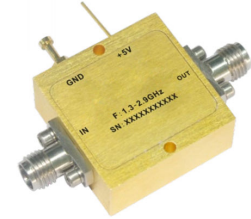




# Low Noise Amplifier 1.3GHz~2.9GHz

## Features

- Gain: 30 dB Typical
- Noise Figure: 1.0dB Typical
- P1dB Output Power: +25dBm Typical
- Supply Voltage: +5V @ 150mA
- 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	1.3		2.2	2.2		2.9	GHz
Gain	28	34		24	26		dB
Gain Flatness		±2	±2.5		±1.5	±2.0	dB
Gain Variation Over Temperature(-40°C~+85°C)		±0.5			±0.5		dB
Noise Figure		1.0	1.5		1.2	1.8	dB
Input VSWR		1.5	2.0		1.8	2.2	: 1
Output VSWR		1.8	2.0		1.8	2.2	: 1
Output Power for 1 dB Compression (P1dB)	22	25		23	25		dBm
Saturated Output Power (Psat)		26			26		dBm
Output Third Order Intercept (OIP3)		36			39		dBm
Supply Current (Idd) (Vdd= 5V)		150	220		150	220	mA
Isolation S12		-50			-45		dB

Weight	0.7 ounces(Max.)	Impedance	50ohms
Input /Output Connectors	SMA-Female	Material	copper
Finish	Gold Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Option with extra charge)



### Absolute Maximum Ratings

Operating Voltage	+6V
RF Input Power(+5V)	+25dBm

### Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +5V biasing

### Power OFF Procedure

Step 1	Turn off +5V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

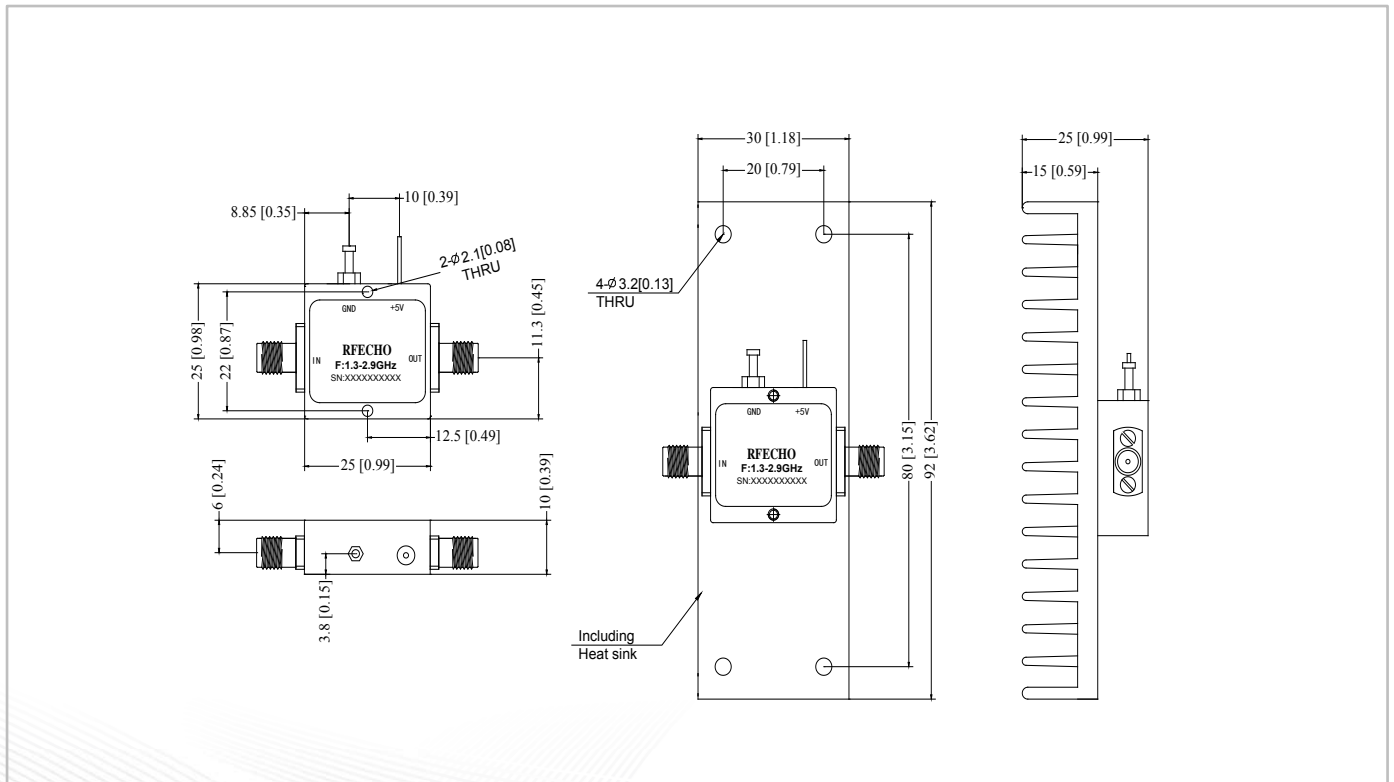
### Environmental Specifications

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:

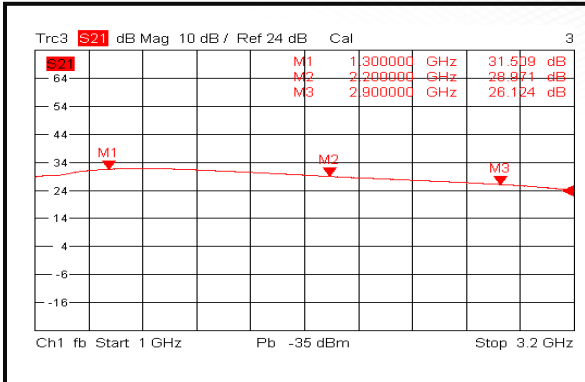
All Dimensions in mm (inches)  
Housing Tolerances  $\pm 0.1(0.004)$

Heat Sink required during operation(Sold Separately)

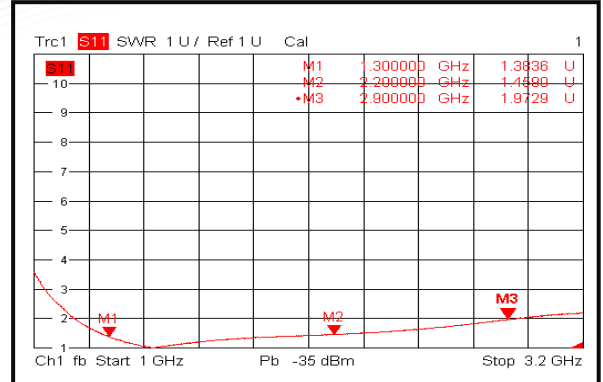




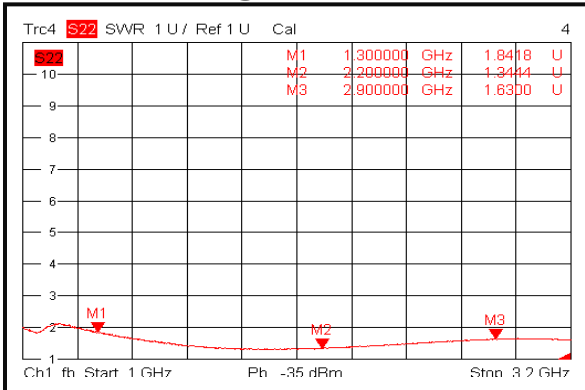
### Gain @+25°C



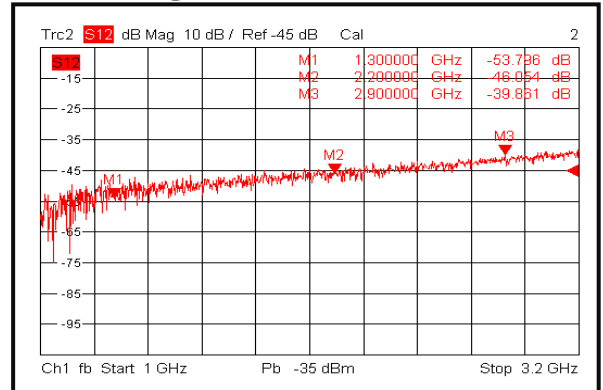
### Input VSWR @+25°C



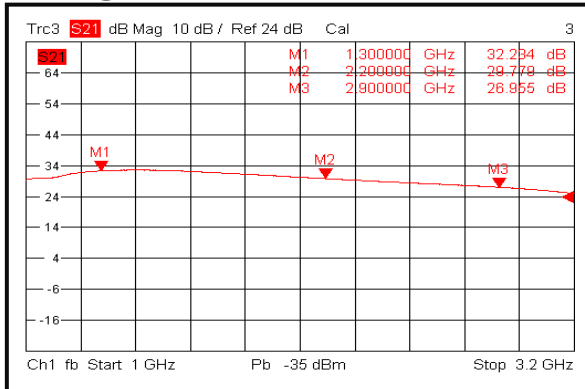
### Output VSWR @+25°C



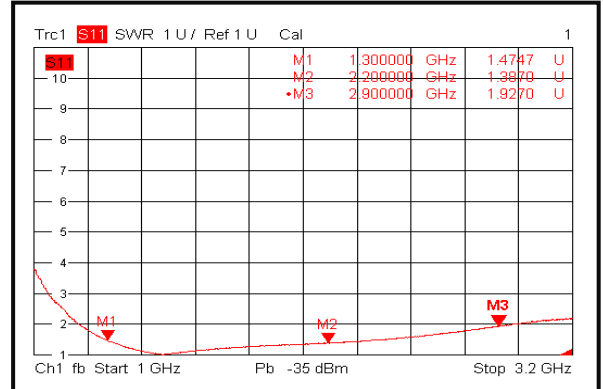
### Isolation @+25°C



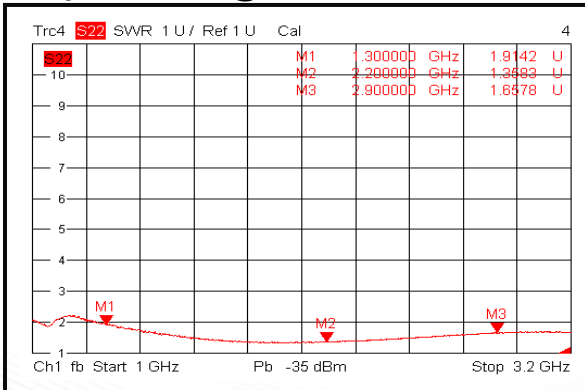
### Gain @-40°C



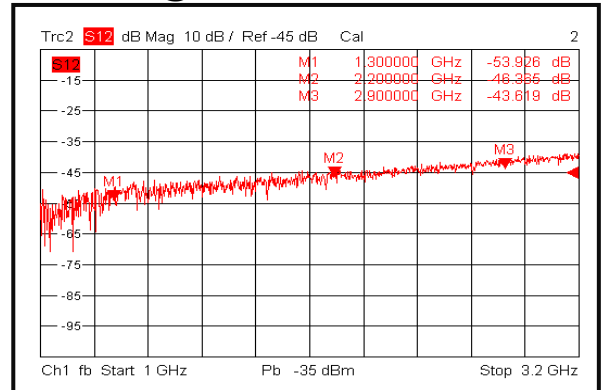
### Input VSWR @-40°C



### Output VSWR @-40°C

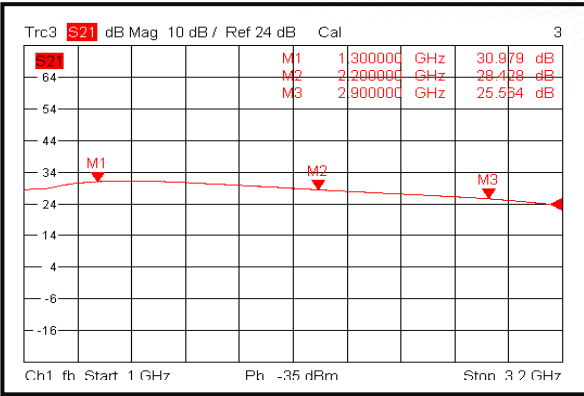


### Isolation @-40°C

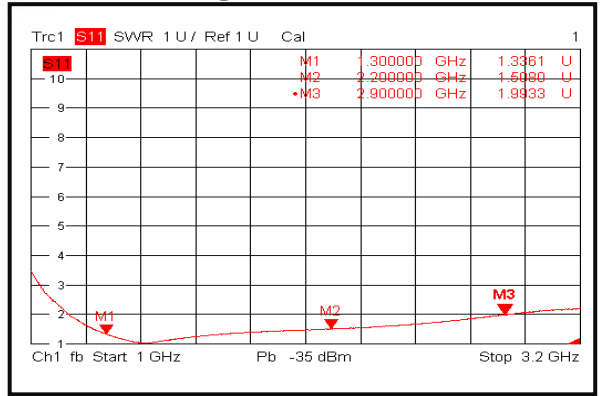




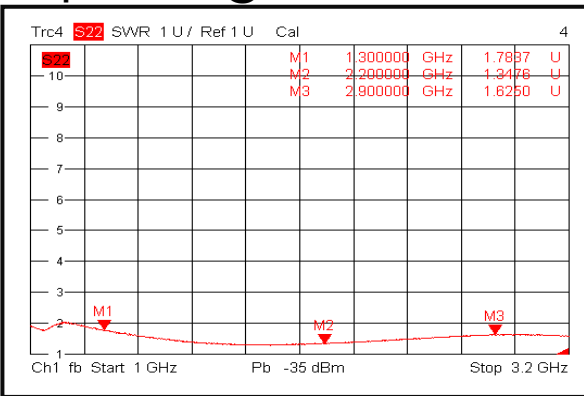
### Gain @+85°C



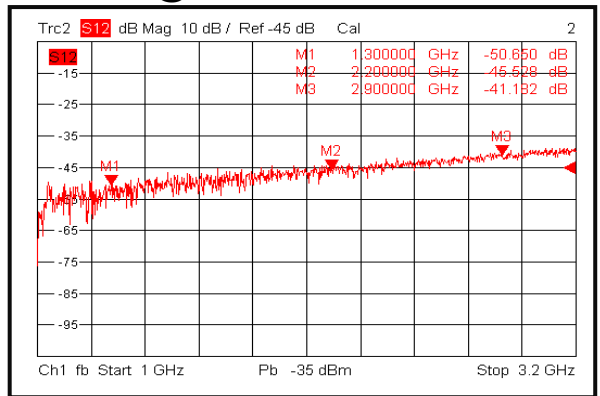
### Input VSWR @+85°C



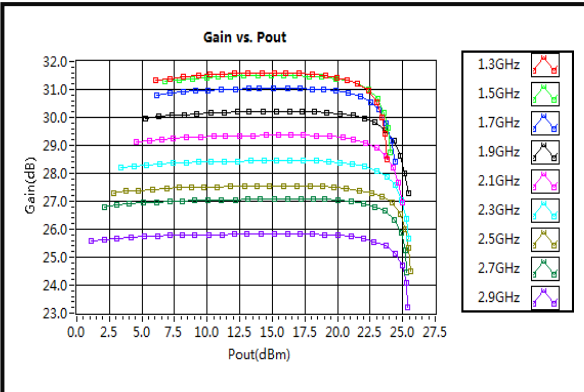
### Output VSWR @+85°C



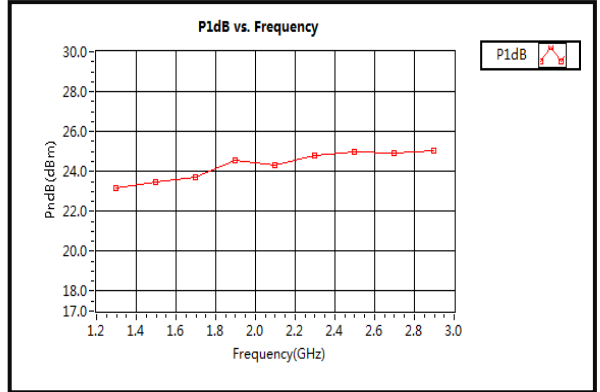
### Isolation @+85°C



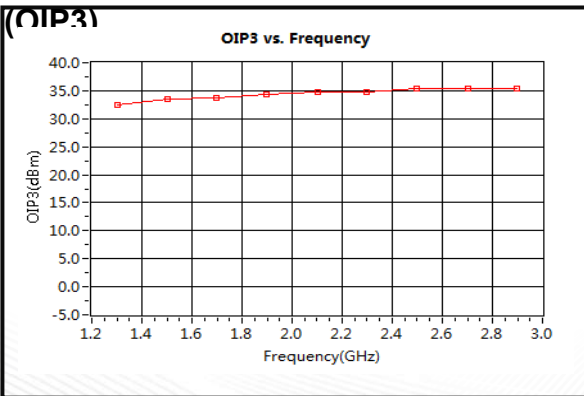
### Gain vs. Output Power



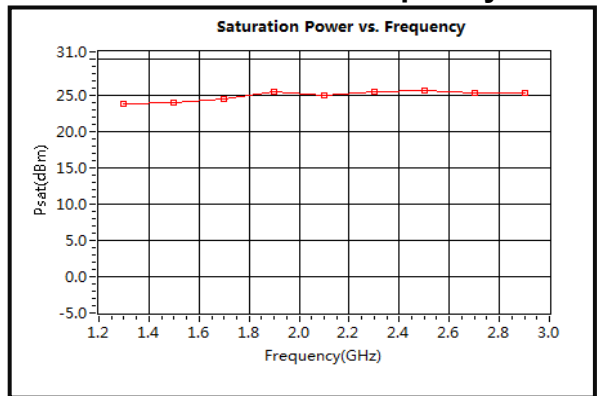
### P1dB vs. Frequency



### Output Third Order Intercept (OIP3)

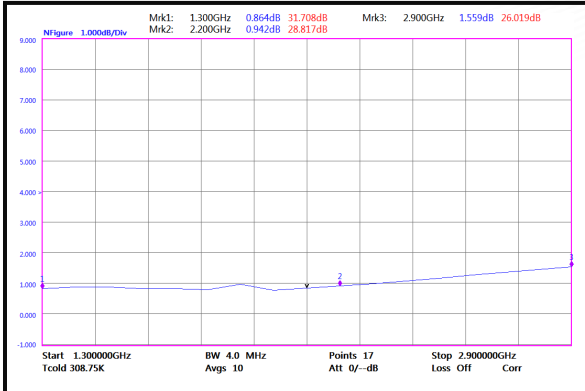


### Saturation Power vs. Frequency

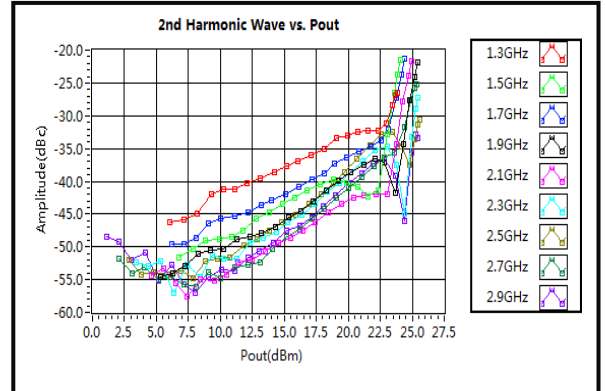




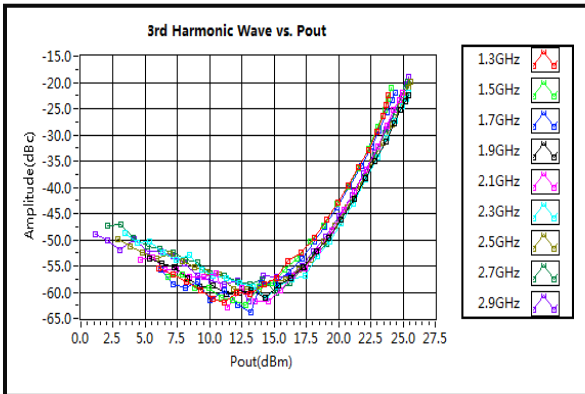
### Noise Figure



### 2nd Harmonic Wave Output Power



### 3rd Harmonic Wave Output Power



### 4th Harmonic Wave Output Power

