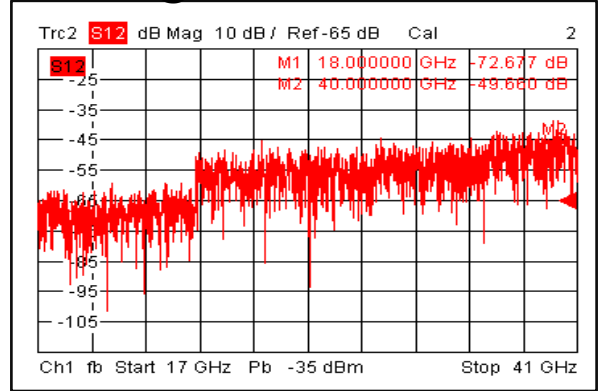




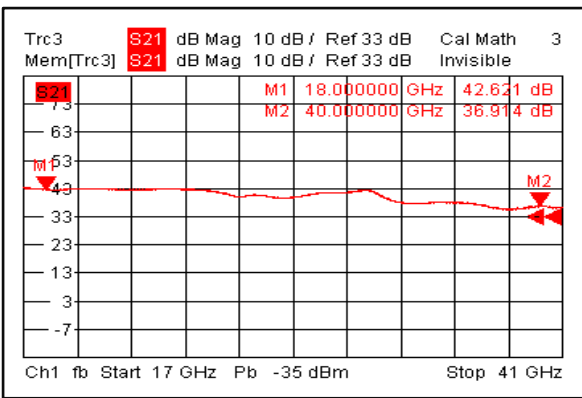
### Output VSWR @-40°C



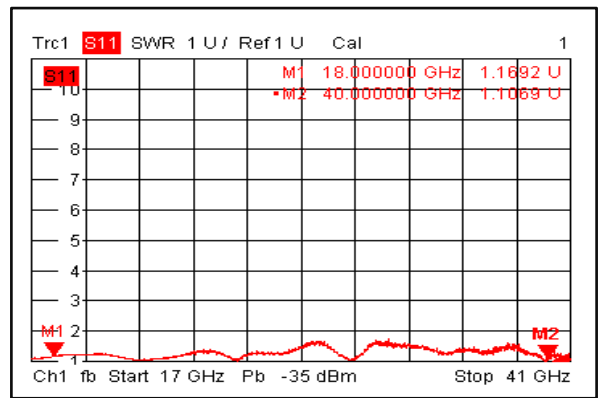
### Isolation @-40°C



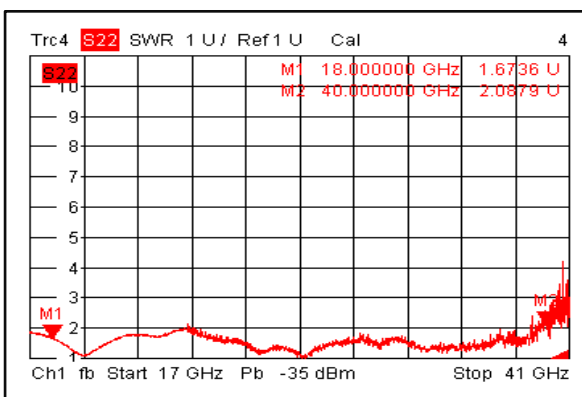
### Gain @+85°C



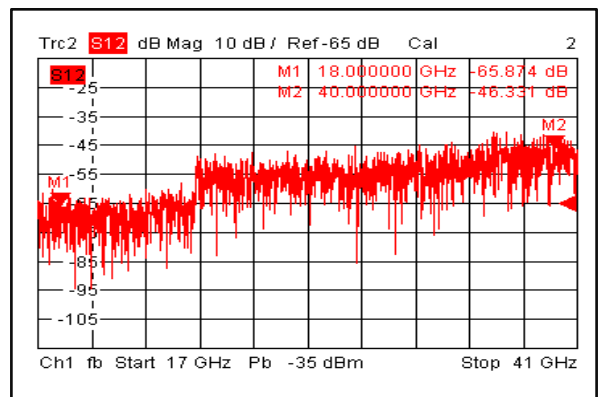
### Input VSWR @+85°C



### Output VSWR @+85°C

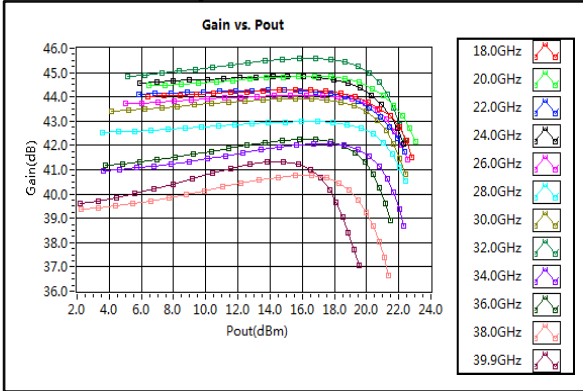


### Isolation @+85°C

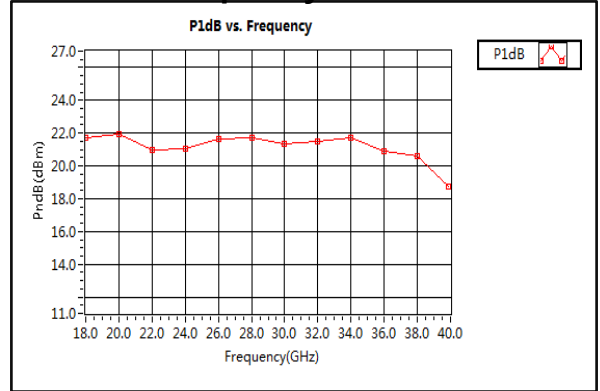




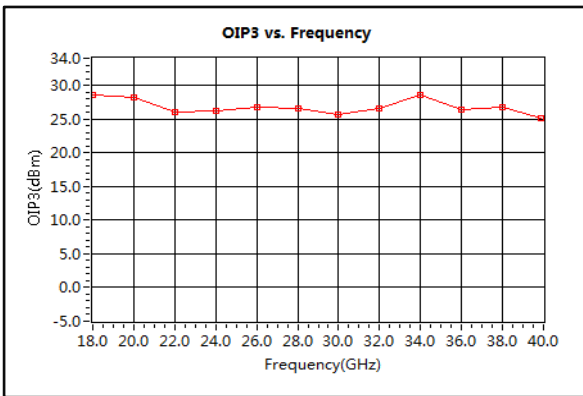
### Gain vs. Output Power



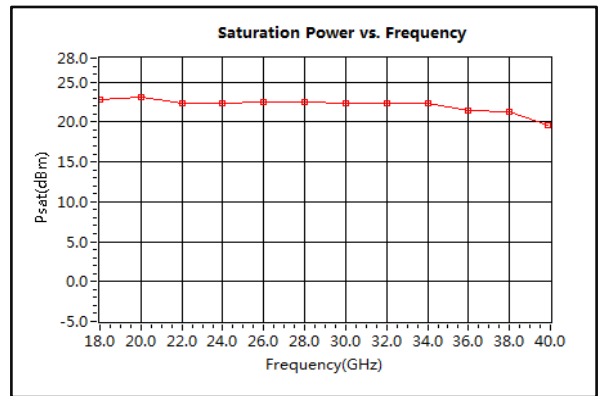
### P1dB vs. Frequency



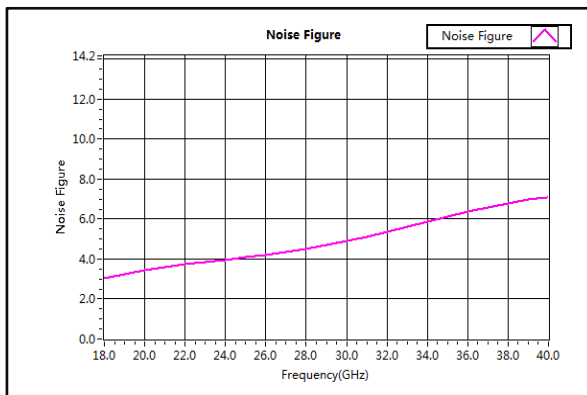
### Output Third order Intercept (OIP3)



### Saturation Power vs. Frequency



### Noise Figure



### 2nd Harmonic wave output Power

