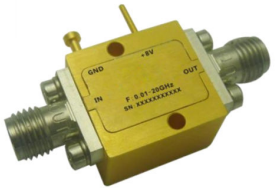
Ultra Wide Band Low Noise Amplifier 0.01GHz ~ 20GHz

Features



- Gain: 17dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +18dBm Typical
- Supply Voltage: +8V
- 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		4	4		20	GHz
Gain	14	17	20	13	15	17	dB
Gain Flatness		±1.0	±1.5		±0.5	±1.0	dB
Gain Variation Over Temperature (-40ºC~+85ºC)		±1.0			±1.0		dB
Noise Figure		3.5			2.5	5.0	dB
Input VSWR		1.5	2.0		1.8	2.2	: 1
Output VSWR		1.5	2.0		1.6	2.2	: 1
Output 1dB Compression Point (P1dB)	16	18		14	17		dBm
Saturated Output Power (Psat)		21			20		dBm
Output Third Order Intercept (OIP3)		30			28		dBm
Supply Current (Vcc=+8V)		80	150		80	150	mA
Isolation S12		-30			-30		dB

Weight	0.35 Max. ounces	Impedance	50ohms
Input / Output Connectors	SMA-Female	Material	Aluminum
Finish	Gold Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Optional)

Absolute Maximum Ratings

Operating Voltage	+10V
RF Input Power (RFIN)	+20dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +8V biasing

Power OFF Procedure

Step 1	Turn off +8V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

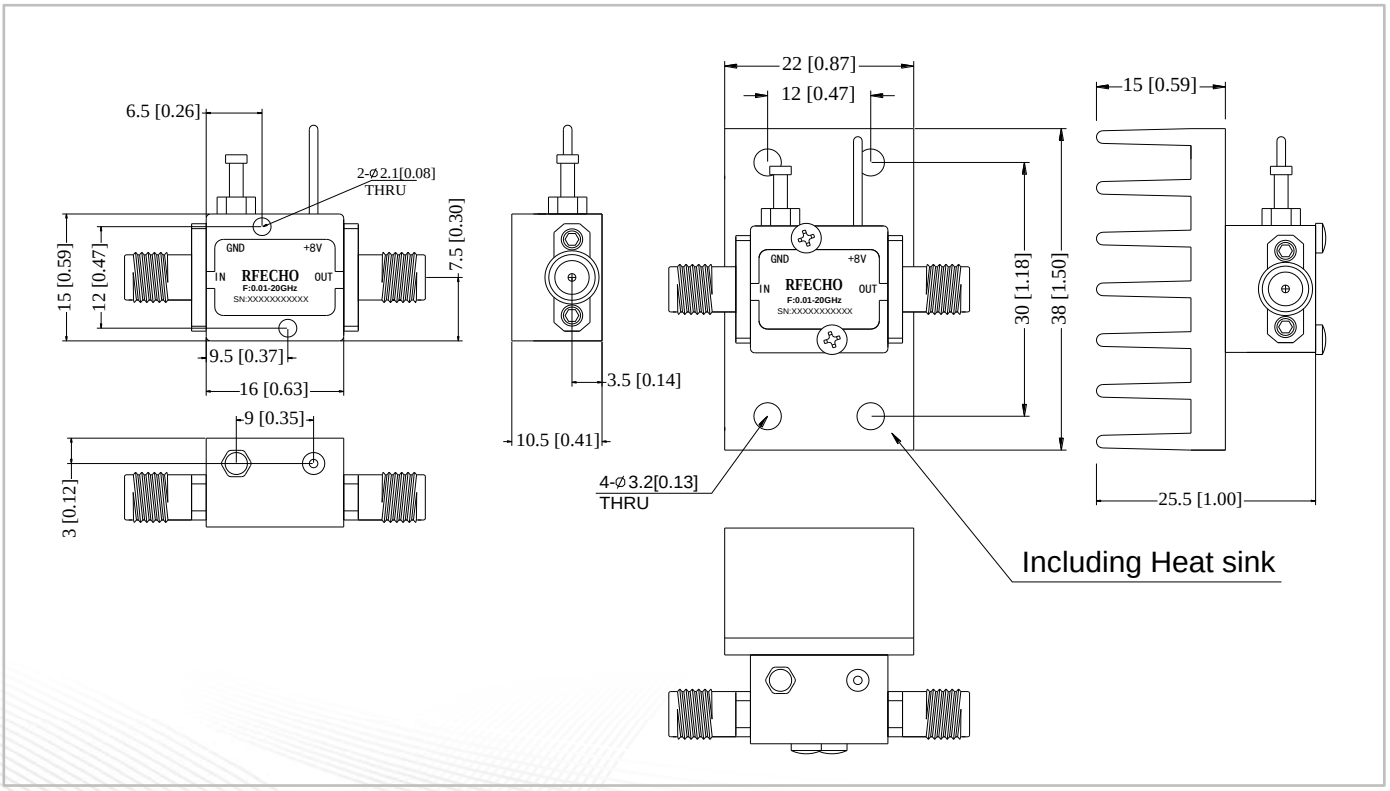
Environmental Specifications

Operational Temperature	-40ºC~+85ºC
Storage Temperature	-50ºC~+105ºC
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 35ºc, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions

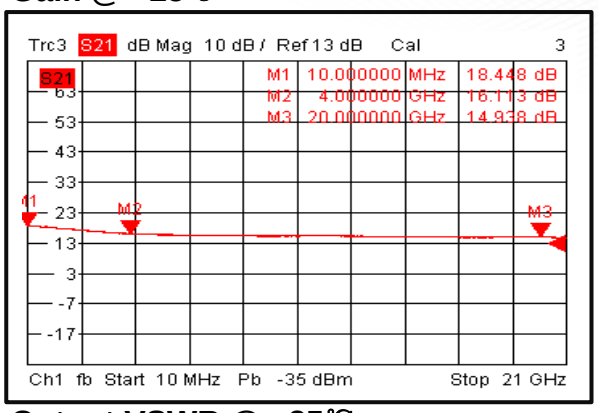
Outline Drawing:

All Dimensions in mm (inches)

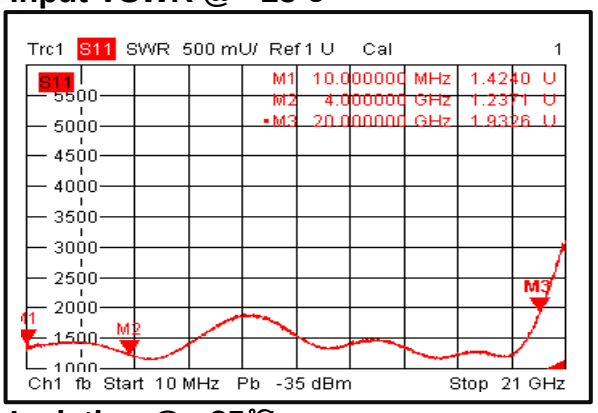
Heat Sink required during operation(Sold Separately)



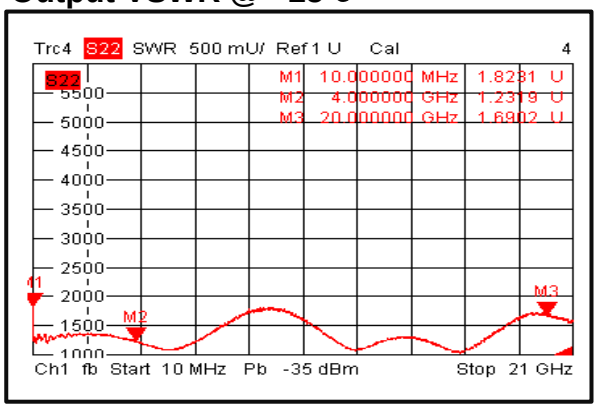
Gain @ +25℃



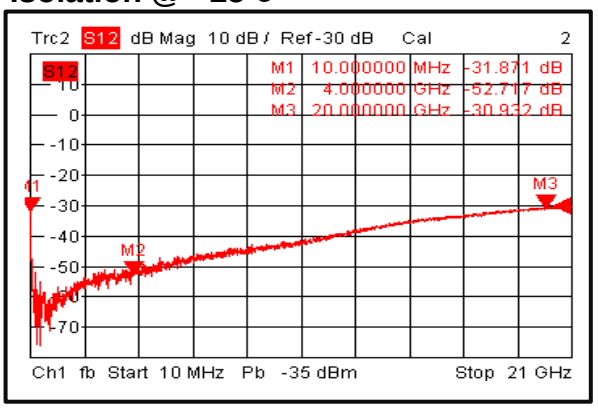
Input VSWR @ +25℃



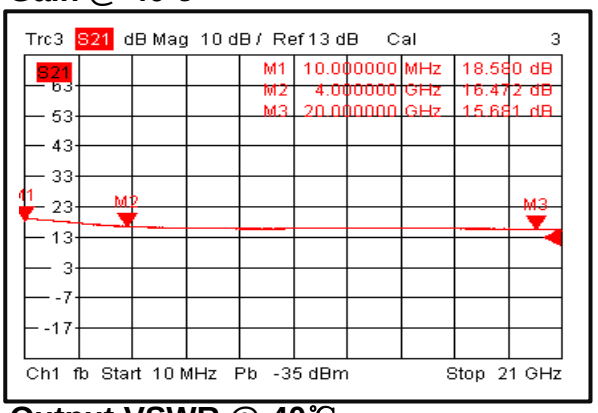
Output VSWR @ +25℃



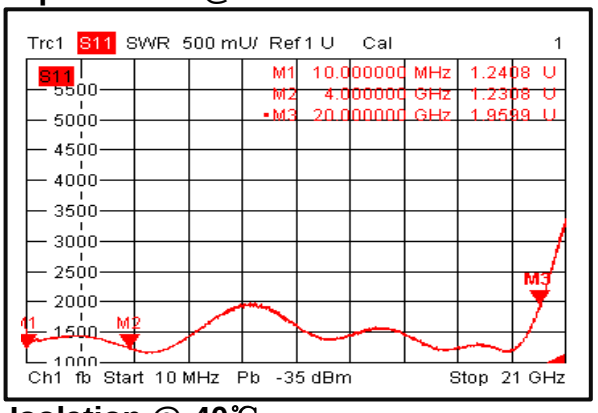
Isolation @ +25℃



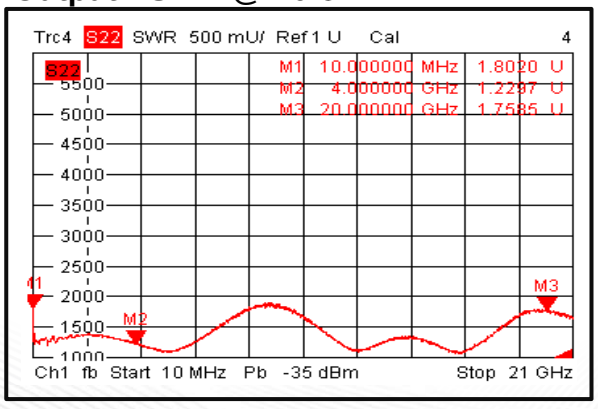
Gain @-40℃



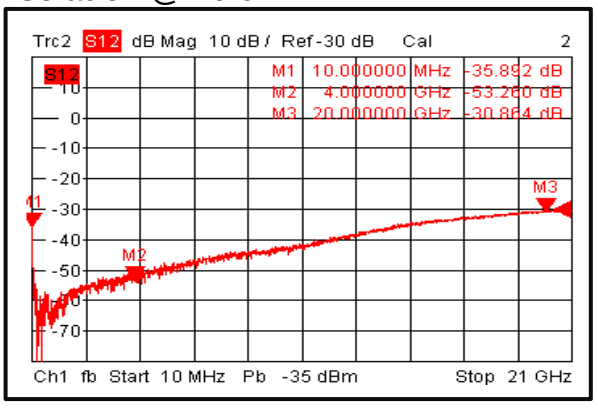
Input VSWR @-40℃



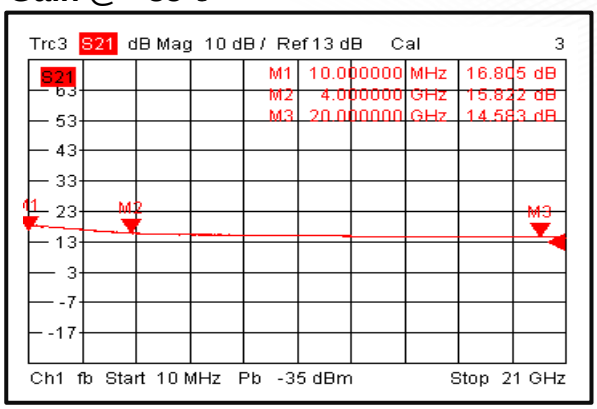
Output VSWR @-40℃



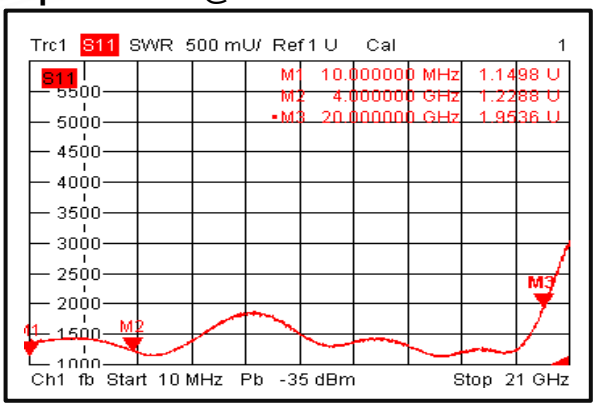
Isolation @-40℃



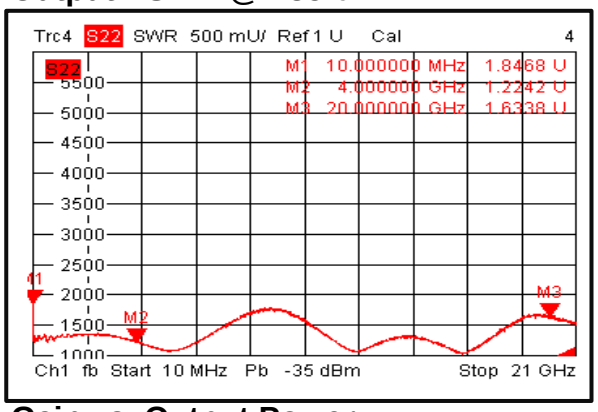
Gain @ +85℃



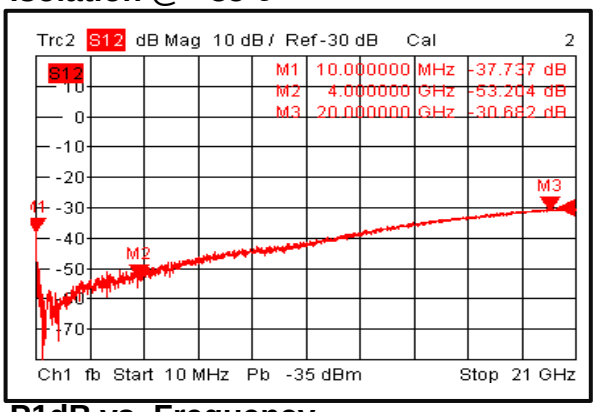
Input VSWR @ +85℃



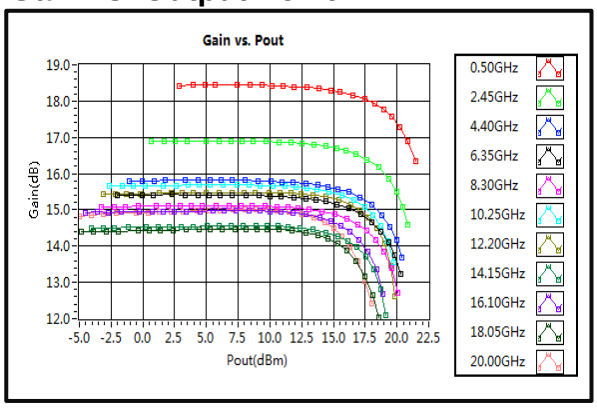
Output VSWR @ +85℃



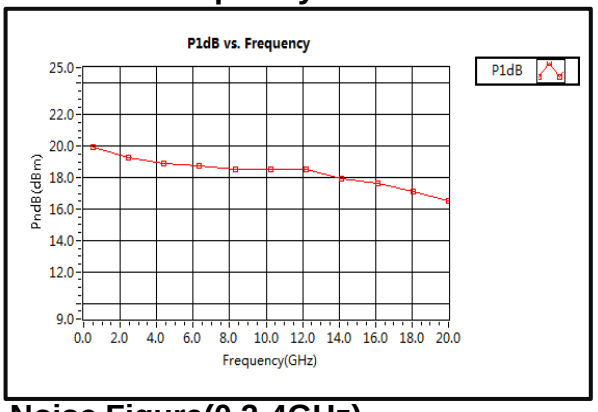
Isolation @ +85℃



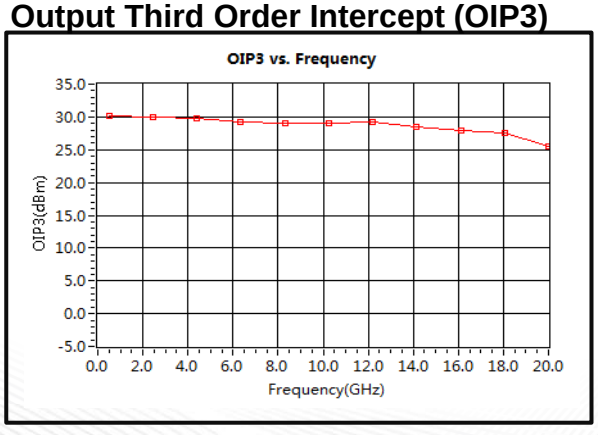
Gain vs. Output Power



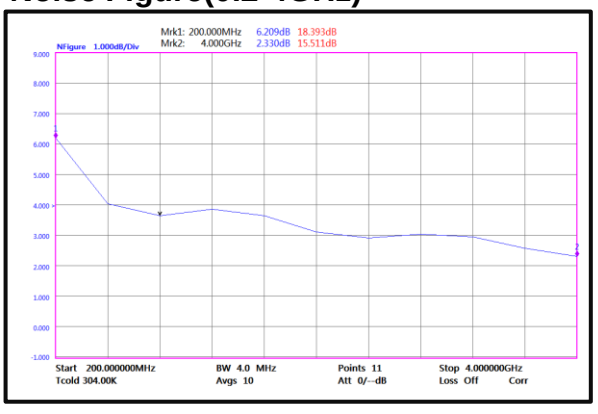
P1dB vs. Frequency



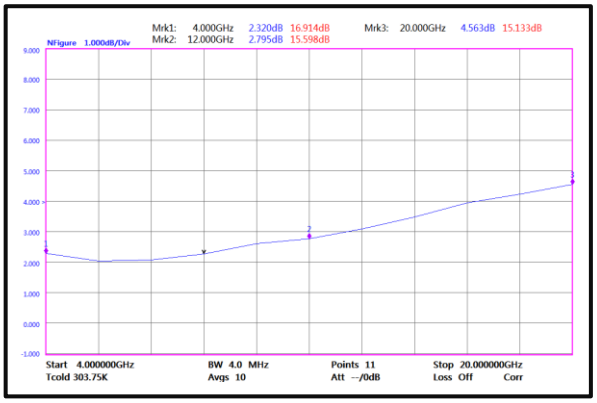
Output Third Order Intercept (OIP3)



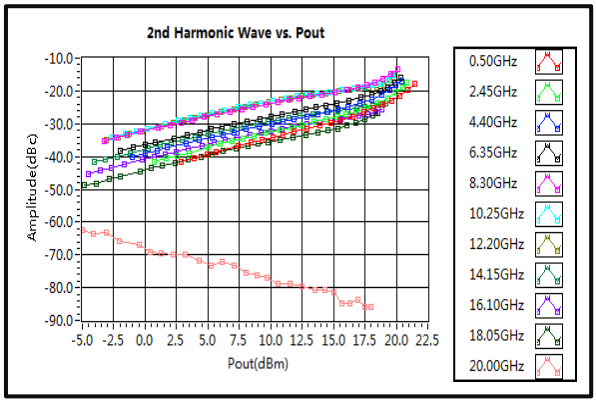
Noise Figure(0.2-4GHz)



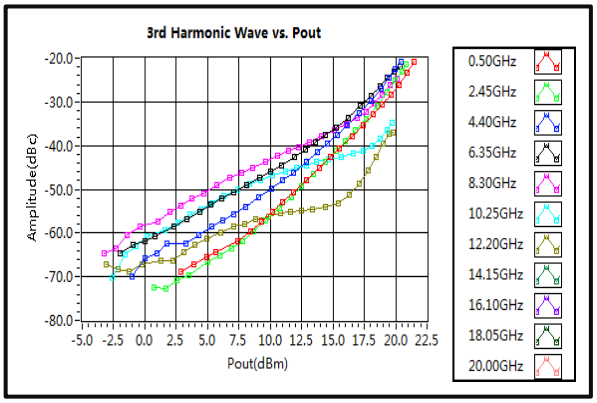
Noise Figure(4-20GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power