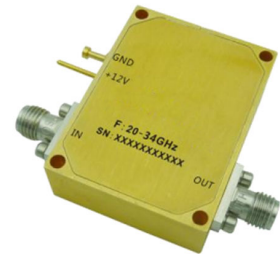




Ultra Wide Band Low Noise Amplifier 20GHz~34GHz

Features

- Gain: 45dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +18dBm Typical
- Supply Voltage: +12V



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	20		33	33		34	GHz
Gain	40	45			38		dB
Gain Flatness		±2.0			±2.0		dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0			±1.0		dB
Noise Figure		2.0	2.8		2.5		dB
Input VSWR		2.0	3.0		3.5		: 1
Output VSWR		2.0	3.0		2.5		: 1
Output 1dB Compression Point (P1dB)	12	18			15		dBm
Saturated Output Power (Psat)		22			20		dBm
Output Third Order Intercept (OIP3)		25			23		dBm
Isolation S12		-60			-60		dB
Supply Current (Vcc=+12V)		200	300		200	300	mA

Weight	1.41ounces	Impedance	50ohms
Input / Output Connectors	2.92mm-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)	-6dBm

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

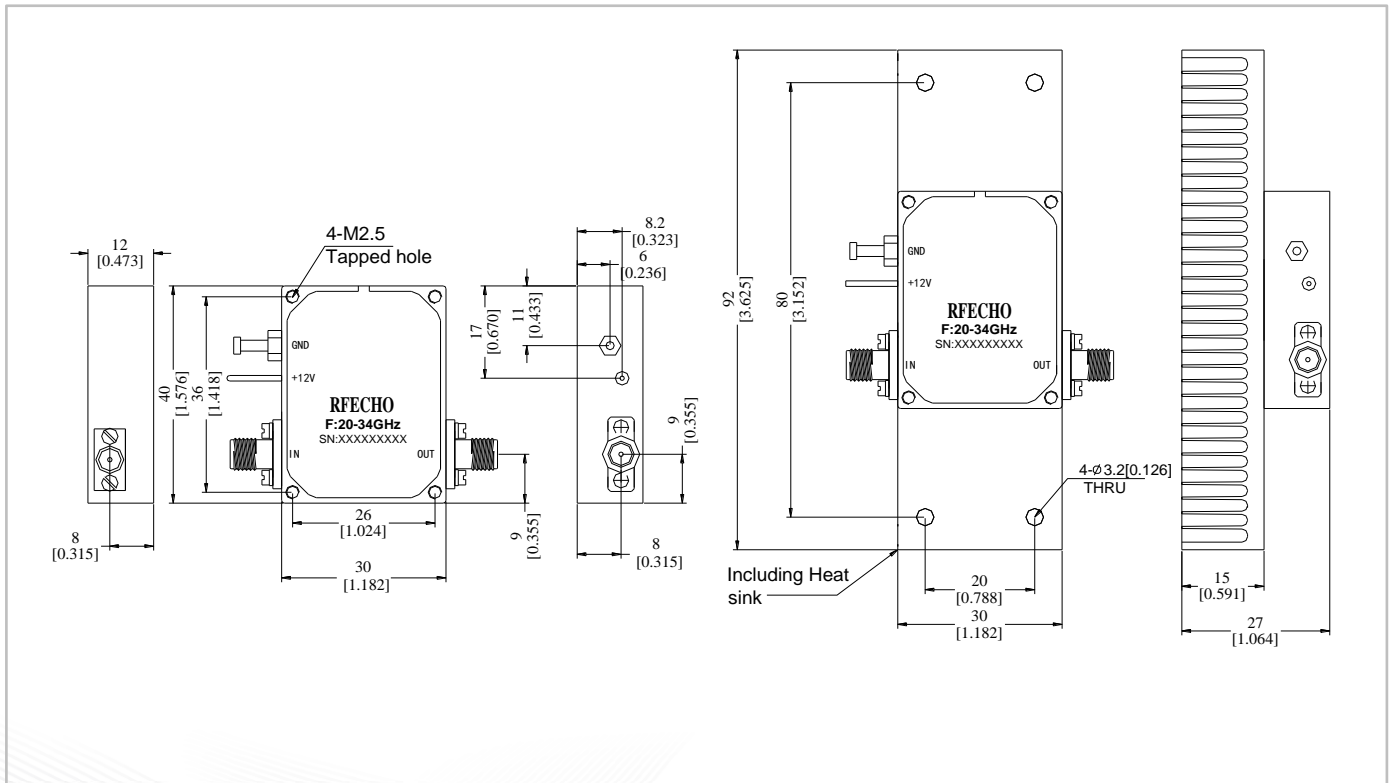
Environmental Specifications

Operational Temperature	-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:

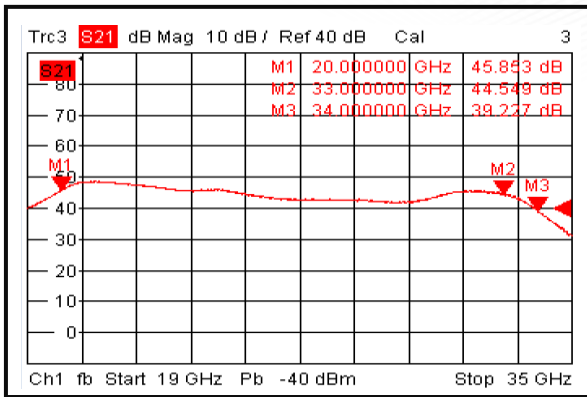
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

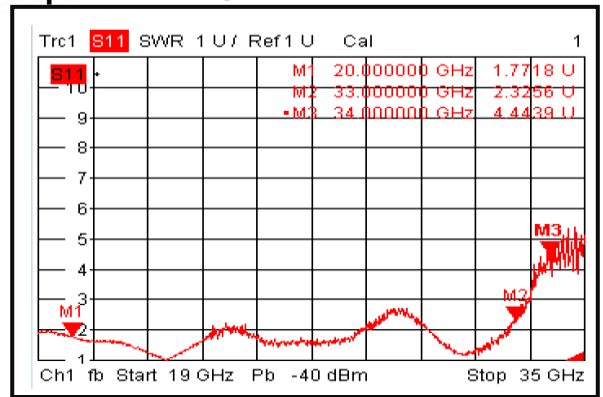




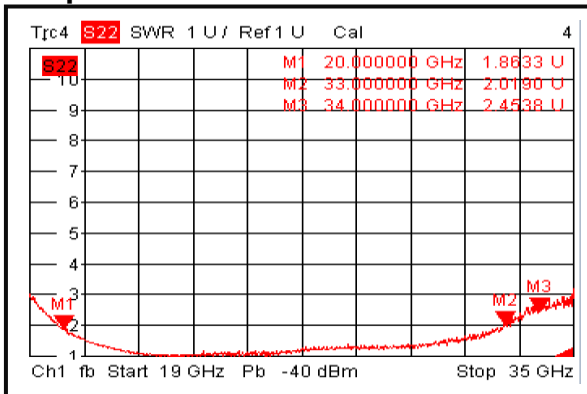
Gain @+25°C



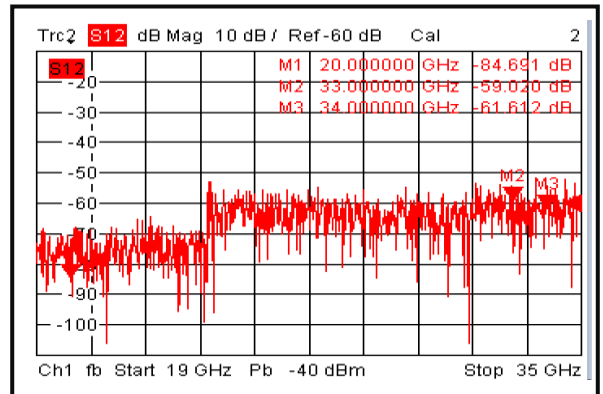
Input VSWR @+25°C



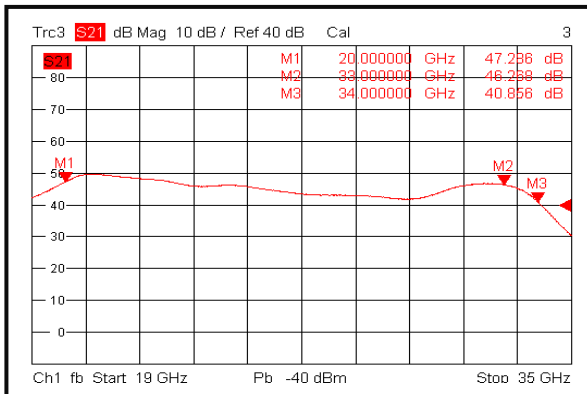
Output VSWR @+25°C



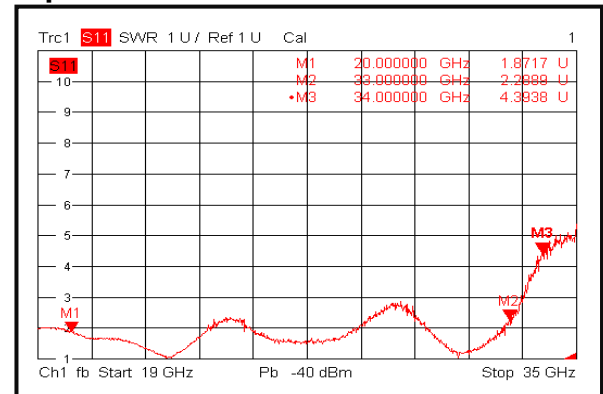
Isolation @+25°C



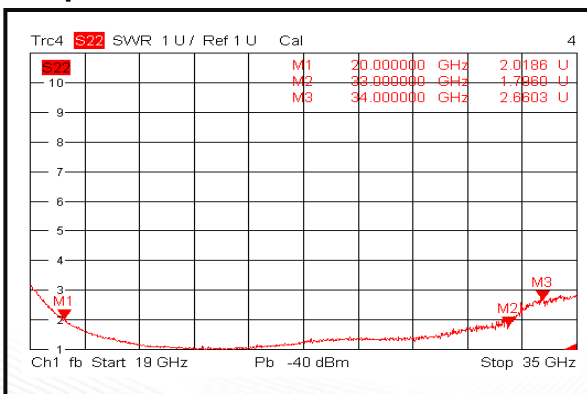
Gain @-40°C



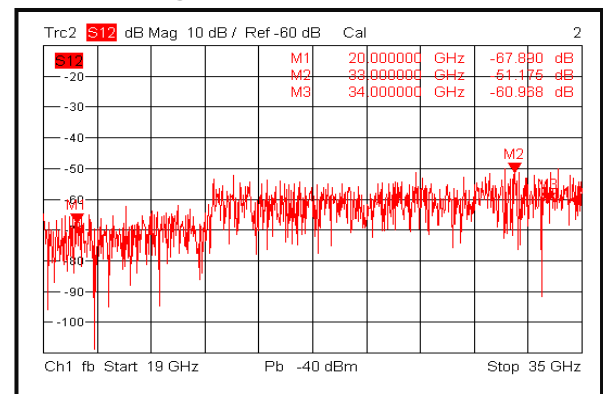
Input VSWR @-40°C



Output VSWR @-40°C

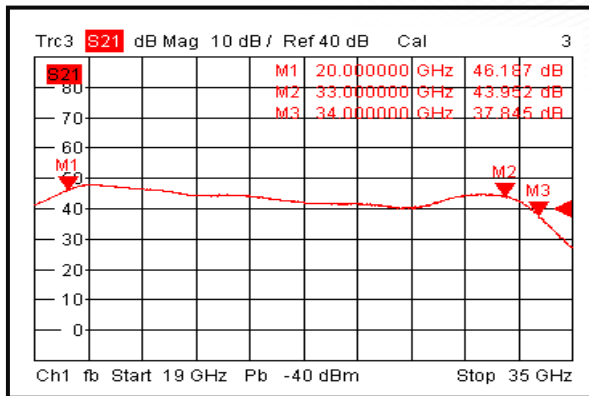


Isolation @-40°C

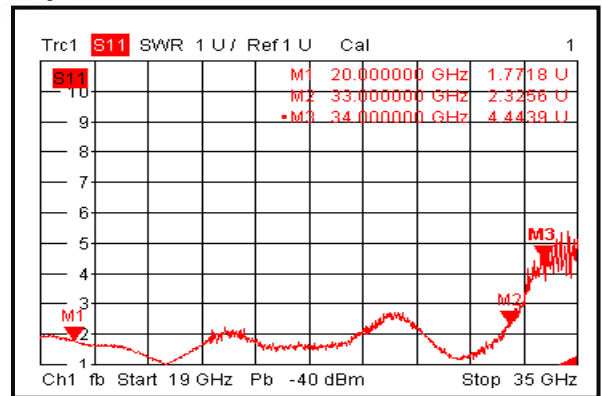




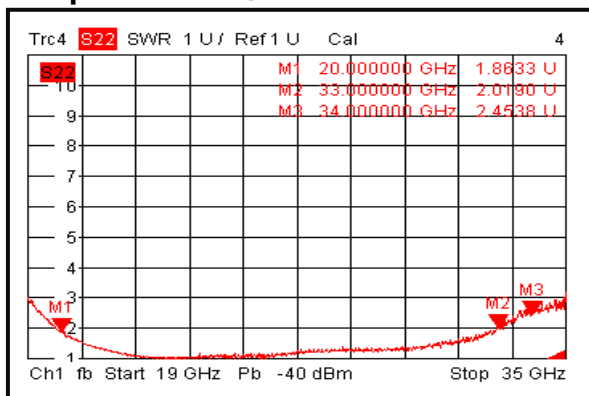
Gain @+85°C



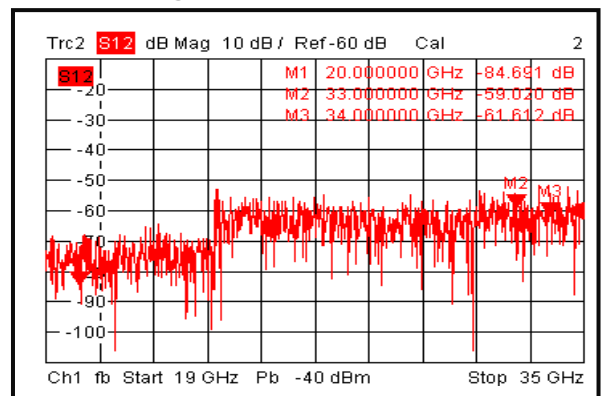
Input VSWR @+85°C



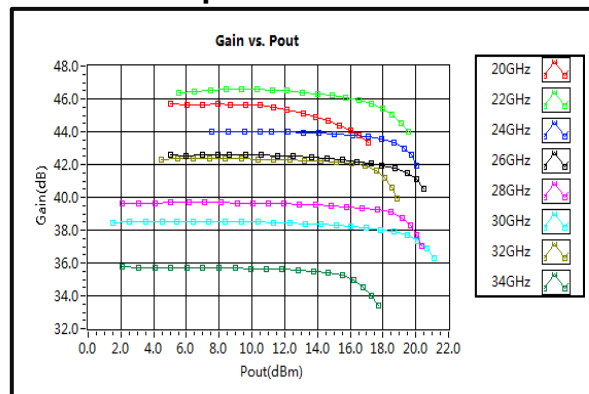
Output VSWR @+85°C



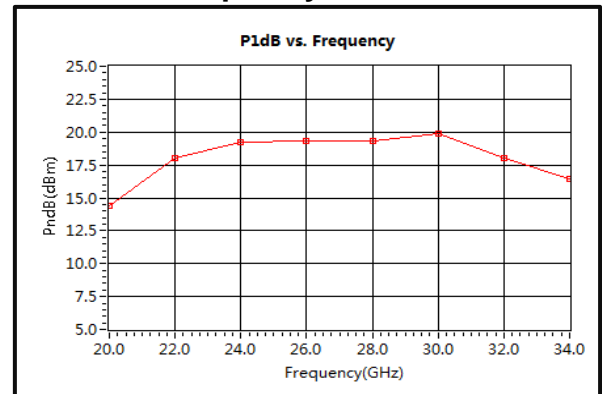
Isolation @+85°C



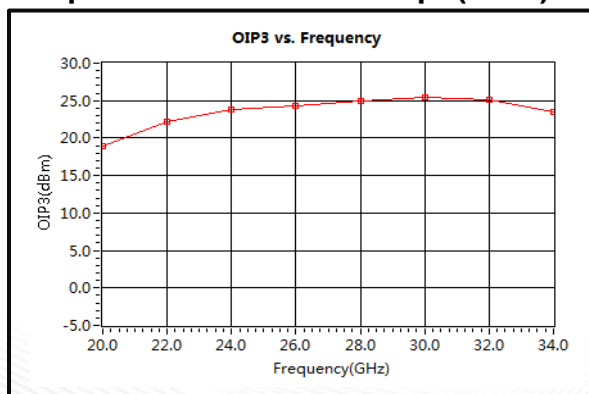
Gain vs. Output Power



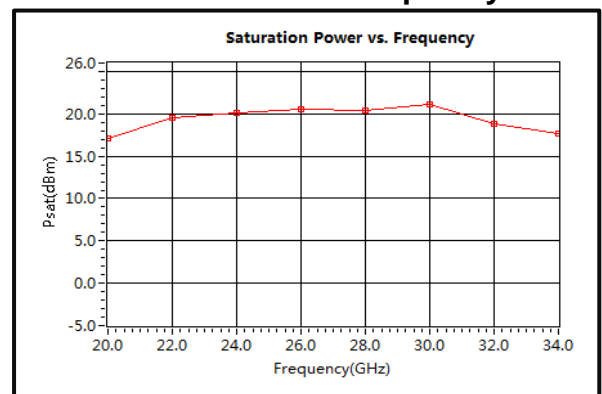
P1dB vs. Frequency



Output Third Order Intercept (OIP3)

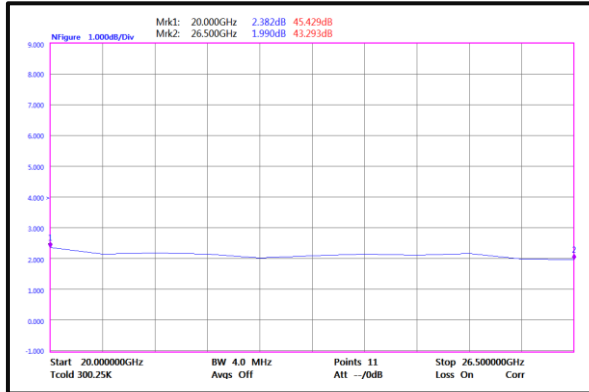


Saturation Power vs. Frequency





Noise Figure



2nd Harmonic Wave Output Power

