LOW Noise Amplifier DC~20GHz

Features

- Gain: 14dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power : +12dBm Typical
- Supply Voltage: +8V

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	DC		10	10		20	GHz
Gain	12	14		11	13		dB
Gain Flatness		±2.0			±2.0		dB
Gain Variation Over Temperature (-40ºC~+85ºC)		±1.0			±1.0		dB
Noise Figure		2.5	5.0		2.5	4.0	dB
Input VSWR		1.5	2.5		1.6	1.8	:1
Output VSWR		1.5	1.8		1.6	1.8	:1
Output 1dB Compression Point (P1dB)	16	17		12	15		dBm
Saturated Output Power (Psat)		18			17		dBm
Output Third Order Intercept (OIP3)		27.5			27		dBm
Supply Current (Vdd=+8V;Vgg=-5V)		60	85		60	85	mA
Isolation S12		-40			-35		dB

Weight	1.6 ounces	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
RF Input Power (RFIN)	+15dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect Input and Output
step3	Connect -5V biasing
Step 4	Connect +8V biasing

Power OFF Procedure

Step 1	Turn off +8V biasing
step2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

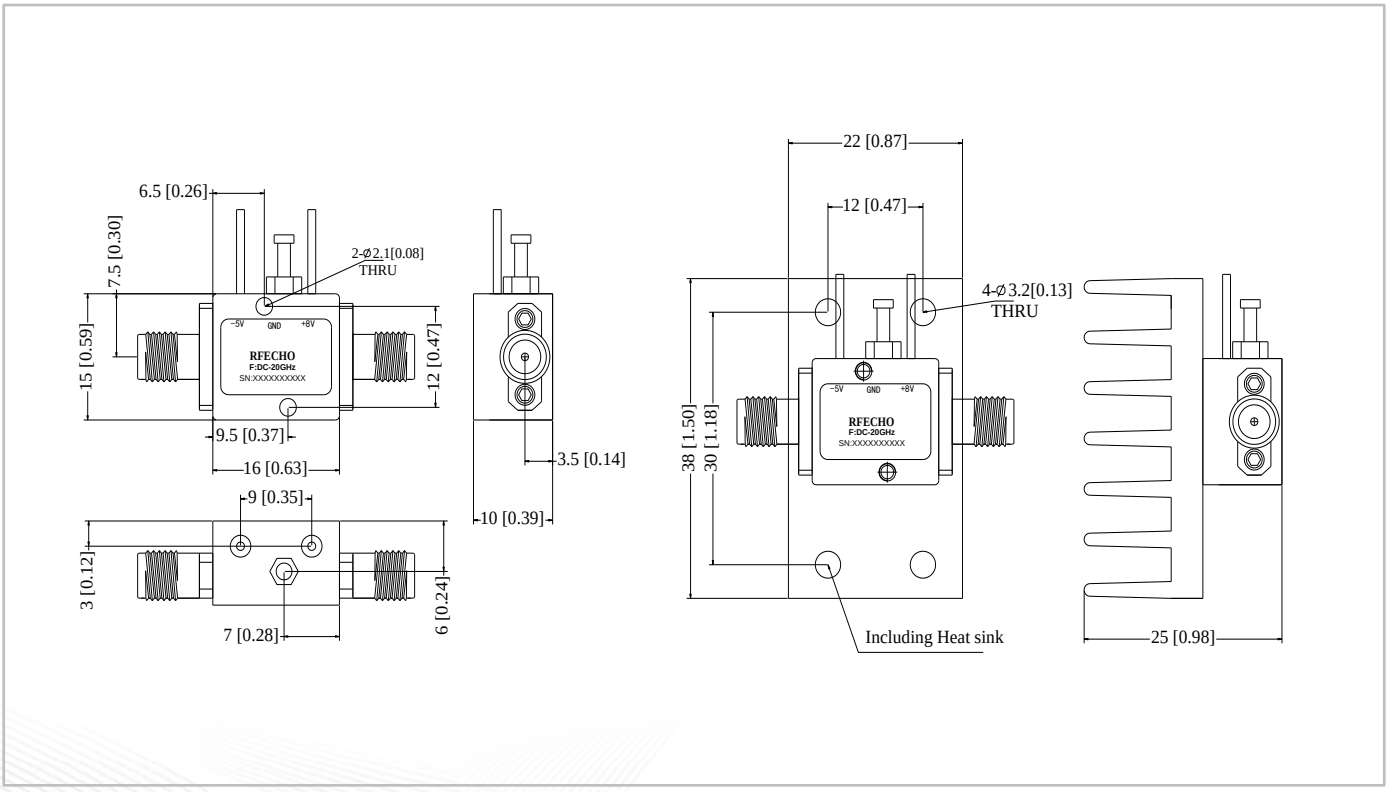
Environmental Specifications

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

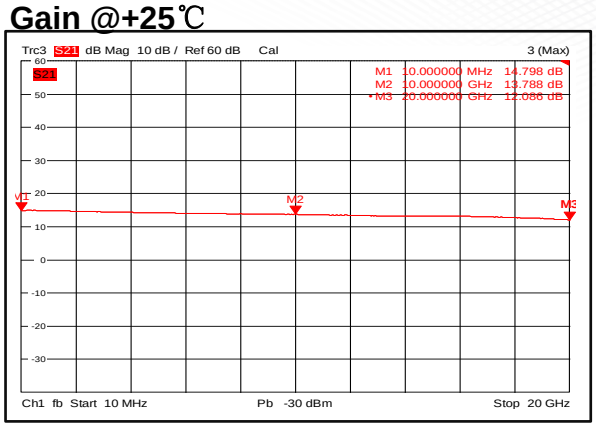
Outline Drawing:

All Dimensions in mm (inches)

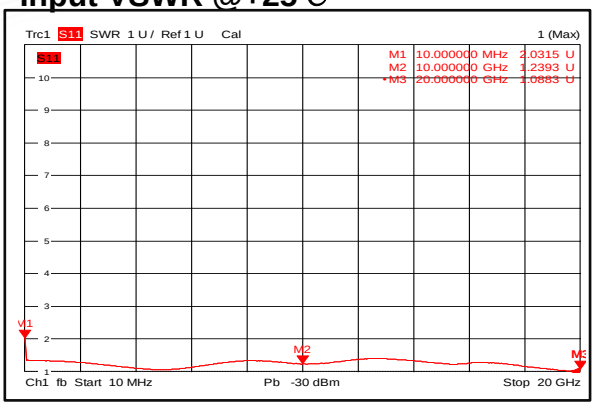
Heat Sink required during operation(Sold Separately)



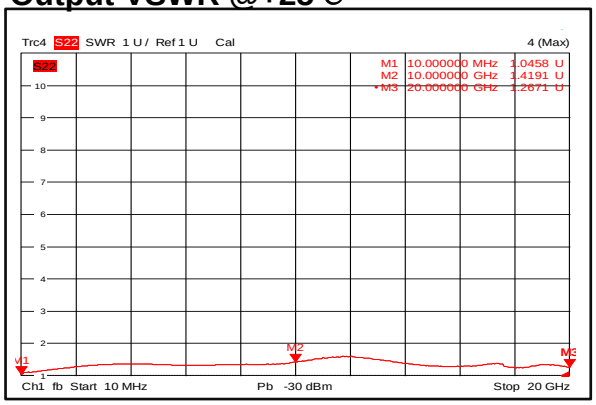
Gain @+25℃



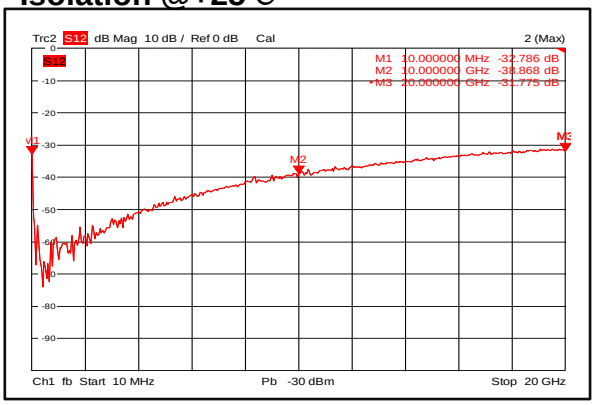
Input VSWR @+25℃



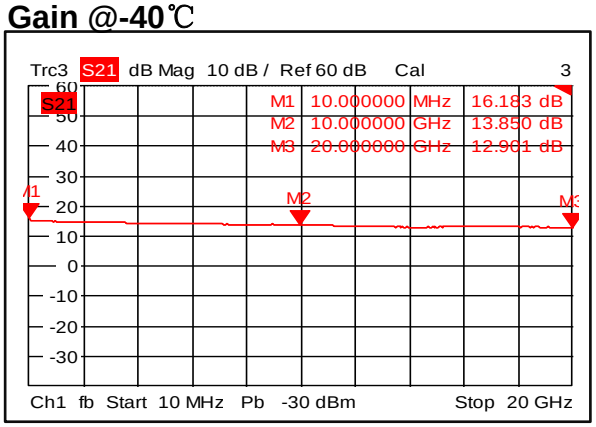
Output VSWR @+25℃



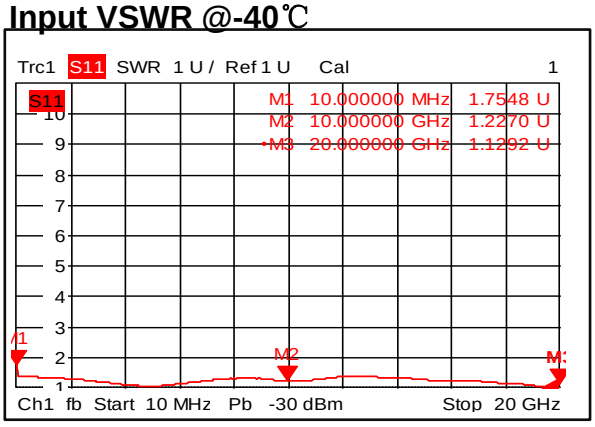
Isolation @+25℃



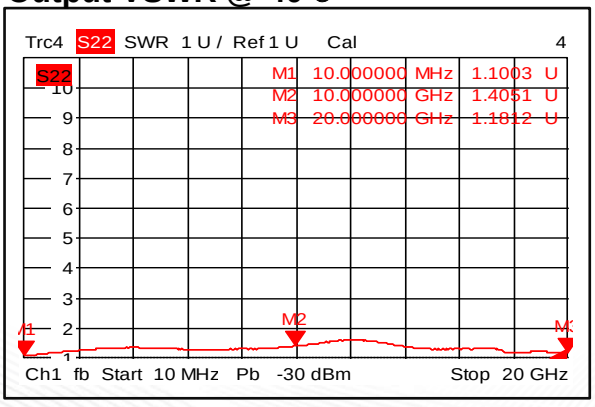
Gain @-40℃



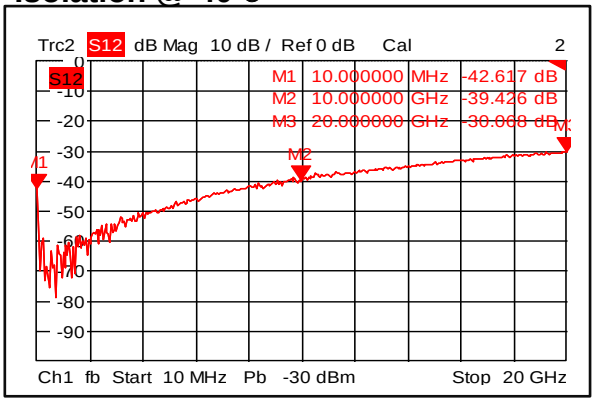
Input VSWR @-40℃



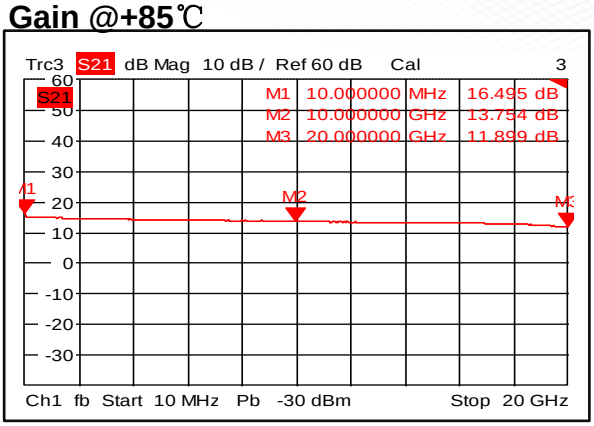
Output VSWR @-40℃



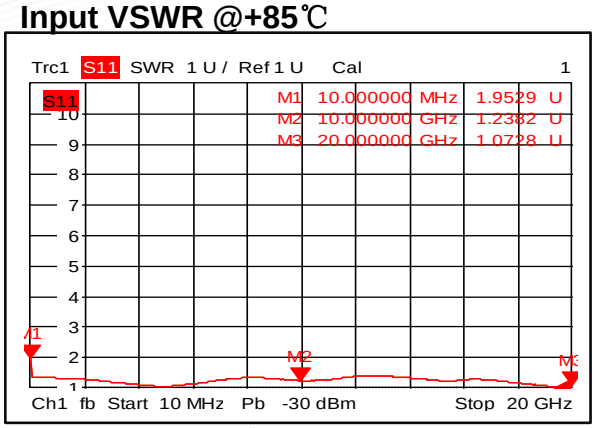
Isolation @-40℃



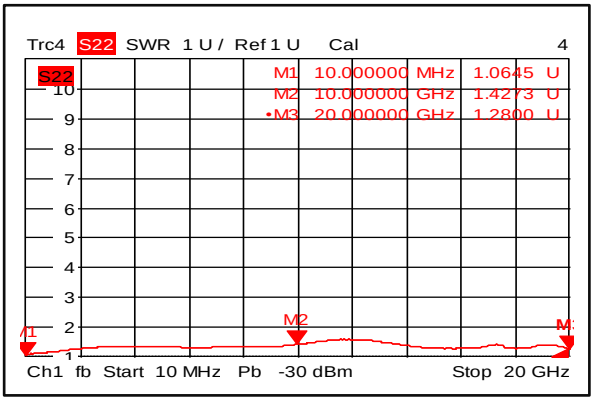
Gain @+85℃



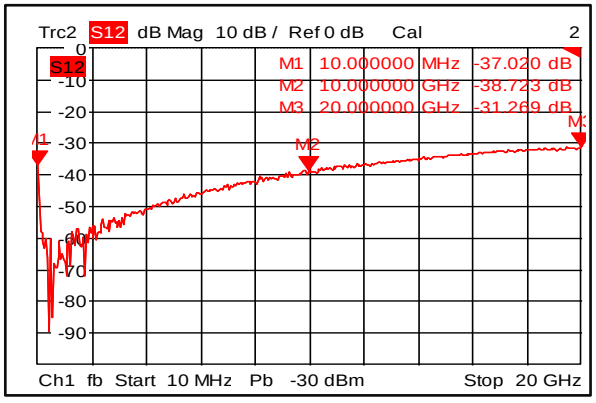
Input VSWR @+85℃



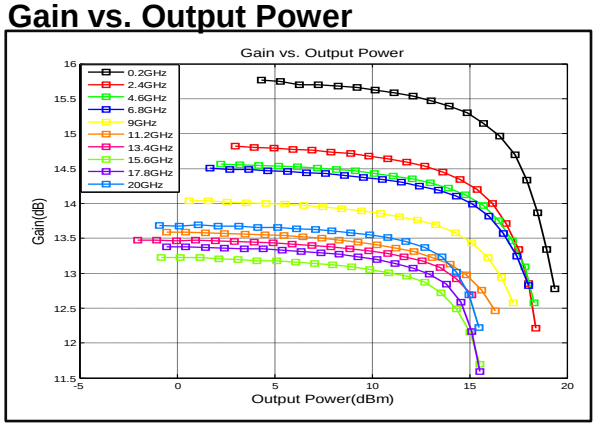
Output VSWR @+85℃



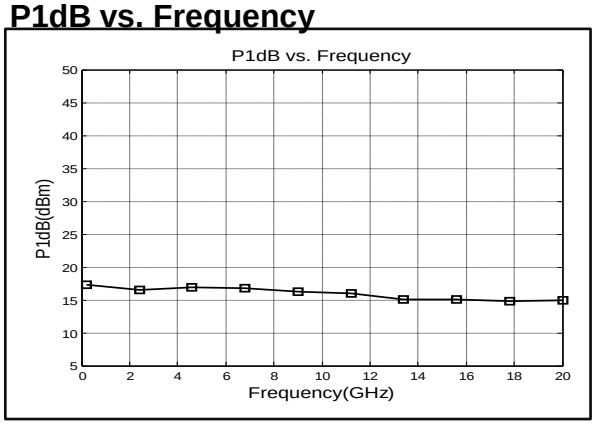
Isolation @+85℃



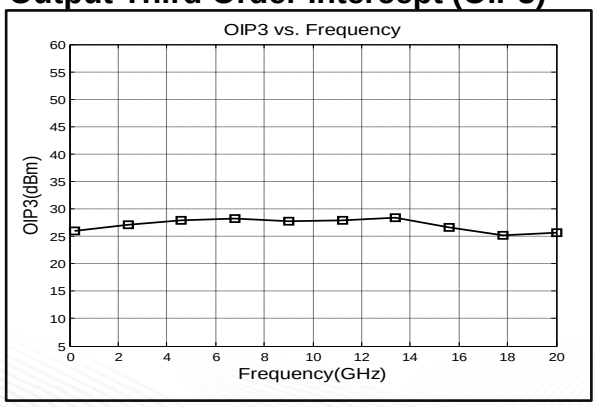
Gain vs. Output Power



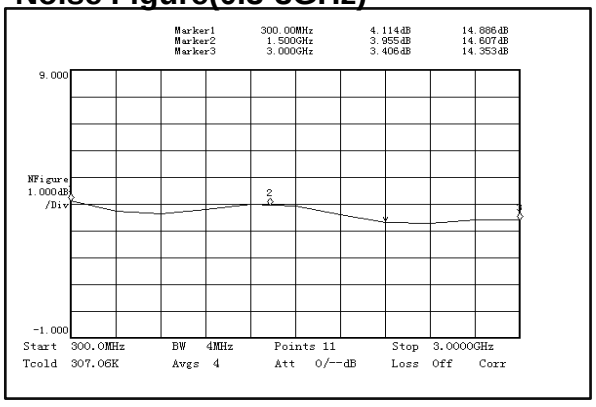
P1dB vs. Frequency



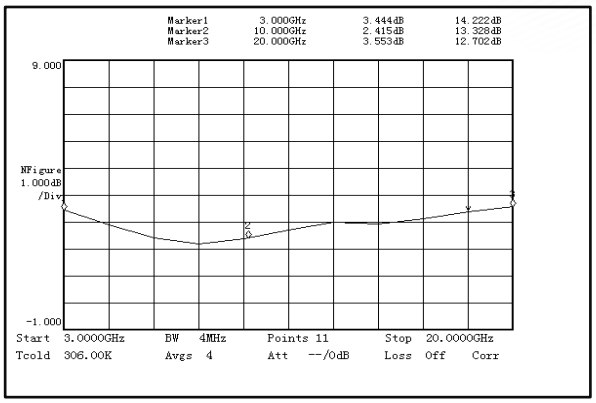
Output Third Order Intercept (OIP3)



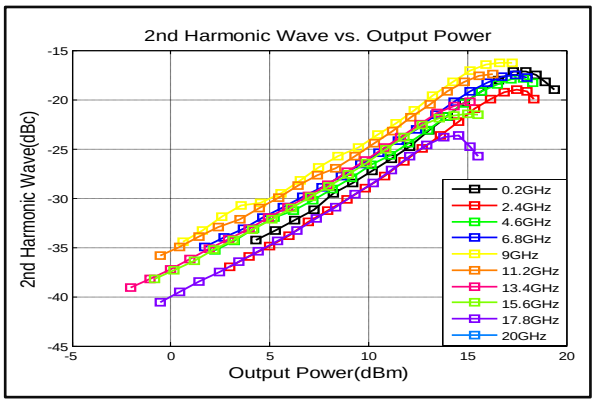
Noise Figure(0.3-3GHz)



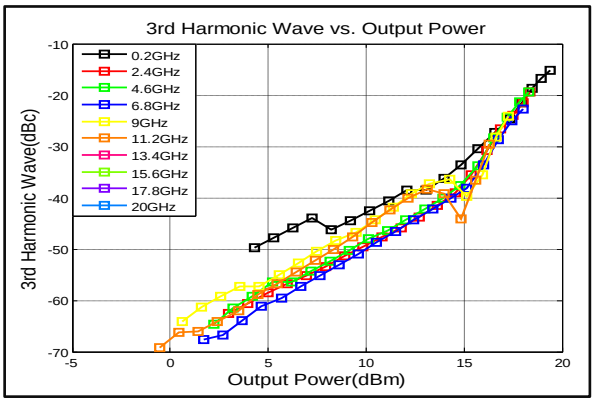
Noise Figure(3-20GHz)



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power