Ultra Wide Band Low Noise Amplifier 1GHz~23GHz

Features

- Gain: 29dB Typical
- Noise Figure: 5.0dB Typical
- P1dB Output Power: +20dBm
- Supply Voltage: +24V @ 250mA
- 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		12	12		23	GHz
Gain	28	31		24	27		dB
Gain Flatness		±1.5	±2.5		±1.5	±2.0	dB
Gain Variation Over Temperature (-40℃~+85℃)		±1.0			±1.5		dB
Noise Figure		3.5	4.5		5.0	8.0	dB
Input VSWR		2.0	4		1.8	2.0	: 1
Output VSWR		1.8	2.2		1.8	2.2	: 1
Output 1dB Compression Point (P1dB)	25	26		17	20		dBm
Input Power (dBm)			40			40	dBm
Saturated Output Power (Psat)		27			23		dBm
Output Third Order Intercept (OIP3)		36			27		dBm
Supply Current (Vcc=+24V)		250	360		250	360	mA
Isolation S12		-65			-45		dB

Weight	2.0Max. Ounces	Impedance	50 ohms
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	+28V
RF Input Power(25℃，50Ω)	+40dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +24V biasing

Power OFF Procedure

Step 1	Turn off +24V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

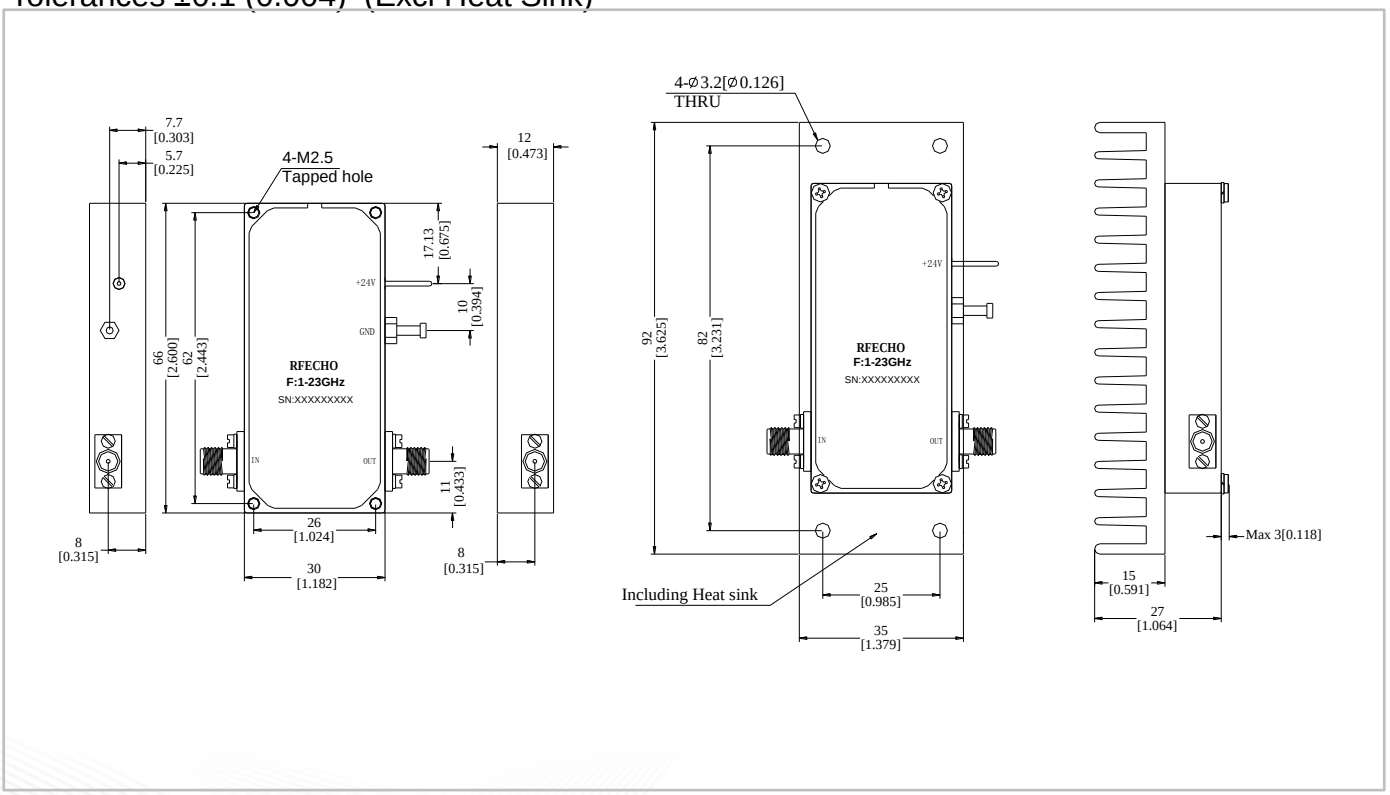
Environmental Specifications

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

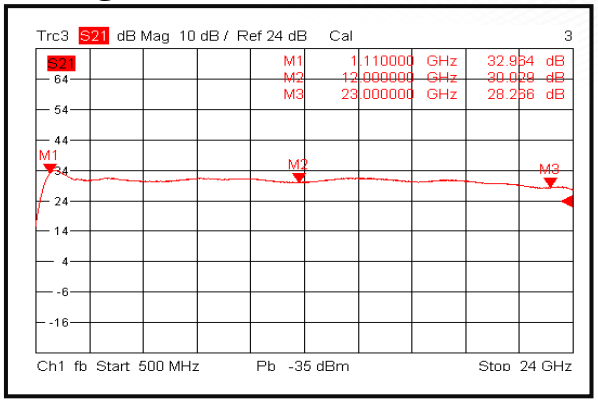
Outline Drawing:

All Dimensions in mm (inches)
Tolerances ±0.1 (0.004) (Excl Heat Sink)

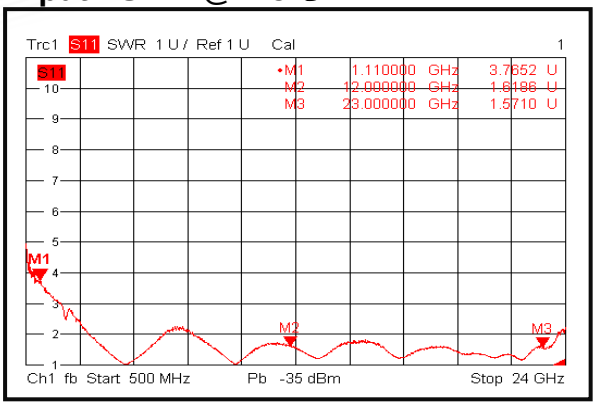
Heat Sink required during operation(Sold Separately)



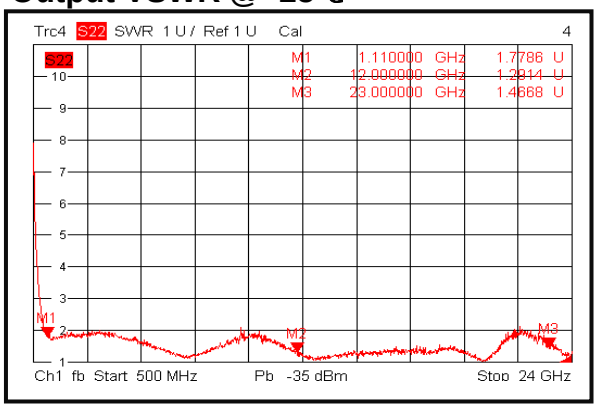
Gain @+25℃



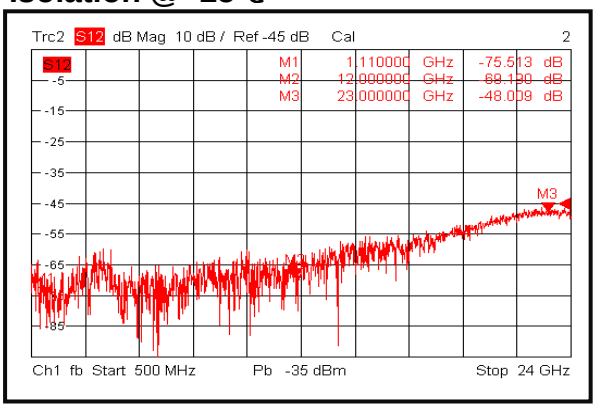
Input VSWR @+25℃



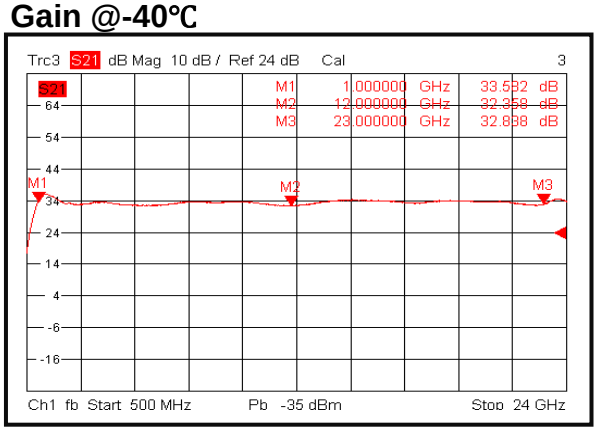
Output VSWR @+25℃



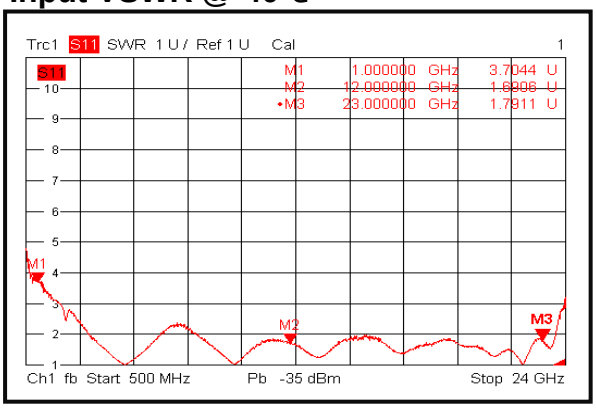
Isolation @+25℃



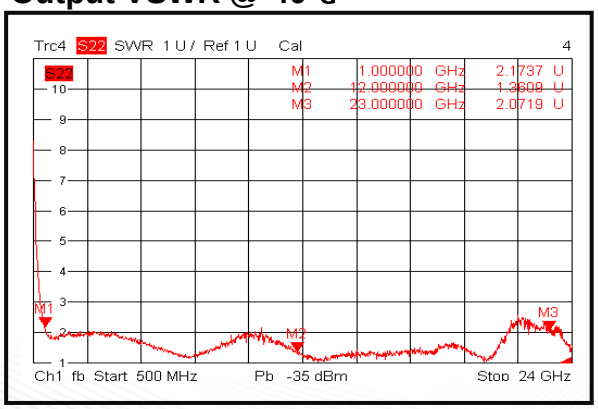
Gain @-40℃



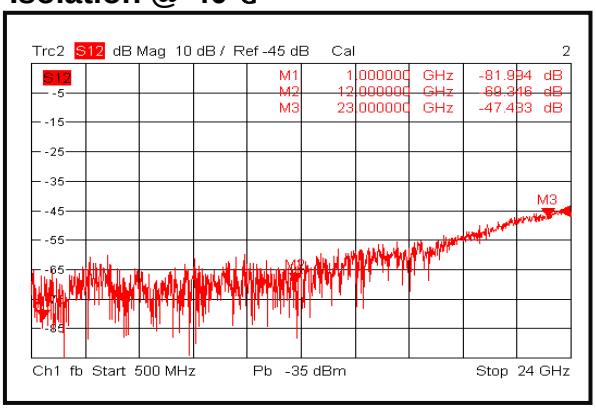
Input VSWR @-40℃



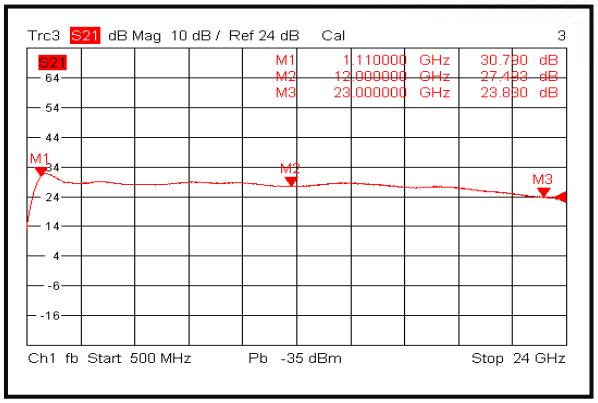
Output VSWR @-40℃



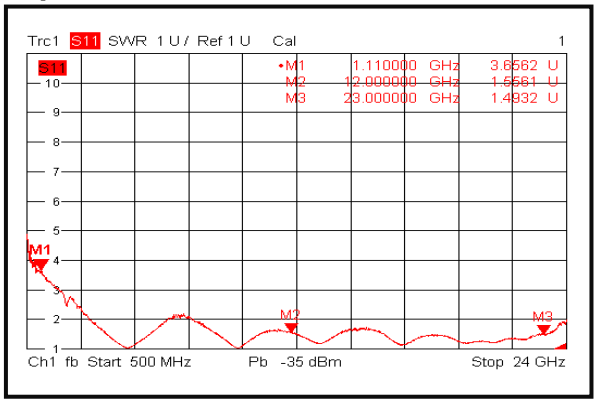
Isolation @-40℃



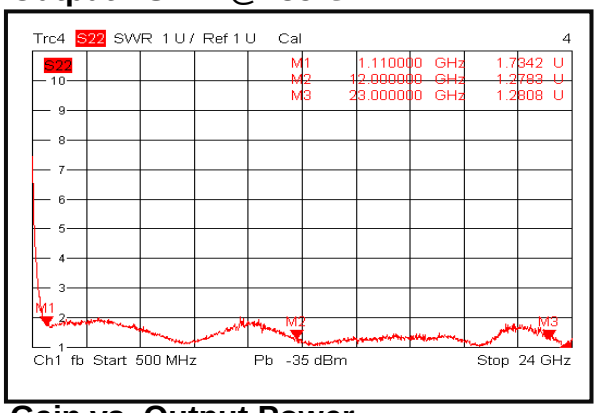
Gain @+85℃



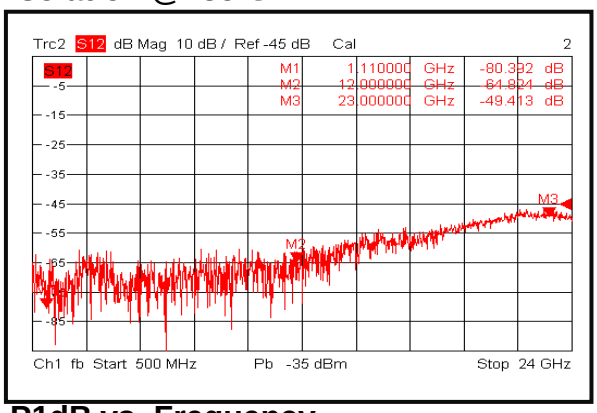
Input VSWR @+85℃



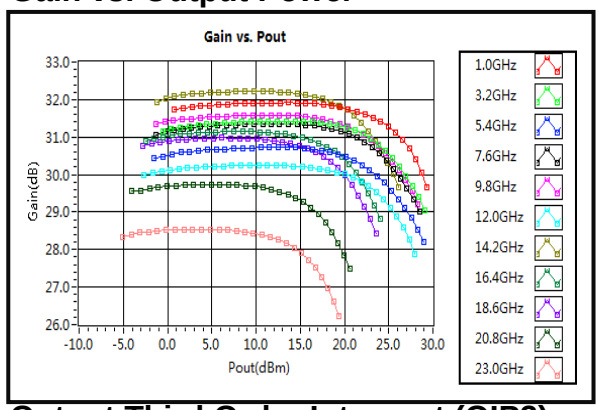
Output VSWR @+85℃



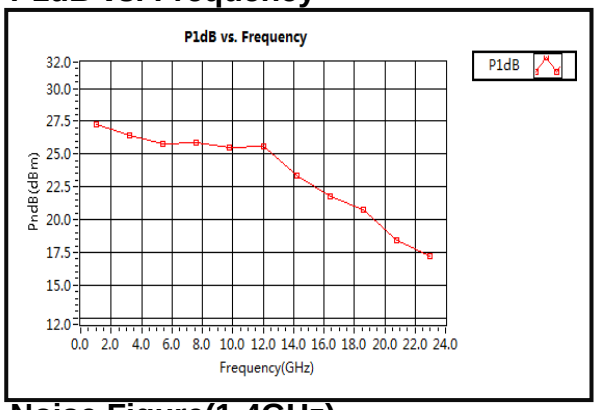
Isolation @+85℃



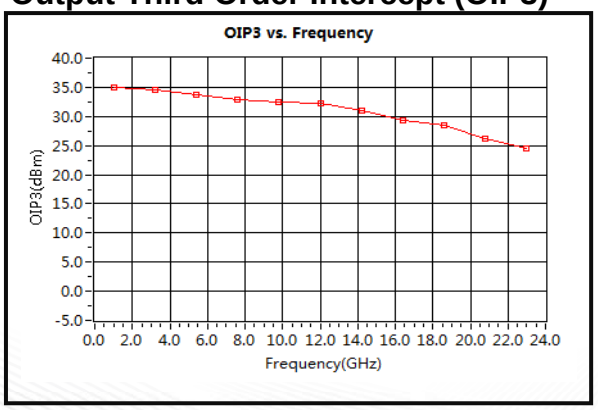
Gain vs. Output Power



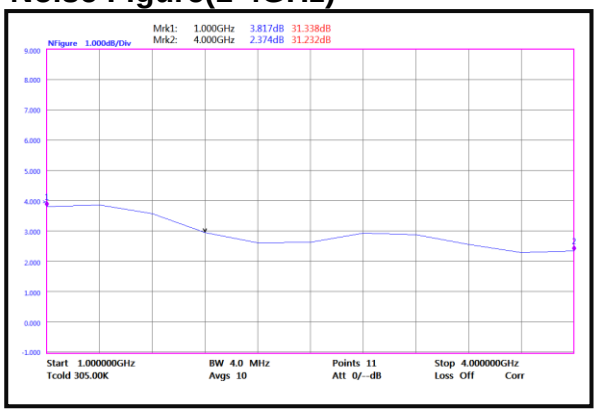
P1dB vs. Frequency



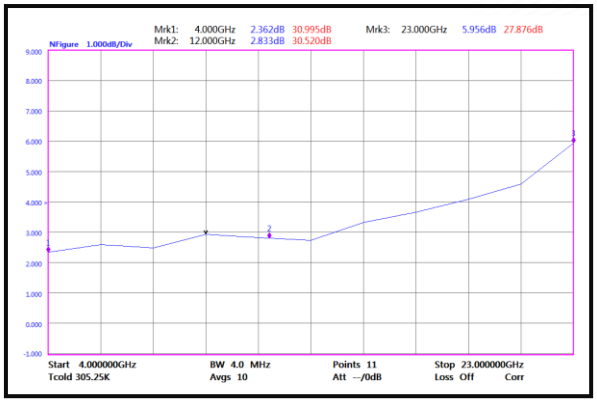
Output Third Order Intercept (OIP3)



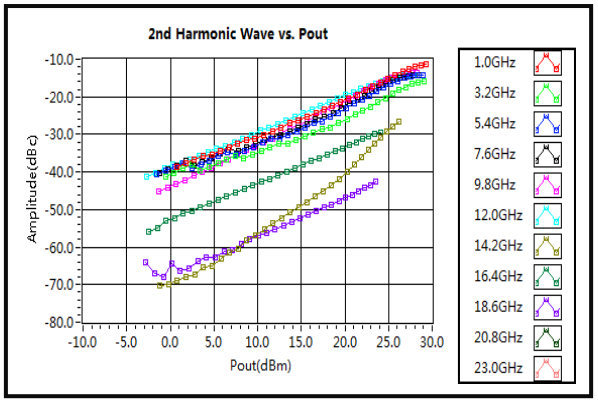
Noise Figure(1-4GHz)



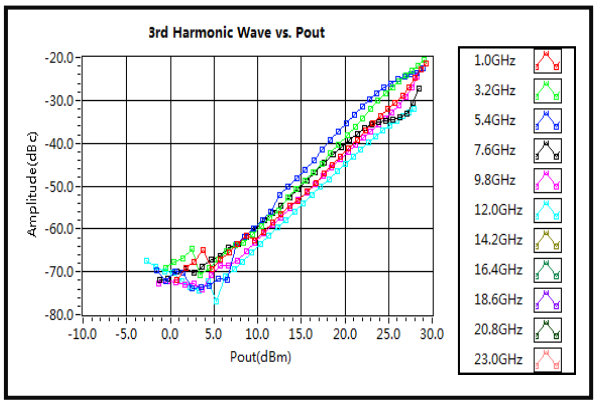
Noise Figure(4-23GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power