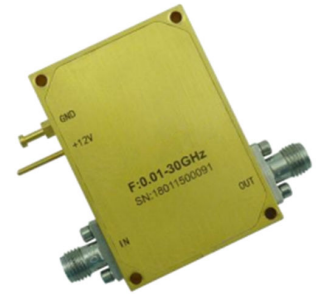




# Ultra Wide Band Low Noise Amplifier 0.01GHz~30GHz

## Features

- Gain: 41dB Typical
- Noise Figure: 3.5dB Typical
- P1dB Output Power: +28dBm Typical
- PSAT Output Power: 30dBm
- Supply Voltage: +12V @ 525mA
- 50 Ohm Matched



## Typical Applications

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

RF Microwave & VSAT  
Fiber Optics

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.01		18	18		30	GHz
Gain	35	41	47	33	38	45	dB
Gain Flatness		±2.5	±3.5		±1.0	±2.0	dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0			±1.5		dB
Noise Figure		3.0	5.5		4.5	5.5	dB
Input VSWR		1.5			1.8		: 1
Output VSWR		1.4			1.5		: 1
Output 1dB Compression Point (P1dB)	24	28		21	24		dBm
Saturated Output Power (Psat)		30			25		dBm
Output Third Order Intercept (OIP3)		37			33		dBm
Isolation S12		-60			-55		dB
Supply Current (Vcc=+12V)		525	600		525	600	mA

Weight	3.95 ounces Max.	Impedance	50ohms
Input / Output Connectors	2.92mm-Female	Material	copper
Finish	Gold Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Option with extra charge)



### Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (RFIN)	-6dBm

### Biasing 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

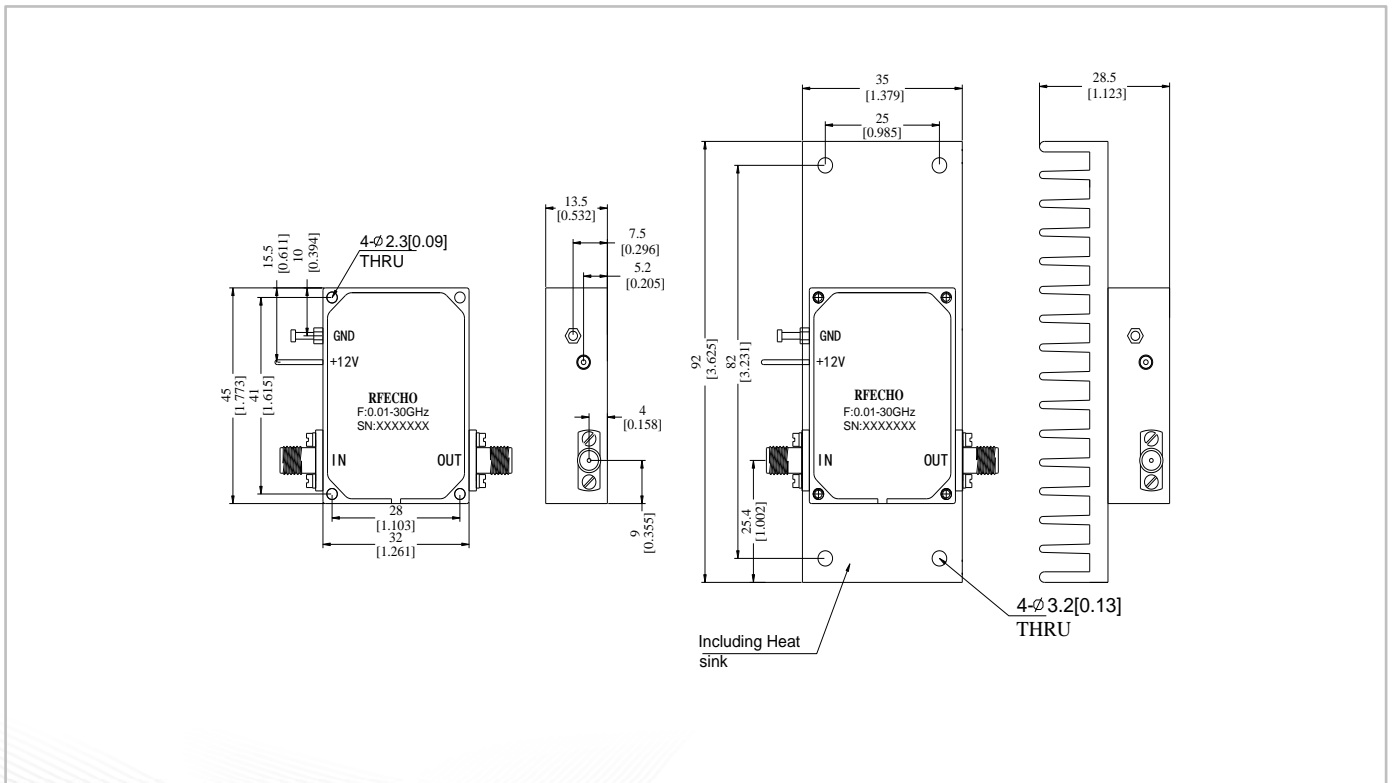
### Environmental Specifications

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:

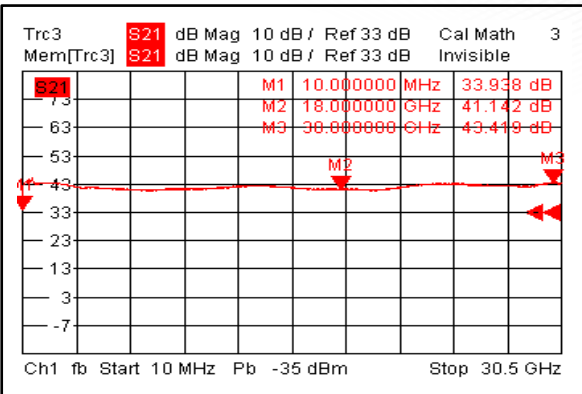
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

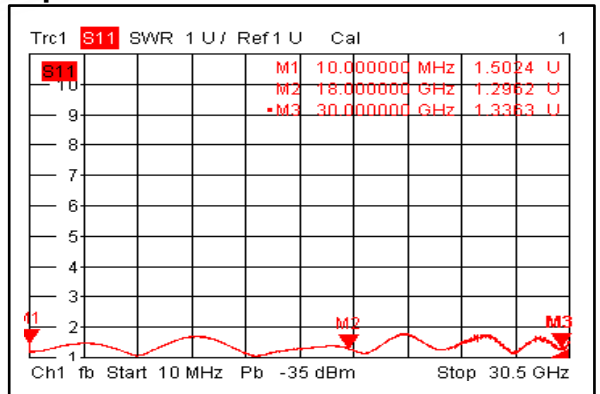




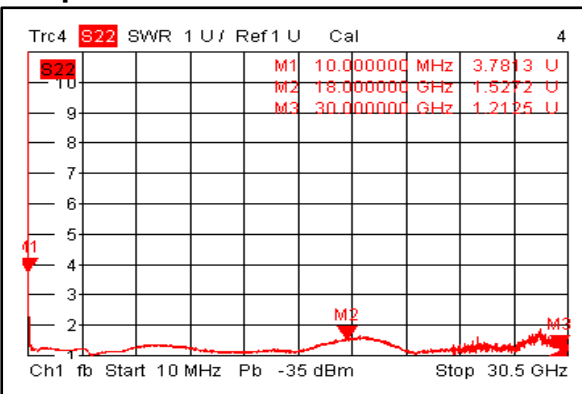
### Gain @+25°C



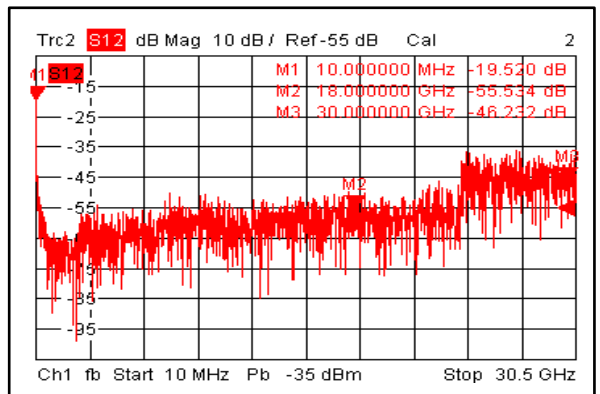
### Input VSWR @+25°C



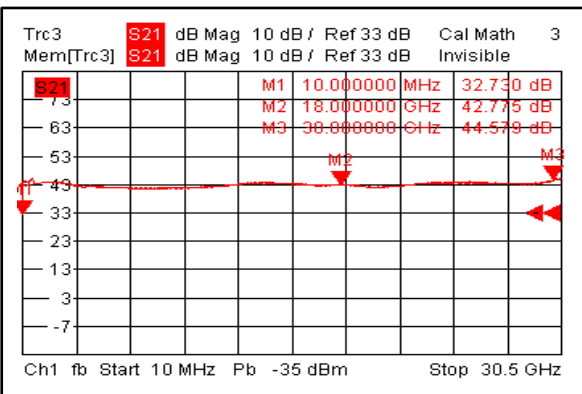
### Output VSWR @+25°C



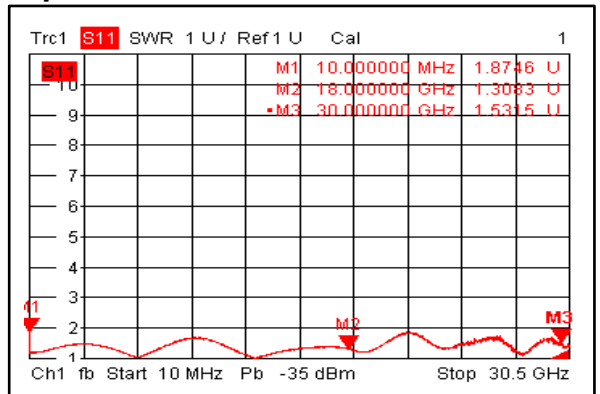
### Isolation @+25°C



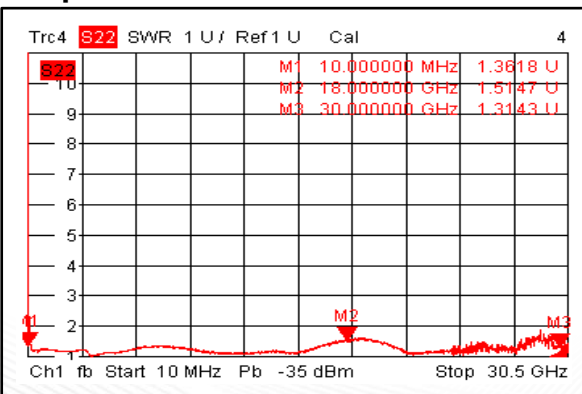
### Gain @-40°C



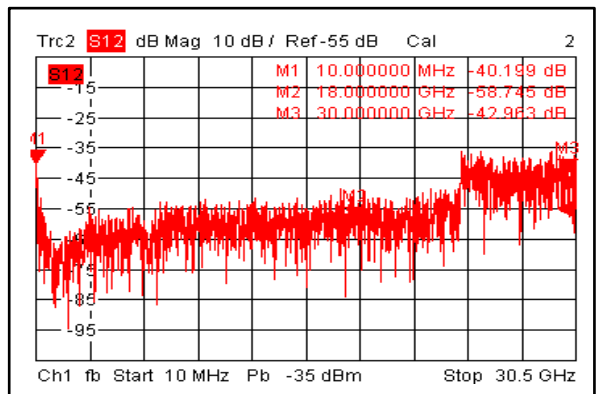
### Input VSWR @-40°C



### Output VSWR @-40°C

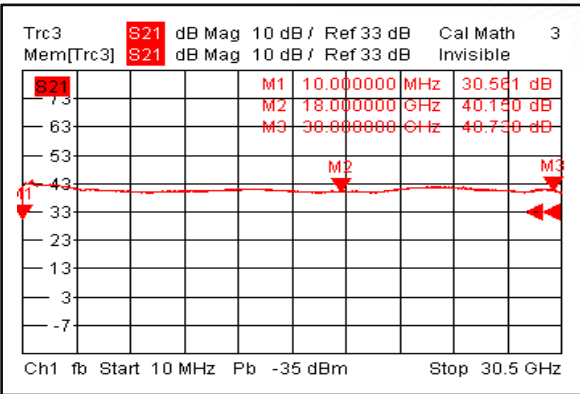


### Isolation @-40°C

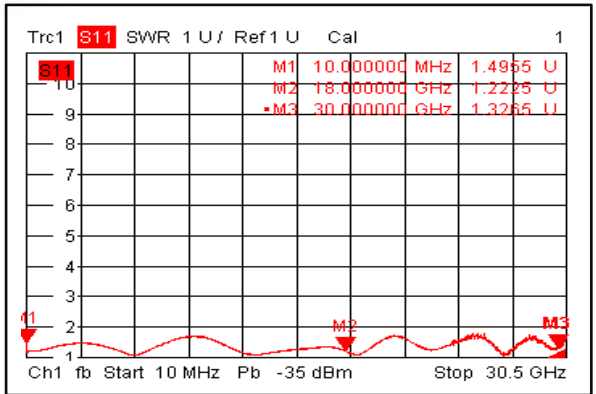




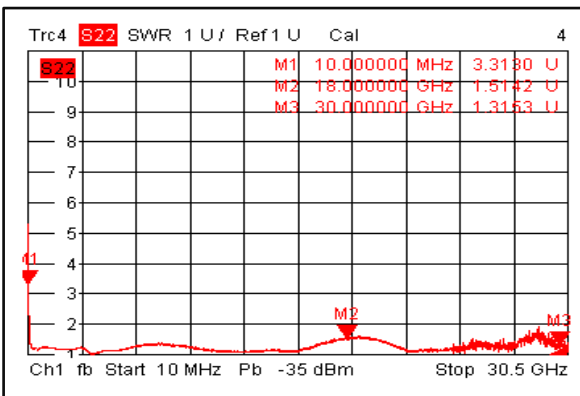
### Gain @+85°C



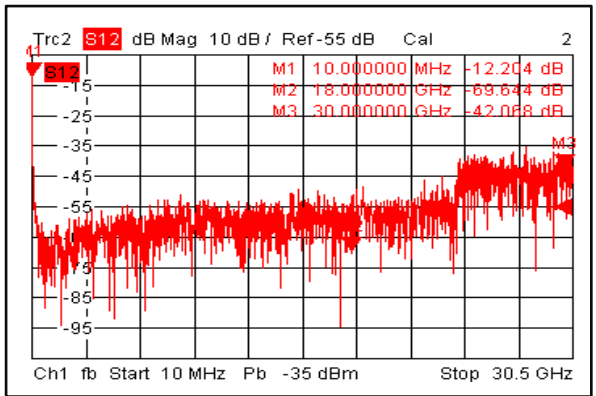
### Input VSWR @+85°C



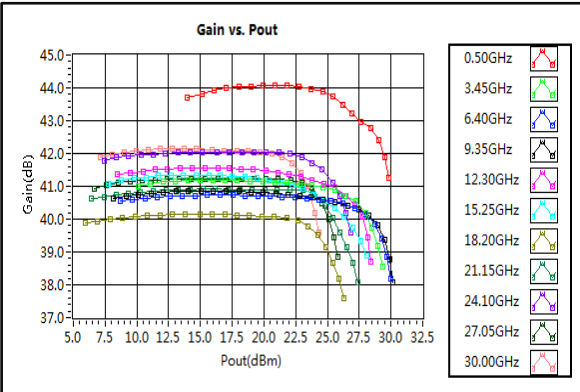
### Output VSWR @+85°C



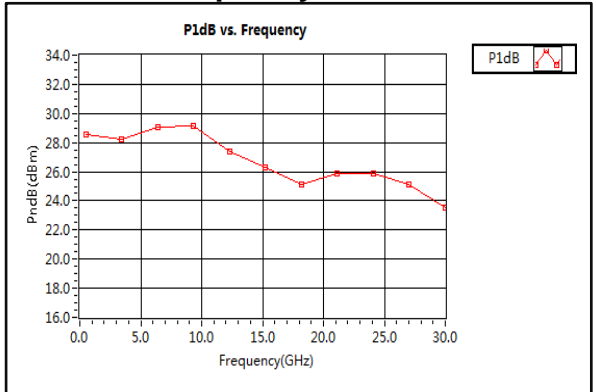
### Isolation @+85°C



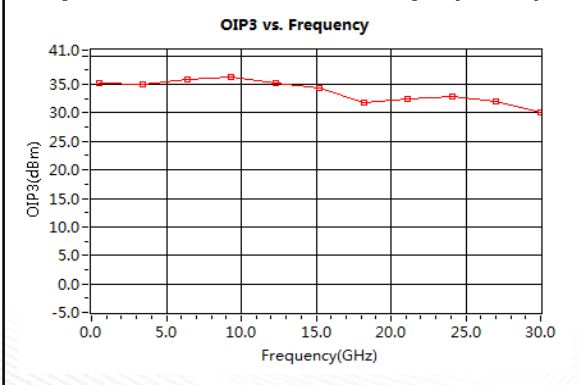
### Gain vs. Output Power



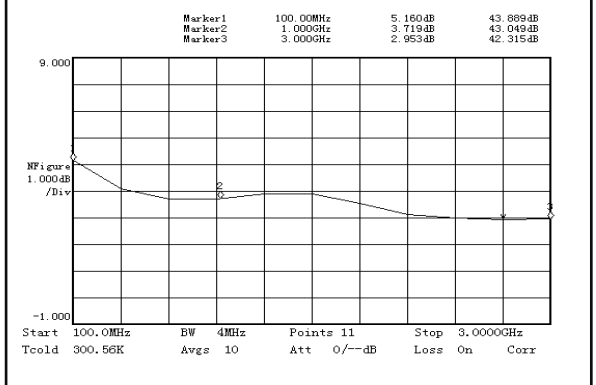
### P1dB vs. Frequency



### Output Third Order Intercept (OIP3)

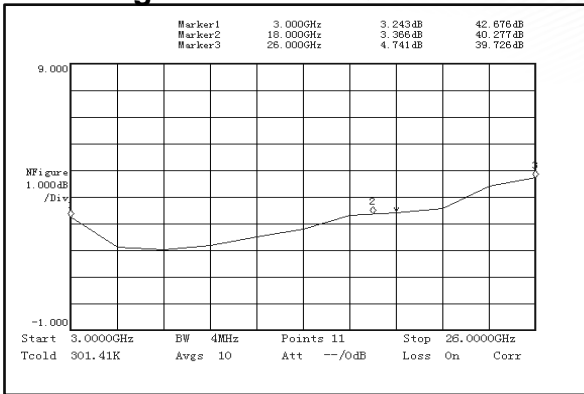


### Noise Figure ( 100MHz-3GHz )

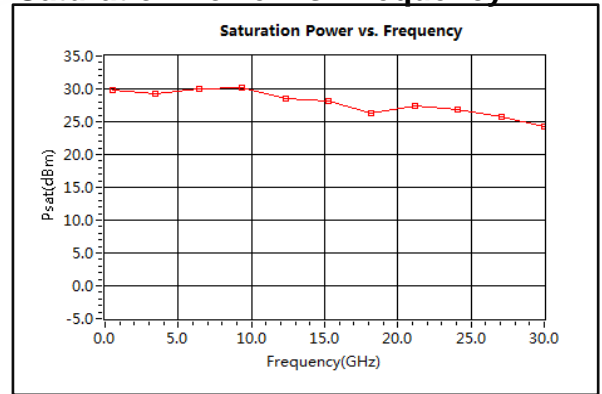




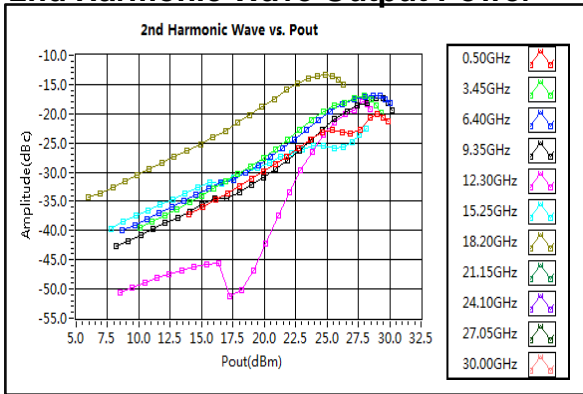
### Noise Figure (3-26GHz)



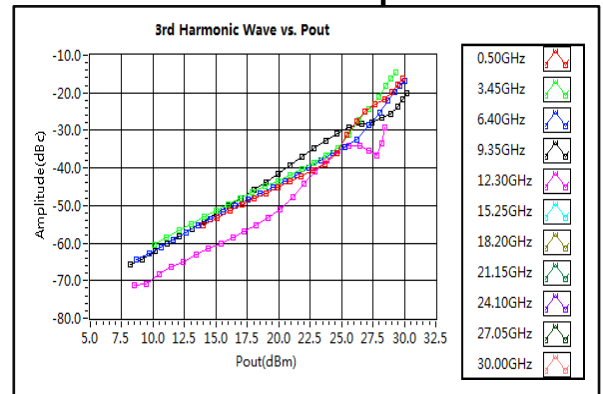
### Saturation Power vs. Frequency



### 2nd Harmonic Wave Output Power



### 3rd Harmonic Wave Output Power



### 4th Harmonic Wave Output Power

