

Ultra Wide Band Low Noise Amplifier 1GHz~12GHz

Features

- Gain: 36dB Typical
- Noise Figure: 1.8dB Typical
- P1dB Output Power:+26dBm Typical
- Supply Voltage: +12V
- 50 Ohm Matched



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	1		6	6		12	GHz
Gain	33	36		33	35		dB
Gain Flatness		±1.0	±1.5		±1.0	±1.5	dB
Gain Variation Over Temperature (-45°C~+85°C)		±0.8			±1.0		dB
Noise Figure		1.8	2.0		1.8	2.3	dB
Input VSWR		1.6	2.0		1.7	2.0	: 1
Output VSWR		1.5	2.0		1.5	2.0	: 1
Output 1dB Compression Point (P1dB)	24	26		24	25		dBm
Saturated Output Power (Psat)		27			26		dBm
Output Third Order Intercept (IP3)		35			30		dBm
Supply Current (Vcc=+12V)		350	450		350	450	mA
Isolation S12		-65			-60		dB

Weight	3.53 ounces	Impedance	50ohms
Input / Output Connectors	SMA-Male/SMA-Female	Material	copper
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness	Package Sealing	Epoxy Sealing (Standard)
	Option: Gold 80 micron; Nickel 180 micron thickness		Hermetically Sealed (Option with extra charge)



Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (RFIN)	+2dBm

Biassing 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

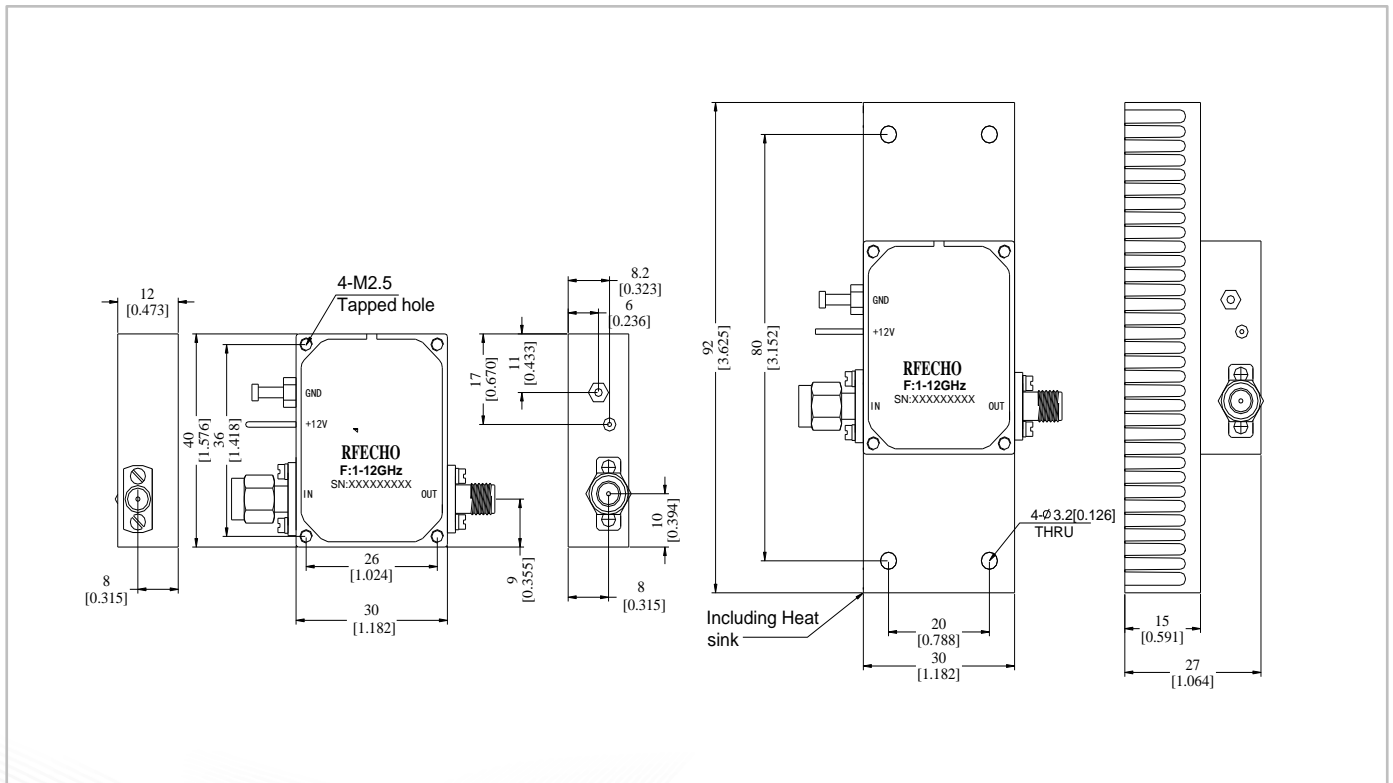
Environmental Specifications

Operational Temperature	-45°C~+85°C
Storage Temperature	-55°C~+125°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 35c, 95%RH at 40°c
Shock	20G for 11msec half sine wave,3 axis both directions

Outline Drawing:

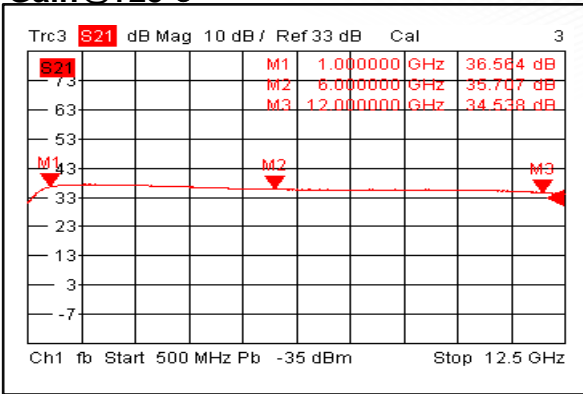
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

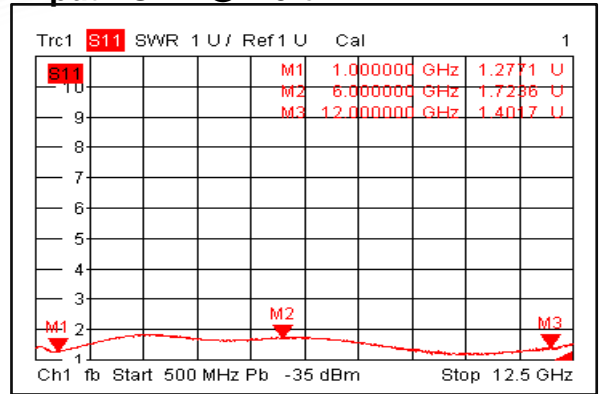




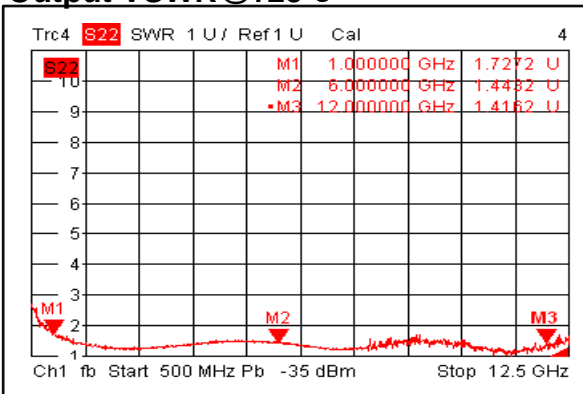
Gain@+25°C



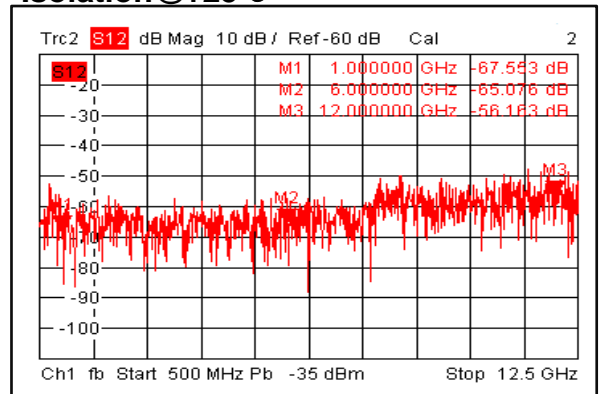
Input VSWR@+25°C



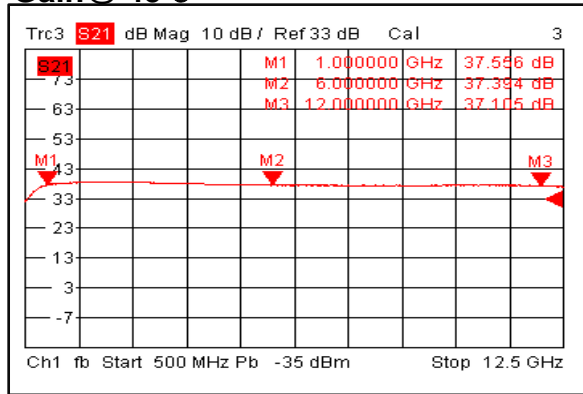
Output VSWR@+25°C



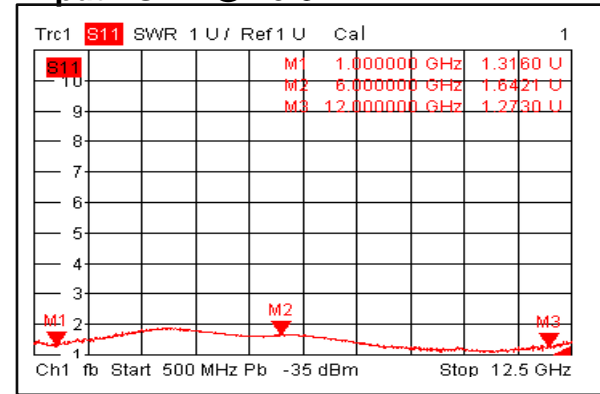
Isolation@+25°C



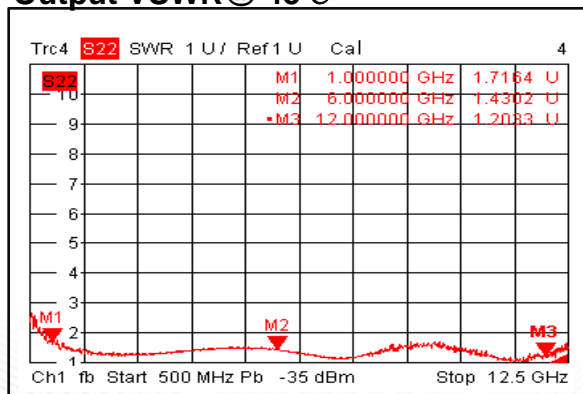
Gain@-45°C



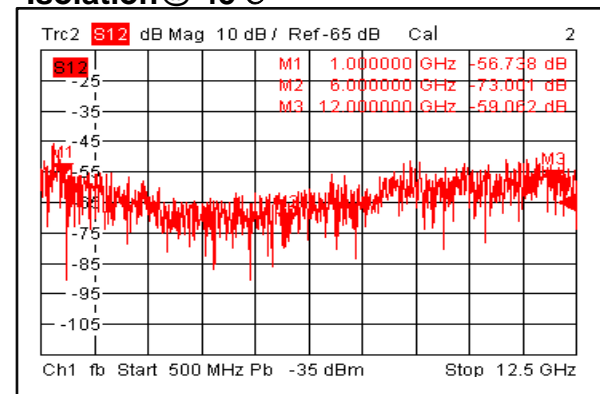
Input VSWR@-45°C



Output VSWR@-45°C

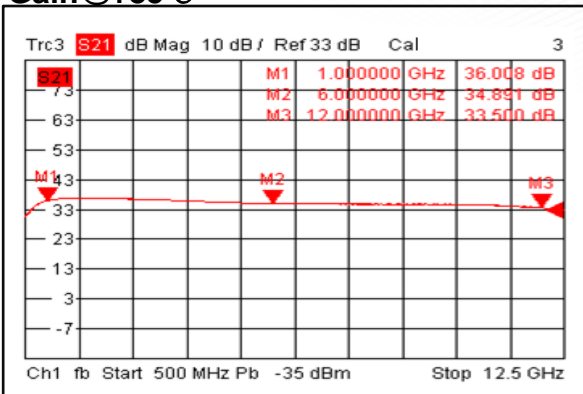


Isolation@-45°C

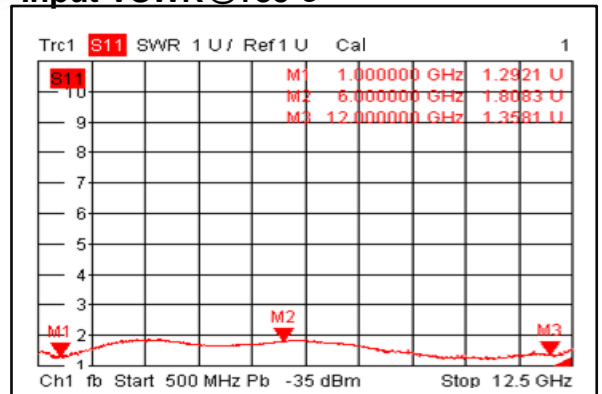




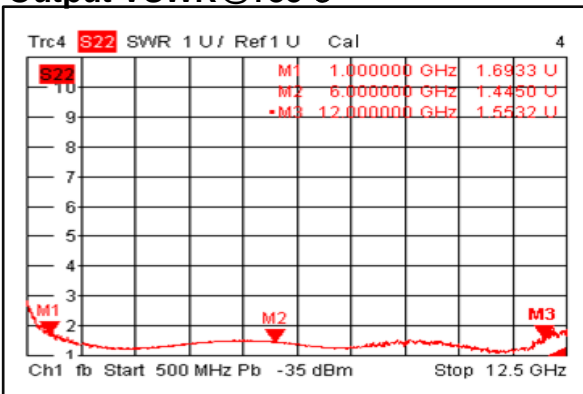
Gain@+85°C



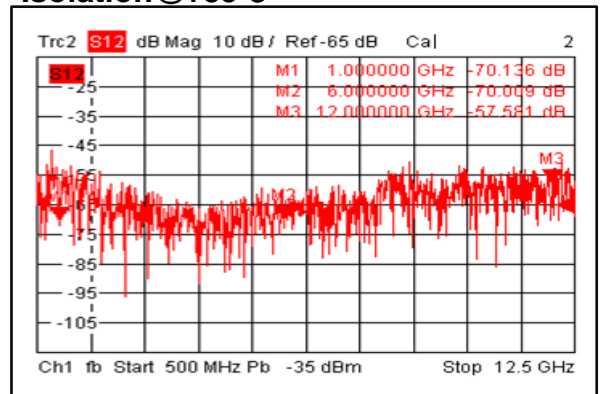
Input VSWR@+85°C



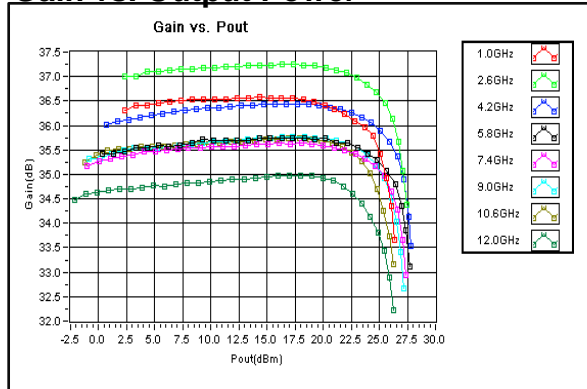
Output VSWR@+85°C



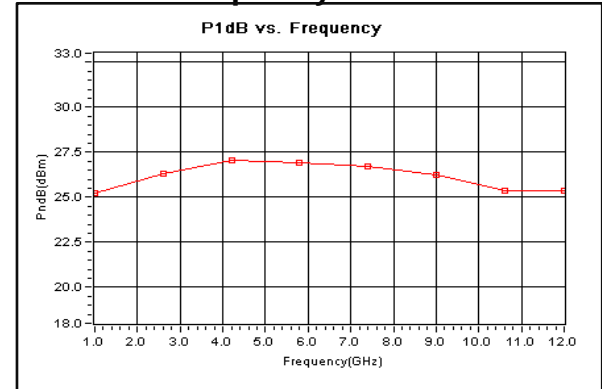
Isolation@+85°C



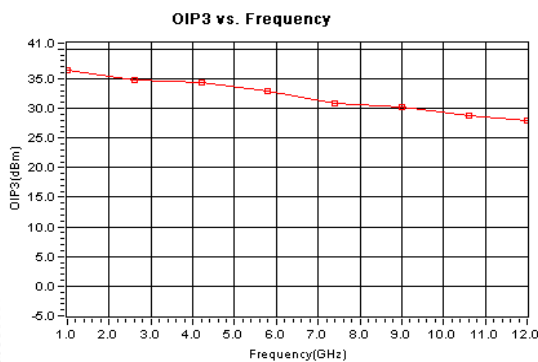
Gain vs. Output Power



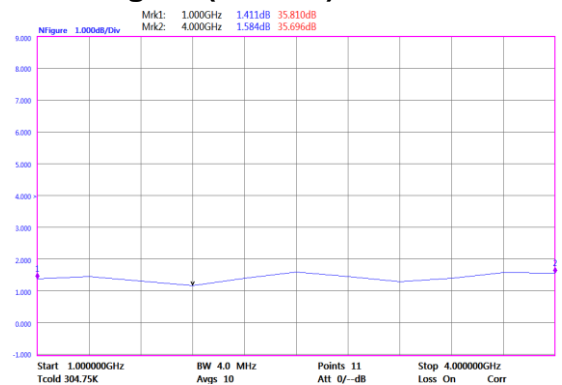
P1dB vs. Frequency



Output Third Order Intercept (IP3)



Noise Figure (1-4GHz)

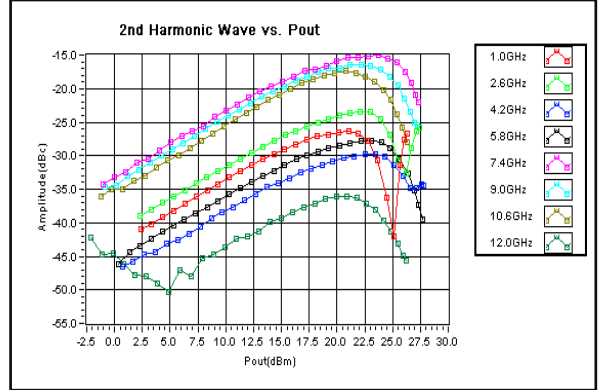




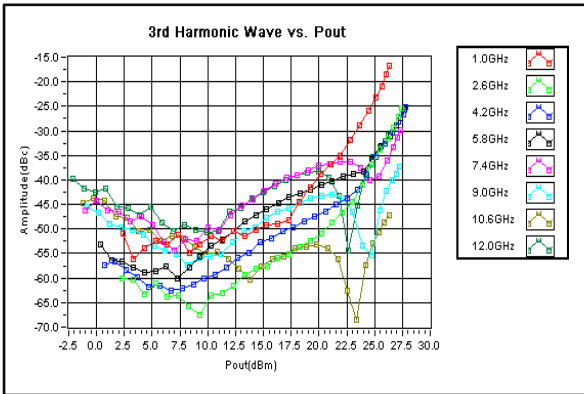
Noise Figure (4-12GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

