



Ultra Low Noise Amplifier 3GHz~8GHz

Features

- Gain: 58dB Typical
- Noise Figure: 0.8dB Typical
- P1dB Output Power: +18dBm Typical
- Supply Voltage: +15V



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	3		6	6		8	GHz
Gain	54	58		50	56		dB
Gain Flatness		±1.0	±2.0		±2.0	±3.0	dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0			±2.0		dB
Noise Figure		0.7	1.1		0.8	1.1	dB
Input VSWR		2.5			2.5		: 1
Output VSWR		1.6			1.8		: 1
Output 1dB Compression Point (P1dB)	10	18		10	16		dBm
Saturated Output Power (Psat)		20			18		dBm
Output Third Order Intercept (OIP3)		28			26		dBm
Supply Current (Vcc=+15V)		160	200		160	200	mA
Isolation S12		-60			-60		dB

Weight	0.35ounces	Impedance	50ohms
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	+9V~+15V
RF Input Power	-40dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +15V biasing

Power OFF Procedure

Step 1	Turn off +15V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

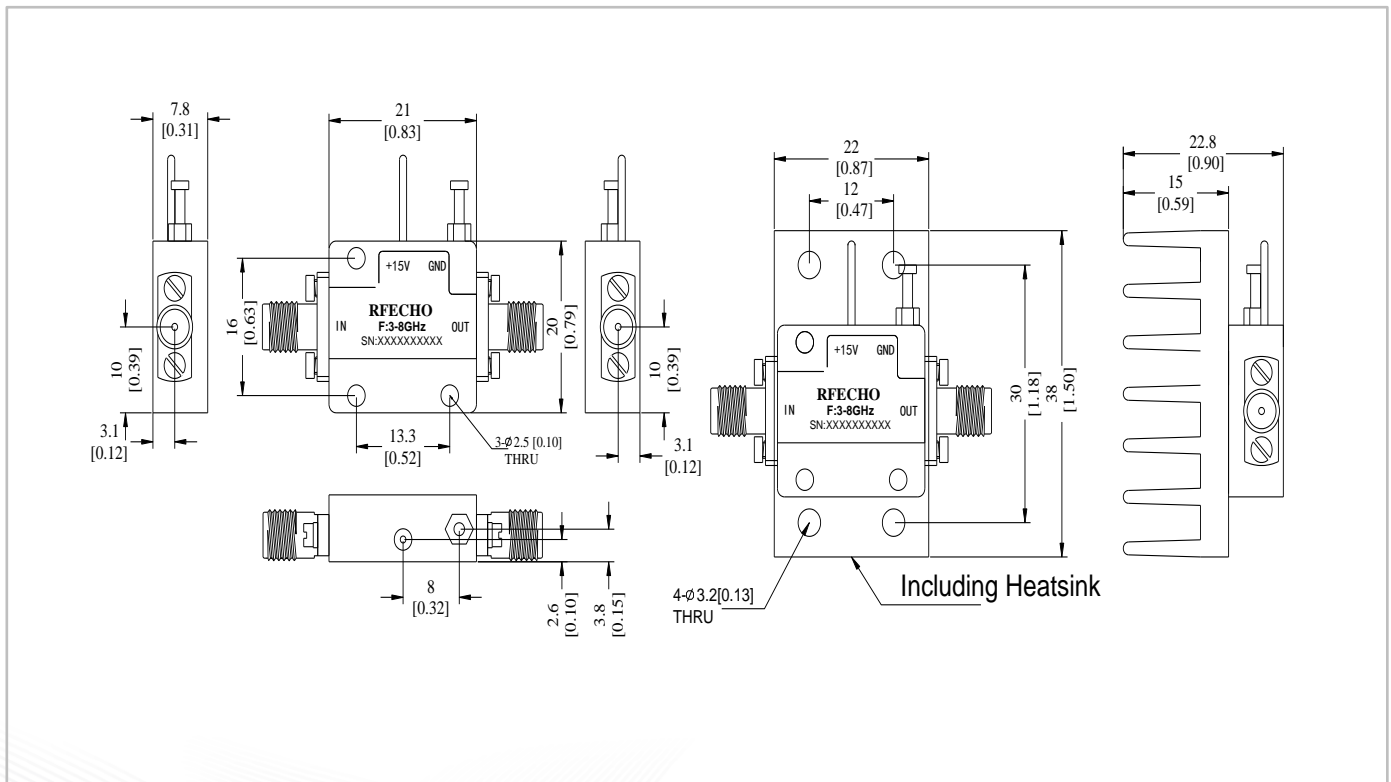
Environmental Specifications

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:

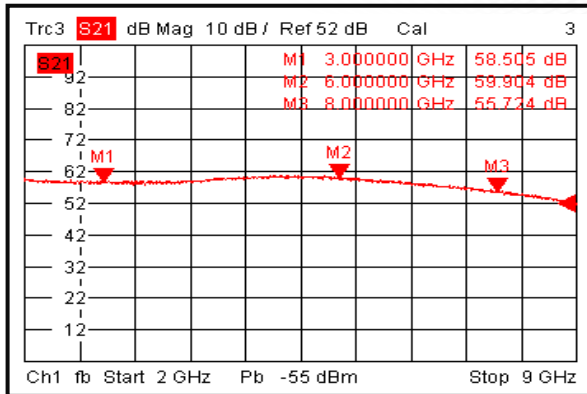
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

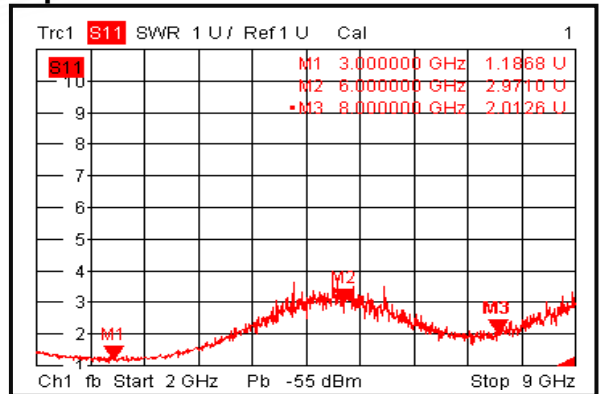




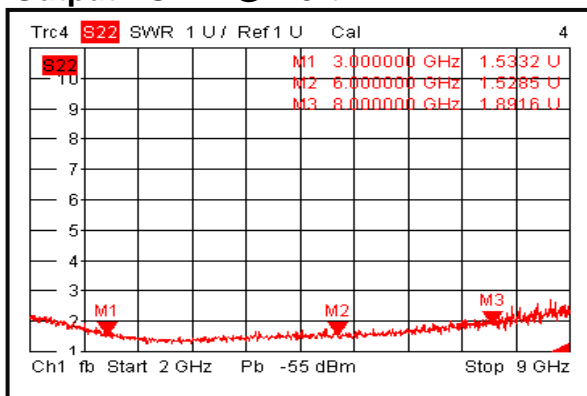
Gain @+25°C



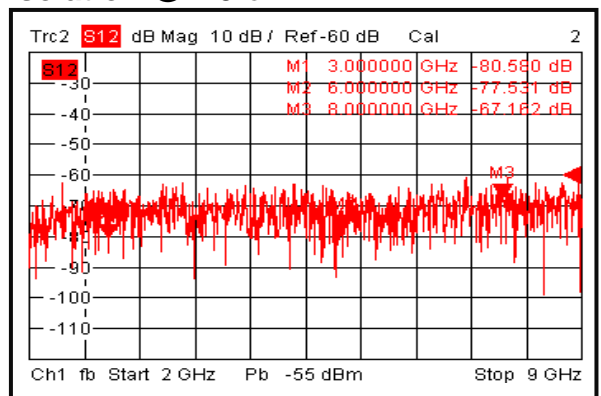
Input VSWR @+25°C



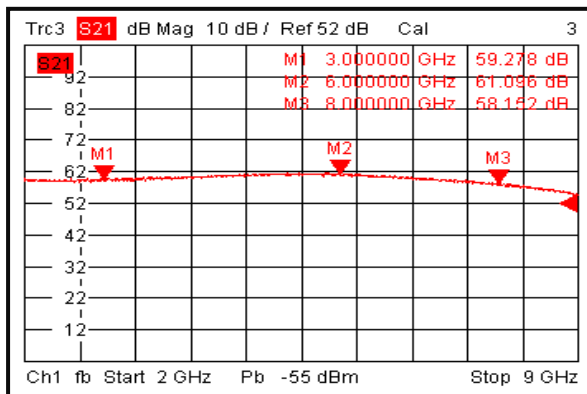
Output VSWR @+25°C



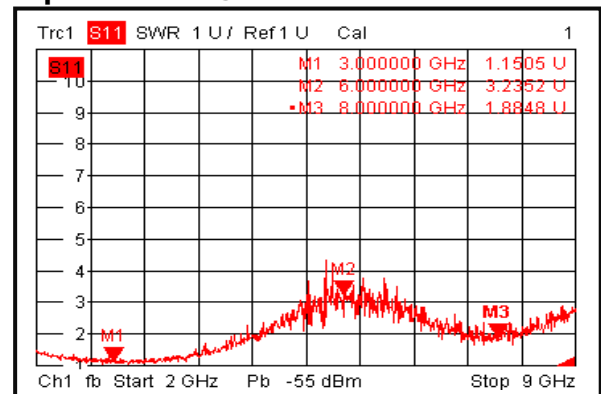
Isolation @+25°C



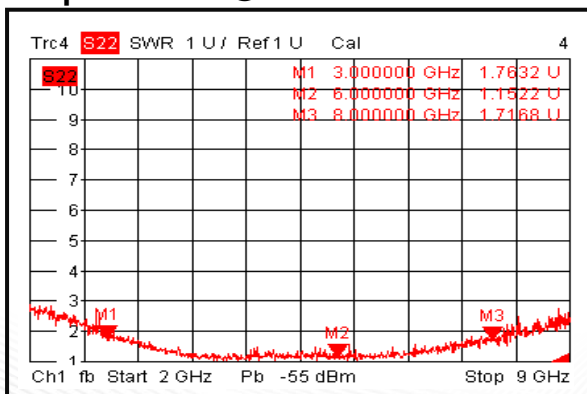
Gain @-40°C



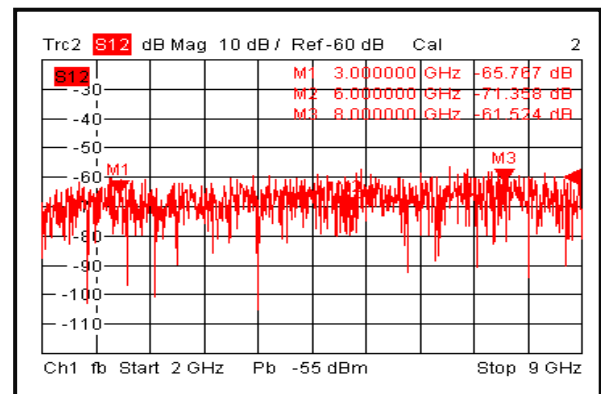
Input VSWR @-40°C



Output VSWR @-40°C

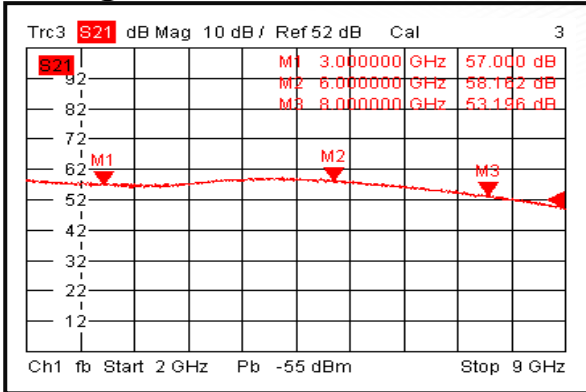


Isolation @-40°C

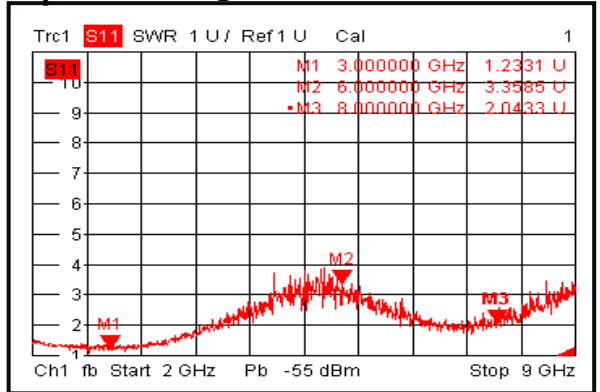




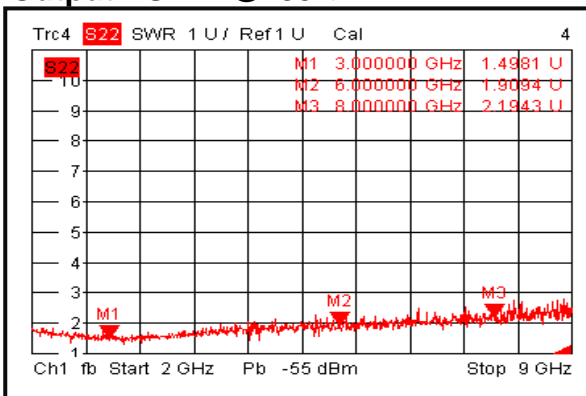
Gain @+85°C



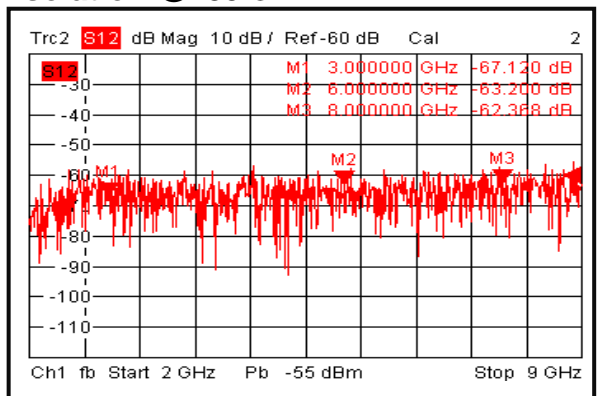
Input VSWR @+85°C



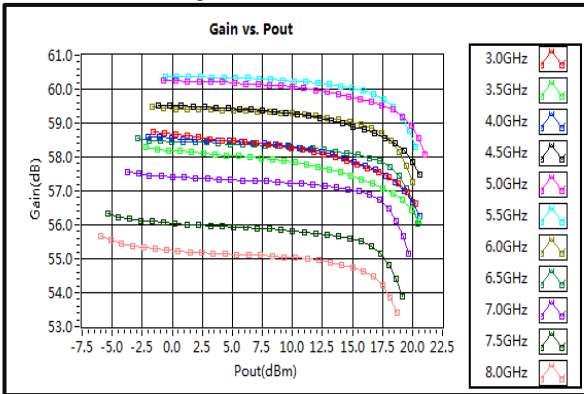
Output VSWR @+85°C



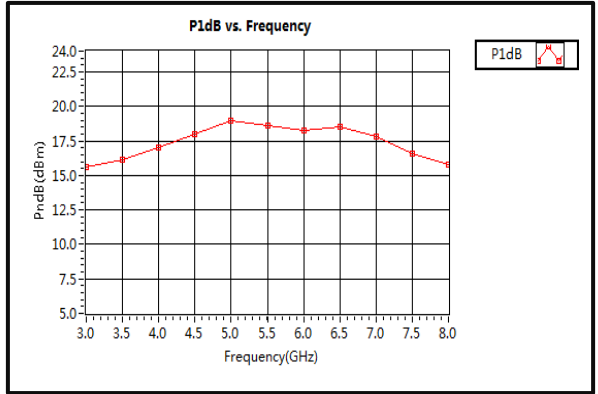
Isolation @+85°C



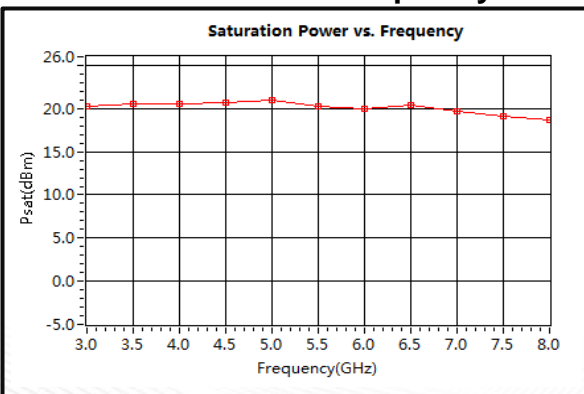
Gain vs. Output Power



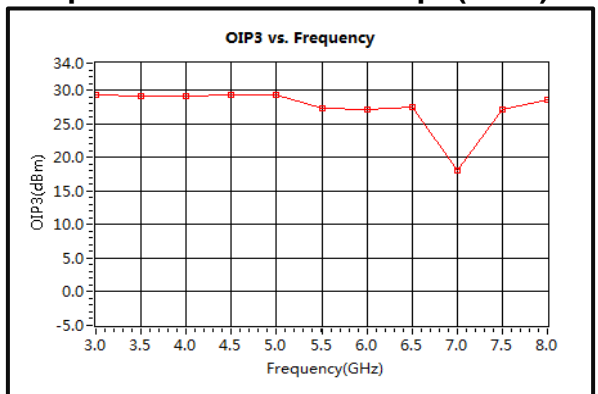
P1dB vs. Frequency



Saturation Power vs. Frequency

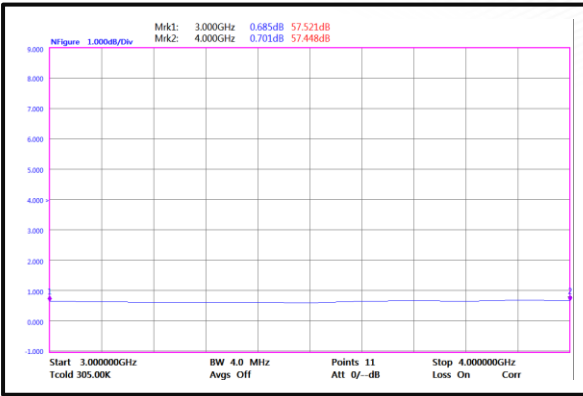


Output Third Order Intercept (OIP3)





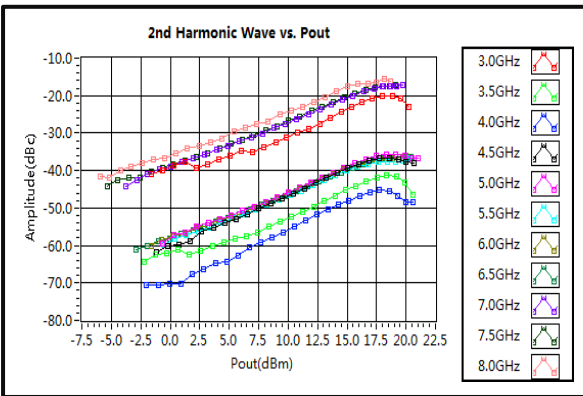
Noise Figure(3-4GHz)



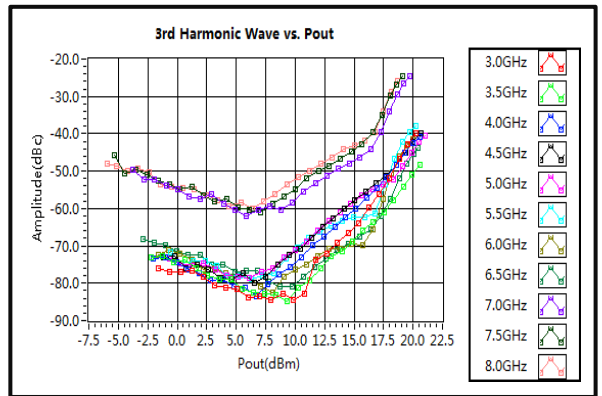
Noise Figure(4-8GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

