



Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz

Features

- Gain: 31dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +26dBm Typical
- Supply Voltage: +12V @ 320 mA
- 50 Ohm Matched Input / Output



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		10	10		18	GHz
Gain	27	31		25	27		dB
Gain Flatness		± 2.0			± 2.0		dB
Gain Variation Over Temperature (-40°C~+85°C)		± 1.0			± 1.0		dB
Noise Figure		2.5	5.5		3.0	4.0	dB
Input VSWR		2.0			1.4	1.8	:1
Output VSWR		2.0			1.8	2.1	:1
Output 1dB Compression Point (P1dB)	24	26		20	22		dBm
Saturated Output Power (Psat)		27			24		dBm
Output Third Order Intercept (OIP3)		35			28		dBm
Supply Current (Vcc=+12V)		320	400		320	400	mA
Isolation S12		-65			-60		dB

Weight	1.5 Max. ounces(Net)	Impedance	50ohms
	3.5 Max. ounces(Including Heat sink)		
Input /Output Connectors	SMA-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)	+3dB m

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

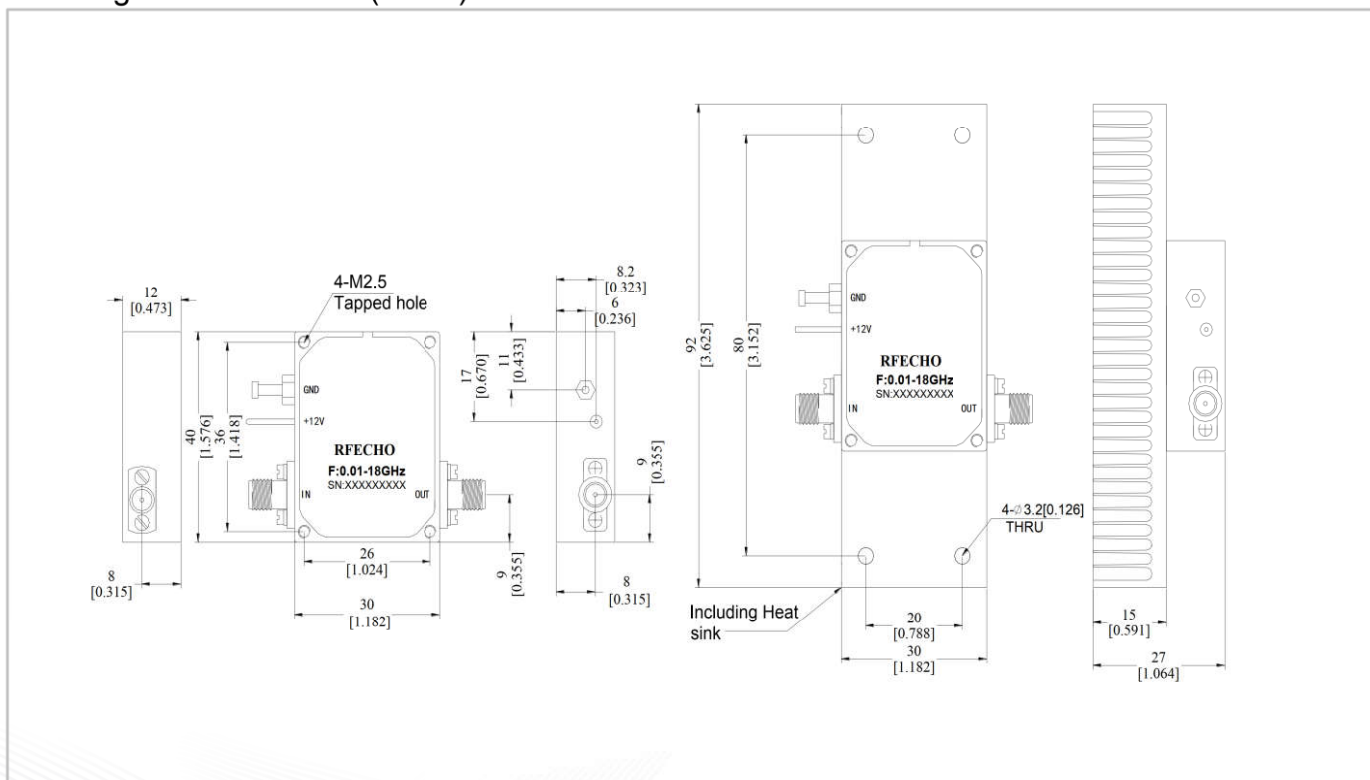
Environmental Specifications

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:

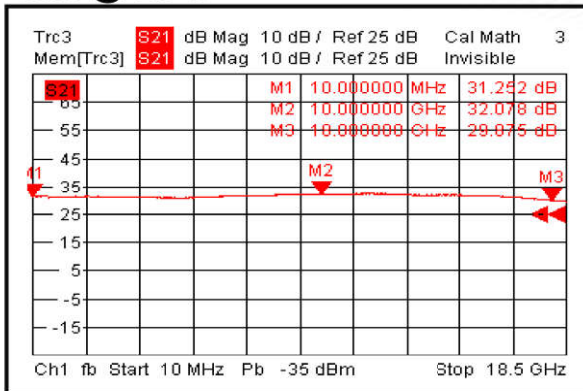
All Dimensions in mm (inches)
Housing Tolerances ± 0.1 (0.004)

Heat Sink required during operation(Sold Separately)

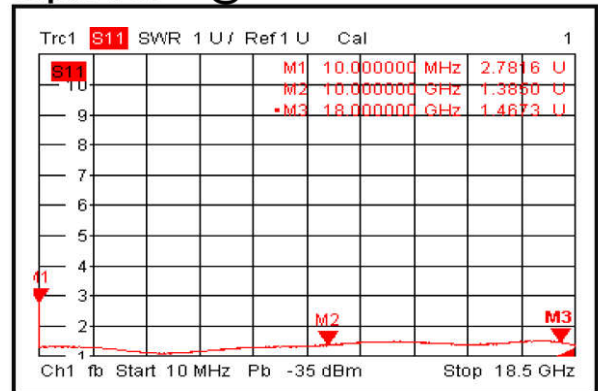




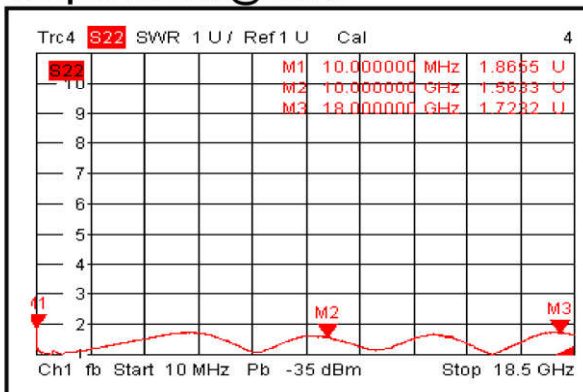
Gain @+25°C



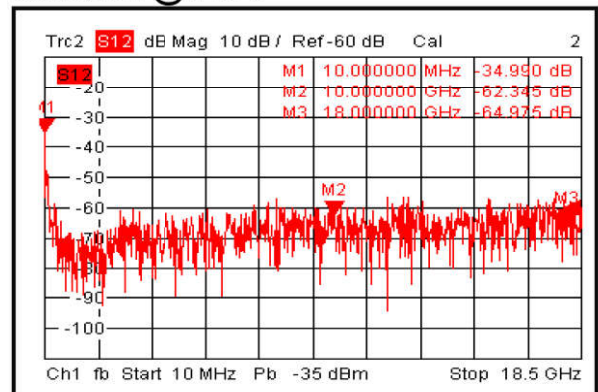
Input VSWR @+25°C



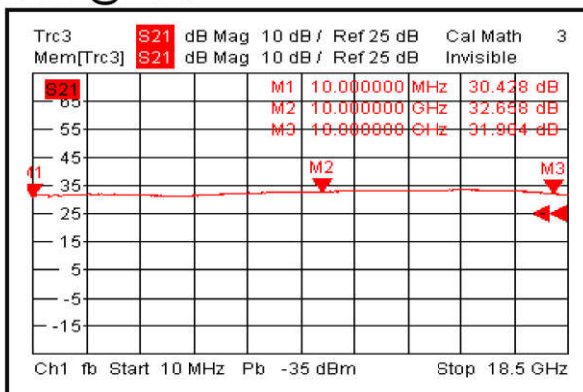
Output VSWR @+25°C



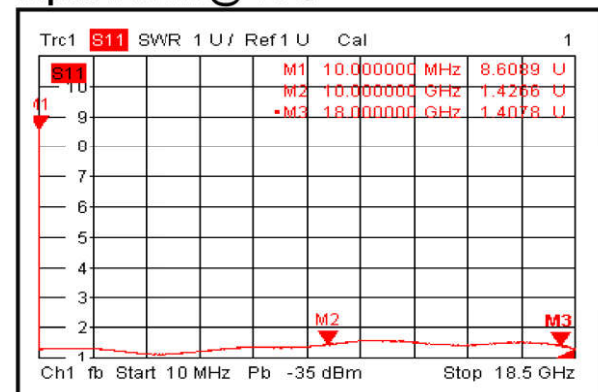
Isolation @+25°C



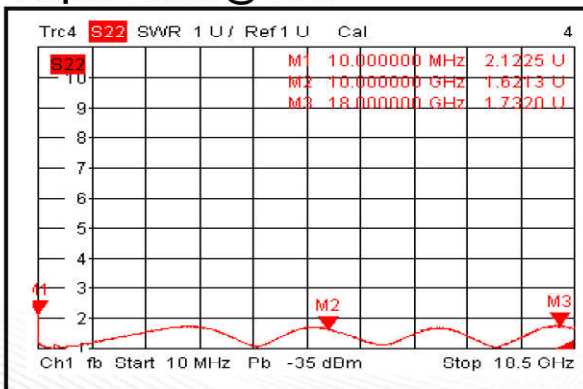
Gain @-40°C



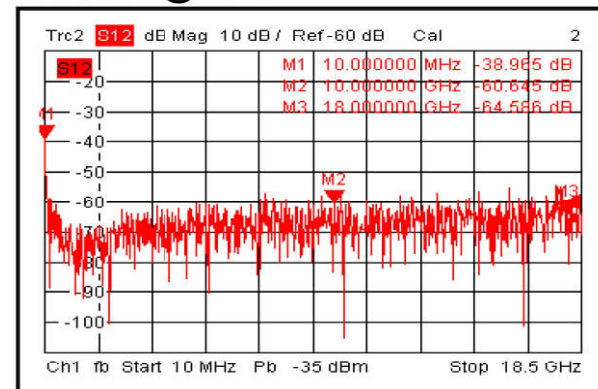
Input VSWR @-40°C

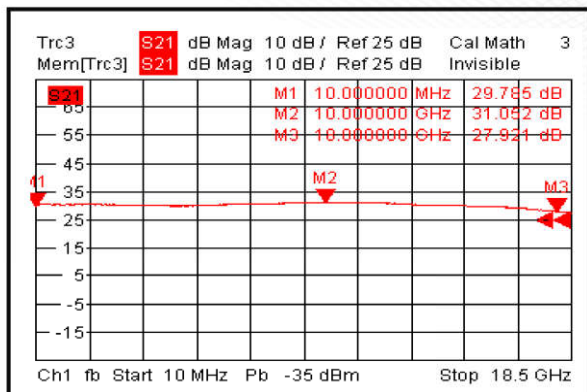


Output VSWR @-40°C

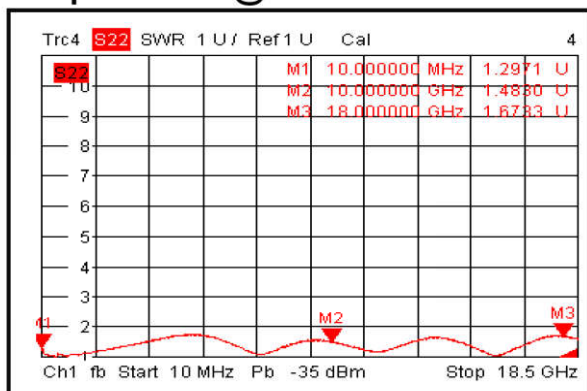


Isolation @-40°C

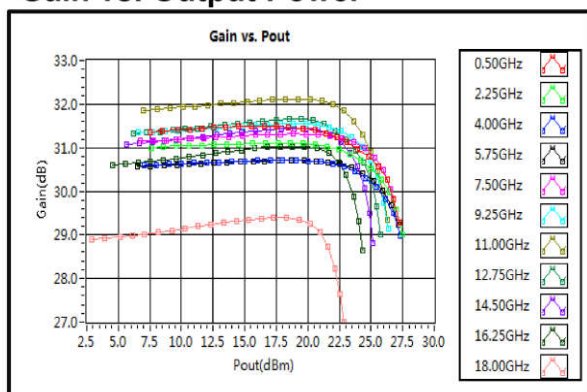




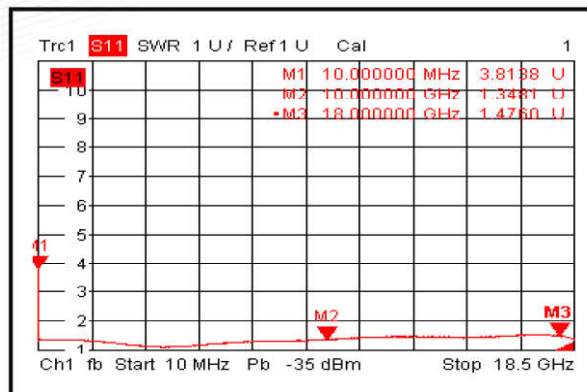
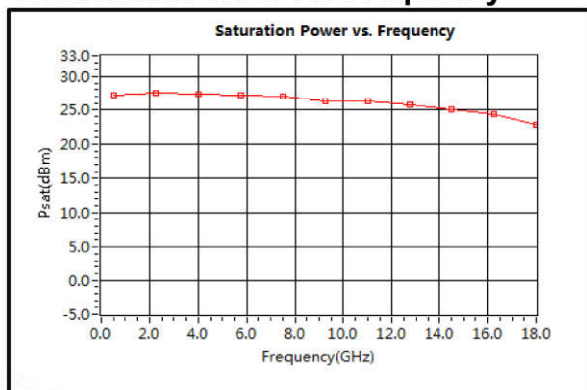
Output VSWR @+85°C



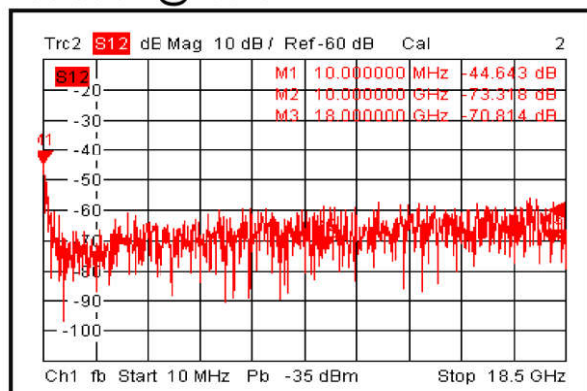
Gain vs. Output Power



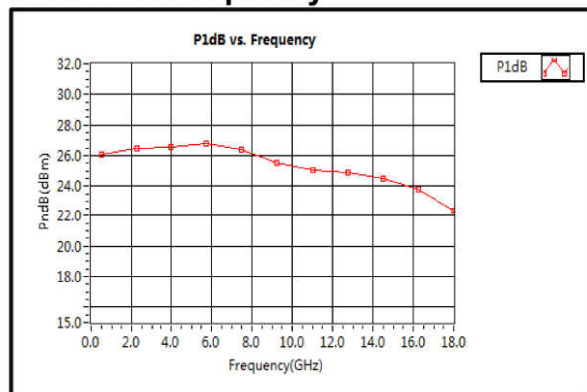
Saturation Power vs. Frequency



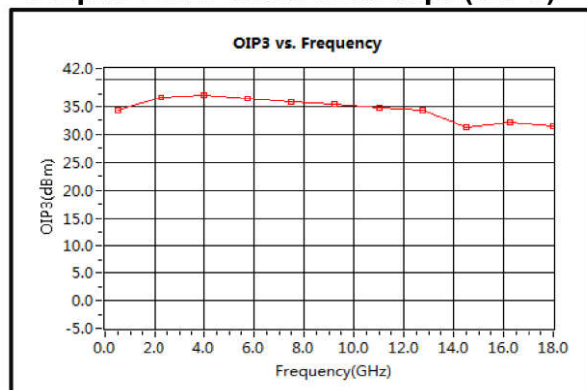
Isolation @+85°C



P1dB vs. Frequency

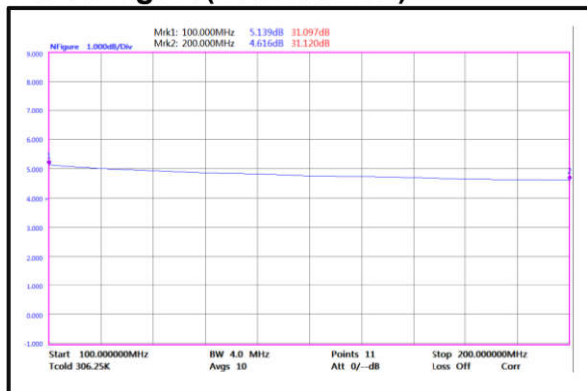


Output Third Order Intercept (OIP3)

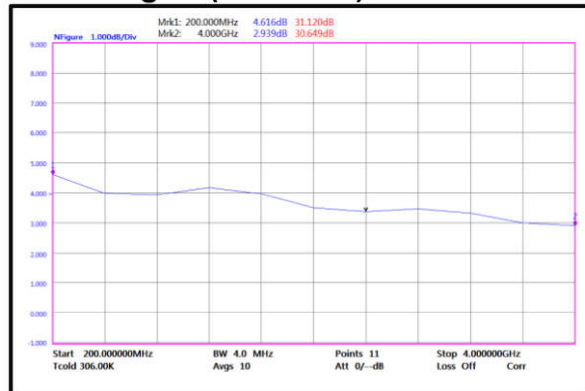




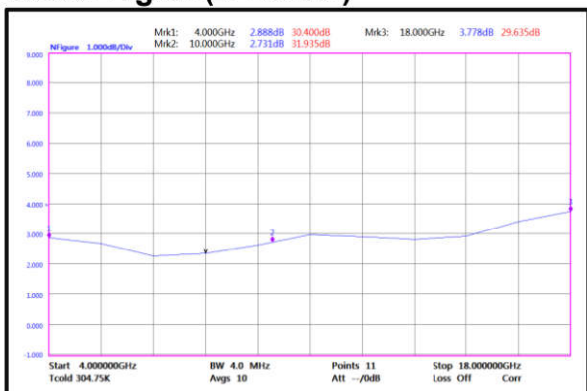
Noise Figure(100-200MHz)



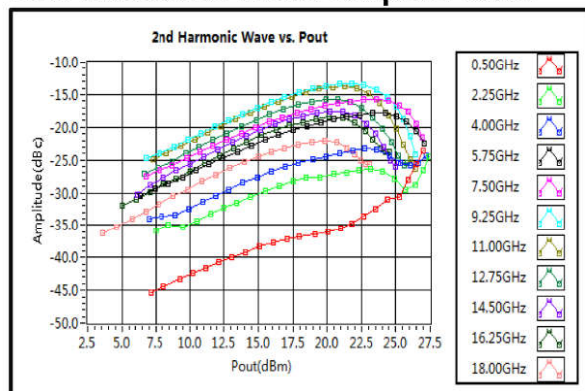
Noise Figure(0.2-4GHz)



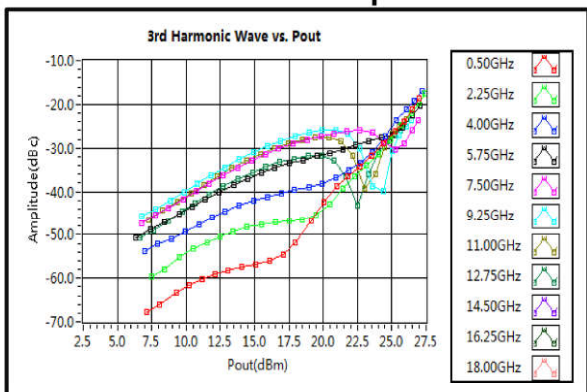
Noise Figure(4-18GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

