



Ultra Wide Band Low Noise Amplifier 0.01GHz~10GHz

Features

- Gain: 28dB typical
- Noise Figure: 2.5dB typical
- High P1dB: +15dBm typical
- Supply Voltage: +12V



Typical Applications

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

RF Microwave & VSAT
Fiber Optics

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	
Frequency Range	0.01		3	3		10	GHz	
Gain	26	30		26	27		dB	
Gain Flatness		±2.0	±2.5		±1.0	±2.0	dB	
Gain Variation Over Temperature (-40°C~+85°C)		±1.0			±1.0		dB	
Noise Figure		2.8	4.5		2.8	3.8	dB	
Input VSWR		1.8	3.0		1.8	3.0	: 1	
Output VSWR		1.5	2.2		1.8	2.2	: 1	
Output 1dB Compression Point (P1dB)	13	15		12	14		dBm	
Saturated Output Power (Psat)		16.5			15.5		dBm	
Output Third Order Intercept (OIP3)		25.5			25		dBm	
Supply Current (Vcc=+12V)	120 Typ. 160 Max.							mA
Isolation S12		-52			-52		dB	

Weight	1.0 Max. Ounces(Net)	Impedance	50 ohms
	3.5 Max. Ounces(Including Heat sink)		
Input / Output Connectors	SMA-Female	Material	Aluminum
Finish	Gold Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Optional)



Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	-10dBm

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

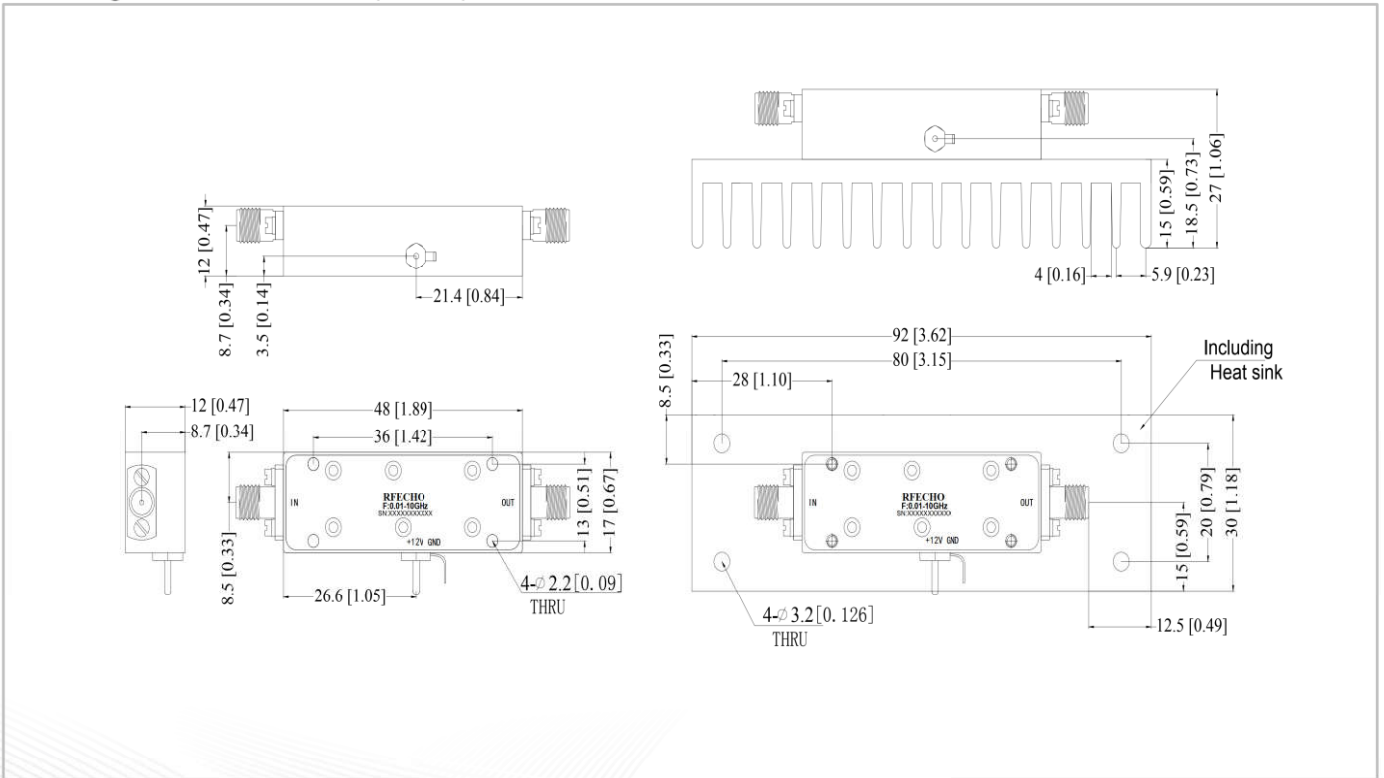
Environmental Specifications

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:

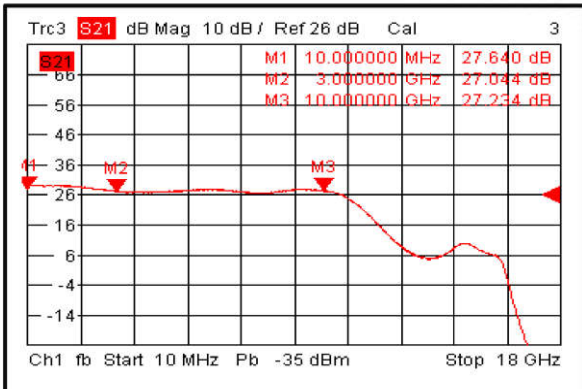
All Dimensions in mm (inches)
Housing Tolerances ± 0.1 (0.004)

Heat Sink required during operation(Sold Separately)

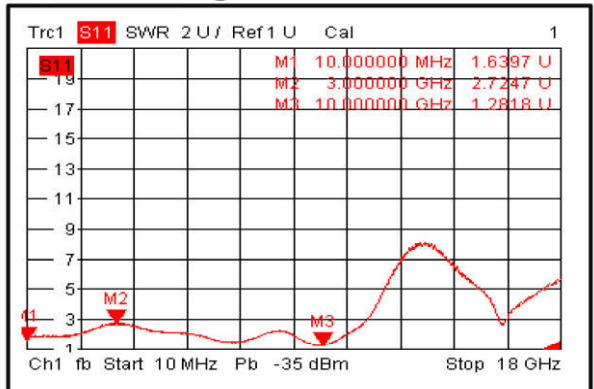




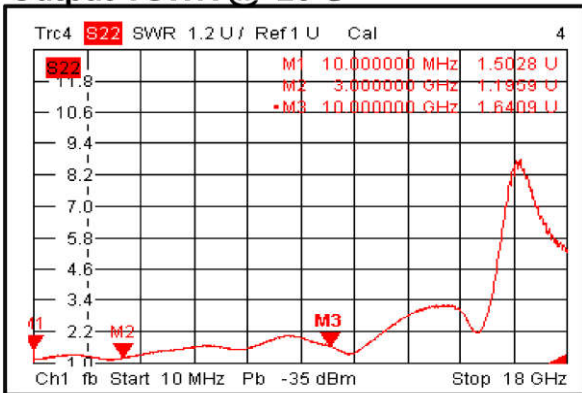
Gain @+25°C



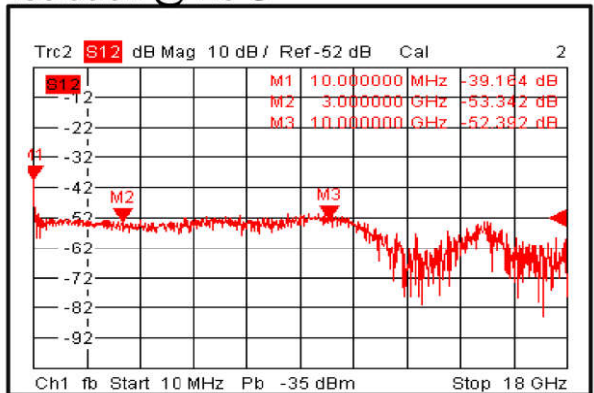
Input VSWR @+25°C



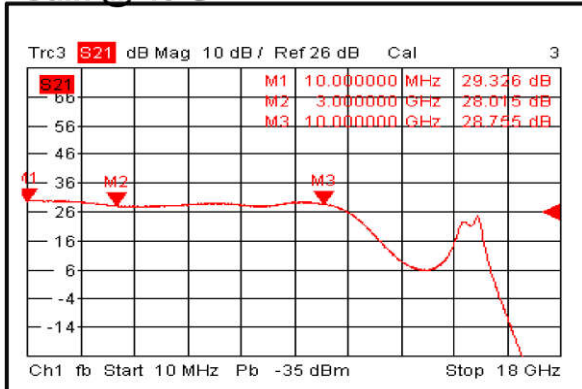
Output VSWR @+25°C



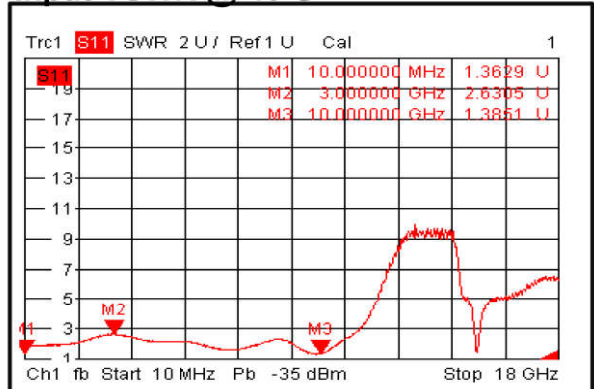
Isolation @+25°C



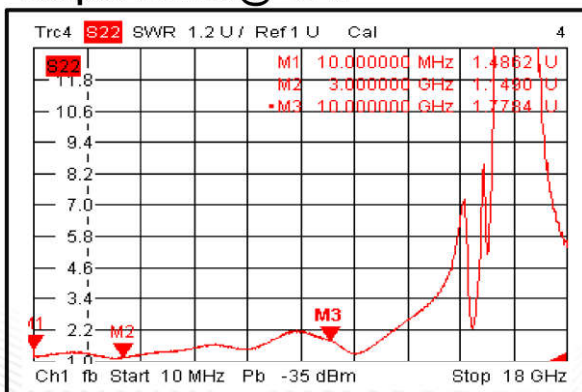
Gain @-40°C



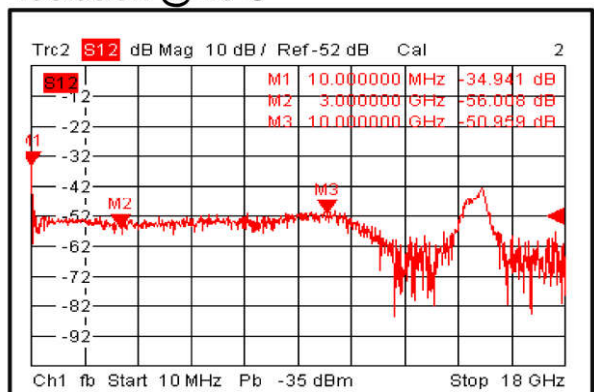
Input VSWR @-40°C



Output VSWR @-40°C



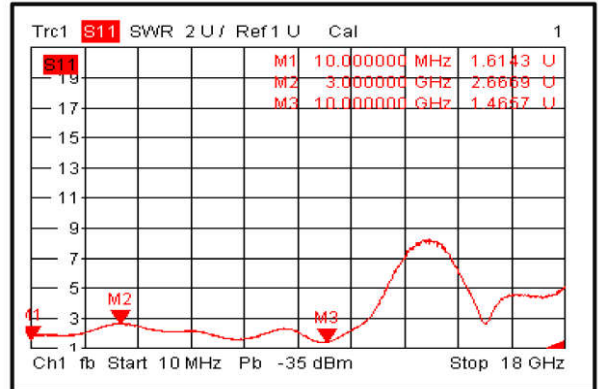
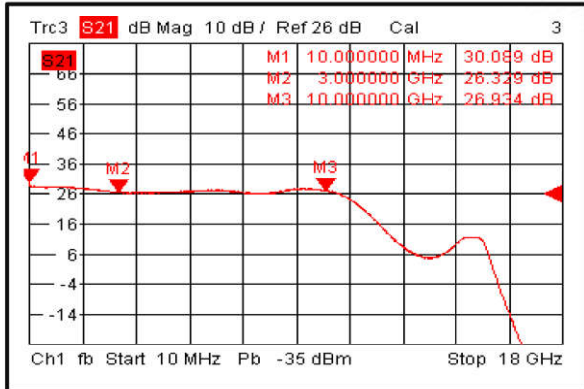
Isolation @-40°C



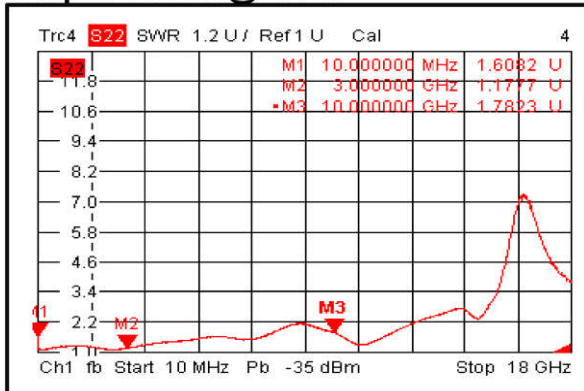


Ultra Wide Band Low Noise Amplifier 0.01GHz~10GHz Input VSWR @+85°C

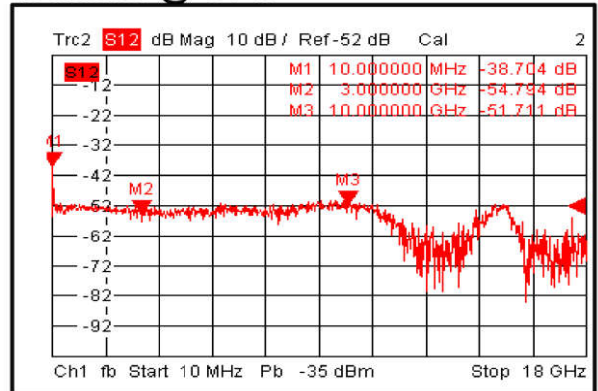
Gain @+85°C



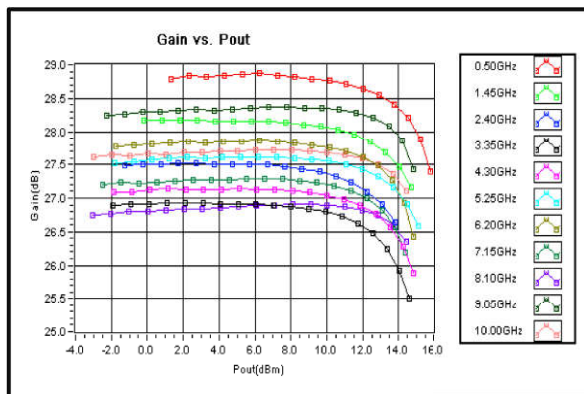
Output VSWR @+85°C



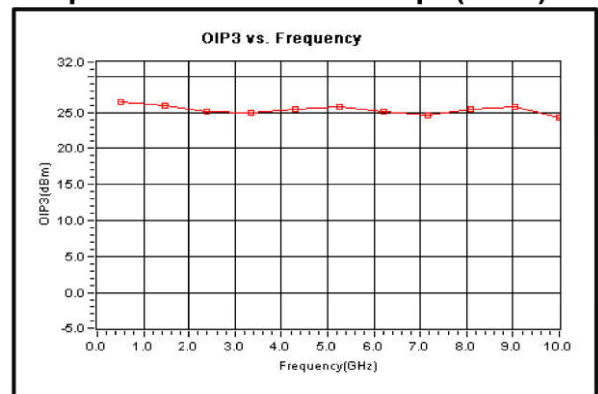
Isolation @+85°C



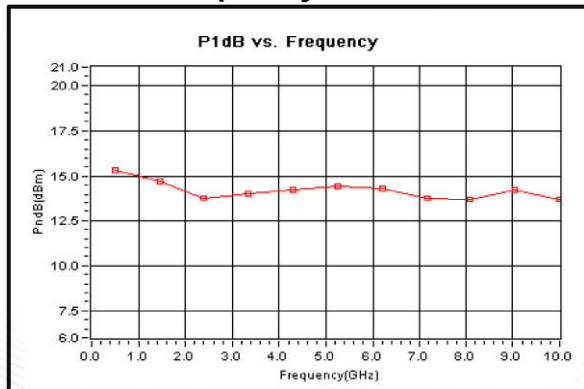
Gain vs. Output Power



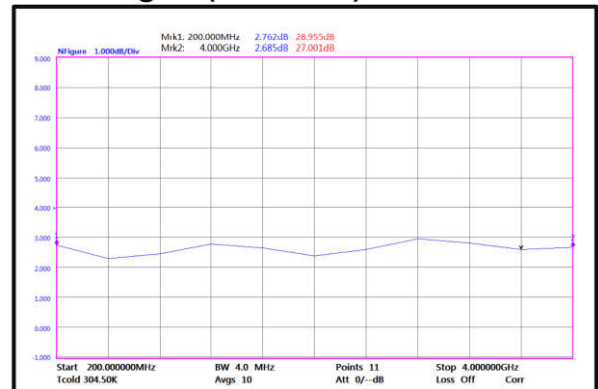
Output Third Order Intercept (OIP3)



P1dB vs. Frequency



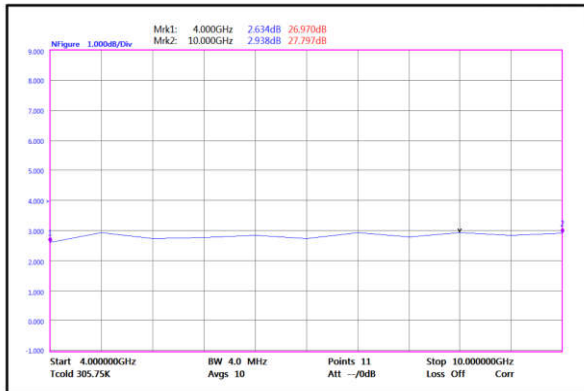
Noise Figure(0.2-4GHz)



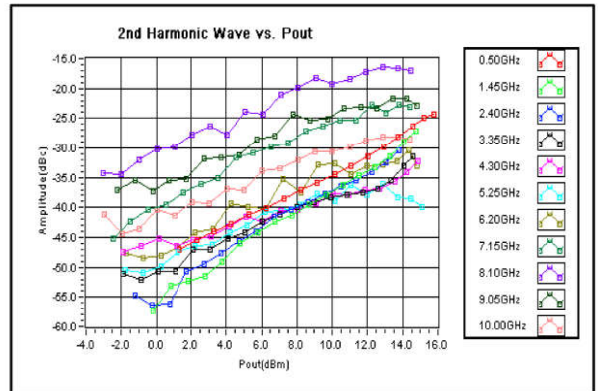


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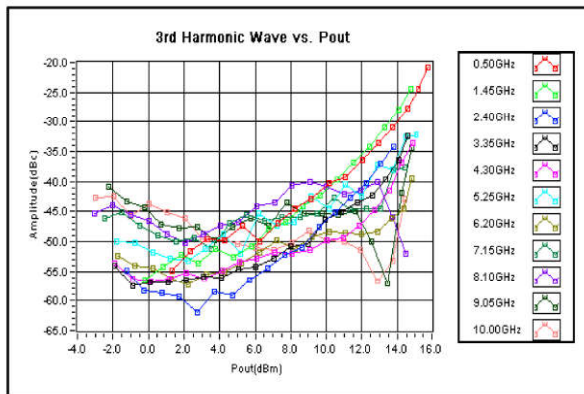
Noise Figure(4-10GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

