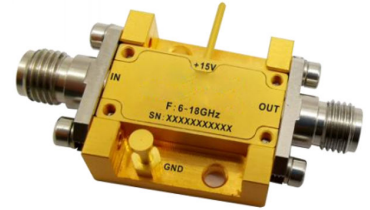




# Hermetically Sealed Wide Band Ultra Low Noise Amplifier 6GHz~18GHz

## Features

- Gain: 55dB Typical
- Noise Figure: 1.5dB Typical
- P1dB Output Power: +14dBm Typical
- Supply Voltage: +15V
- Drop in Package



## Typical Applications

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

RF Microwave & VSAT  
Fiber Optics

Parameter	Min.	Typ.	Max.	Units
Frequency Range	6		18	GHz
Gain	45	50		dB
Gain Flatness		±2.5		dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0		dB
Noise Figure	1.0	1.5	2.0	dB
Input VSWR		1.8	2.5	: 1
Output VSWR		1.6	2.0	: 1
Output 1dB Compression Point (P1dB)	12	14		dBm
Saturated Output Power (Psat)		17		dBm
Output Third Order Intercept (OIP3)		20		dBm
Supply Current (Vcc=+15V)		165	200	mA
Isolation S12		-50		dB

Weight	/ounces	Impedance	50ohms
Input /Output Connectors	SMA-Female	Material	Kovar
Finish	Gold Plated	Package Sealing	Hermetically Sealed



## QOTANA TECHNOLOGIES

Hermetically Sealed Wide Band Ultra Low Noise Amplifier 6GHz~18GHz

### Absolute Maximum Ratings

Operating Voltage	+15.5V
RF Input Power (RFIN)	-30dBm

### 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

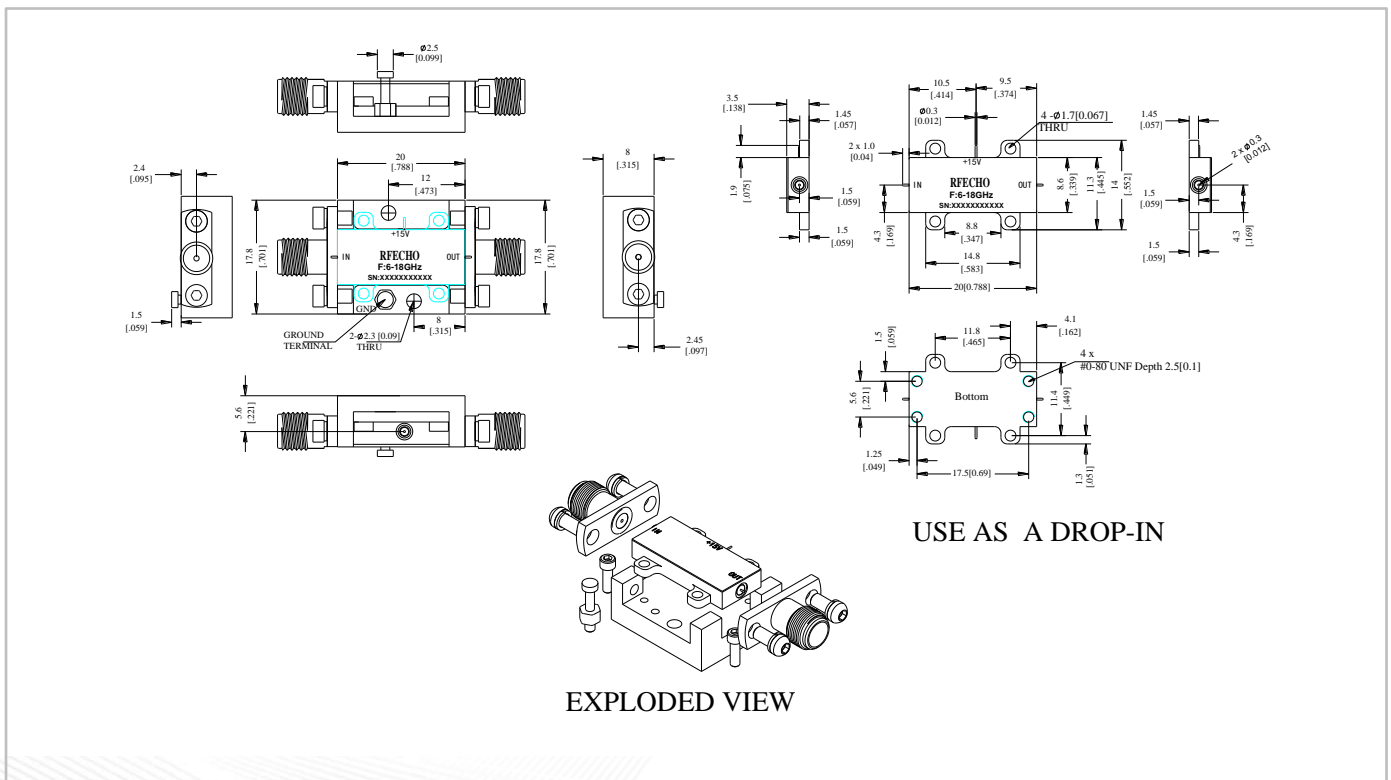
### Environmental Specifications

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:

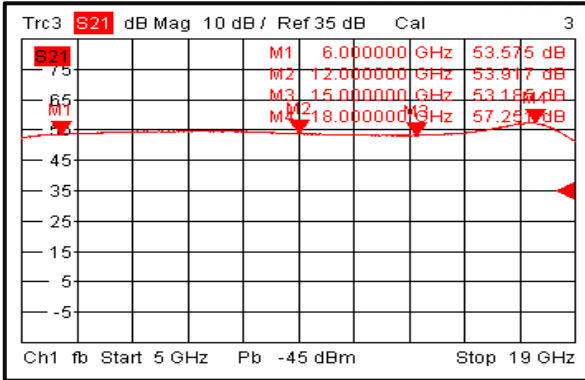
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

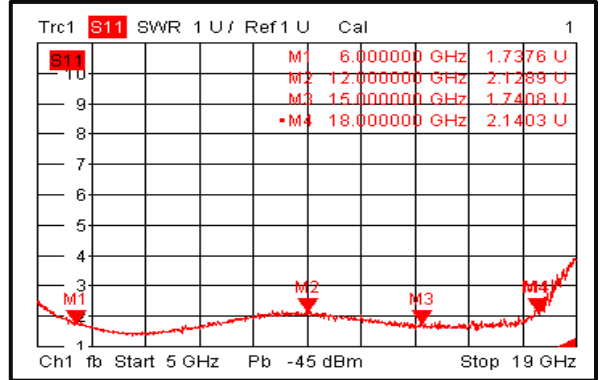




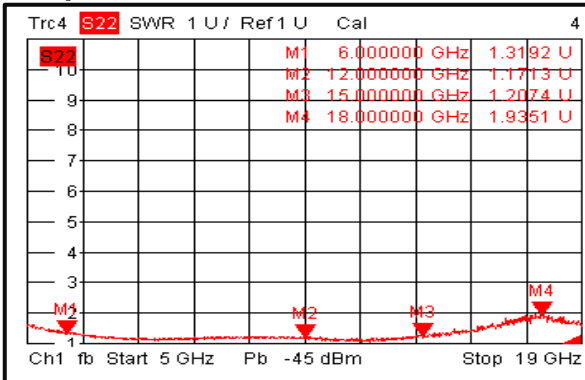
### Gain@+25°C



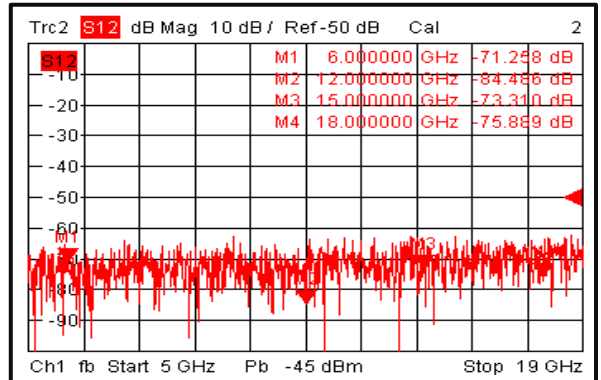
### Input VSWR@+25°C



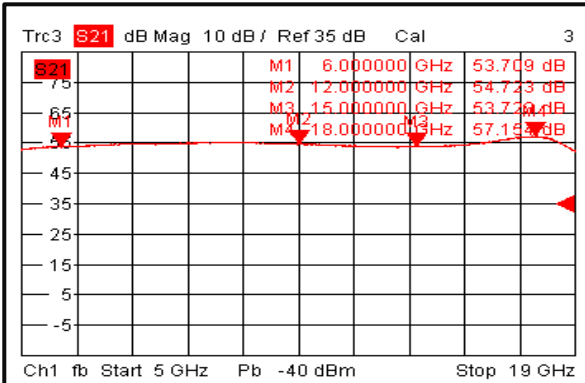
### Output VSWR@+25°C



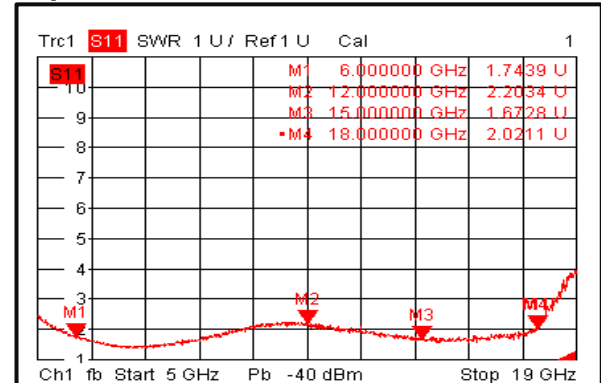
### Isolation@+25°C



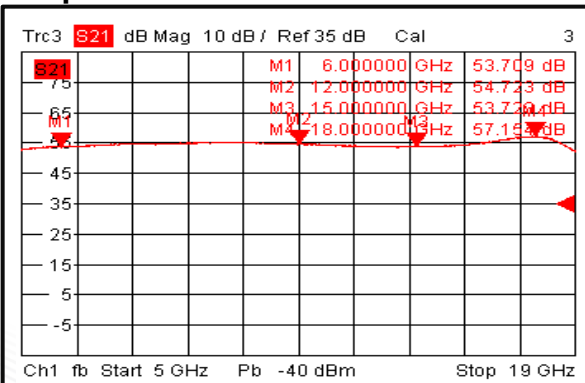
### Gain@-40°C



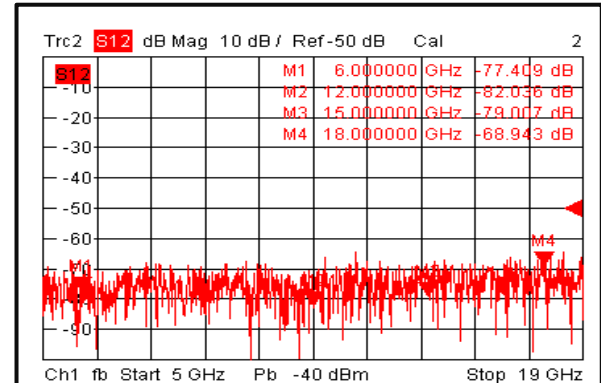
### Input VSWR@-40°C



### Output VSWR@-40°C

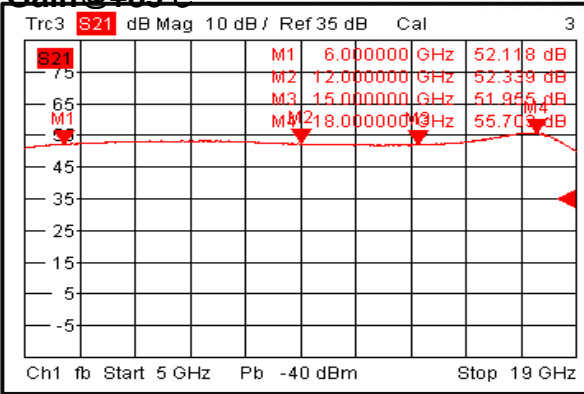


### Isolation@-40°C

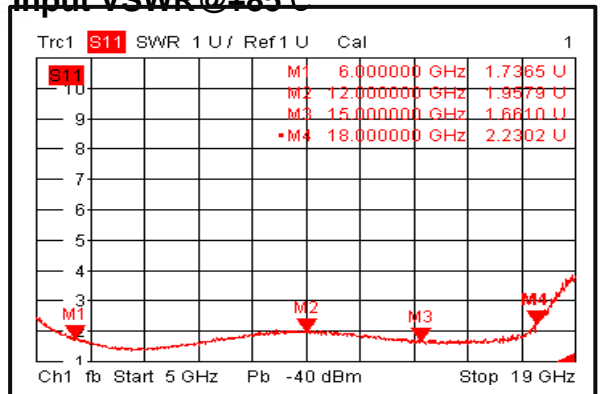




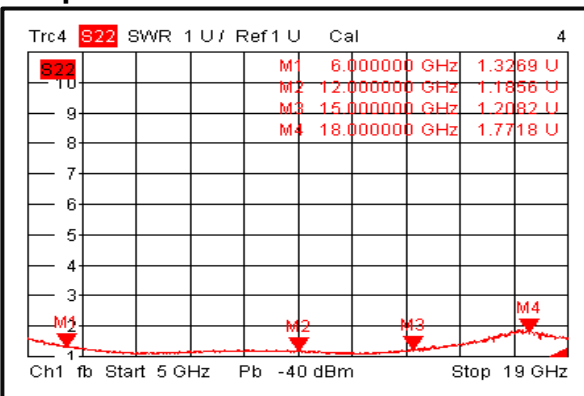
### Gain@+85°C



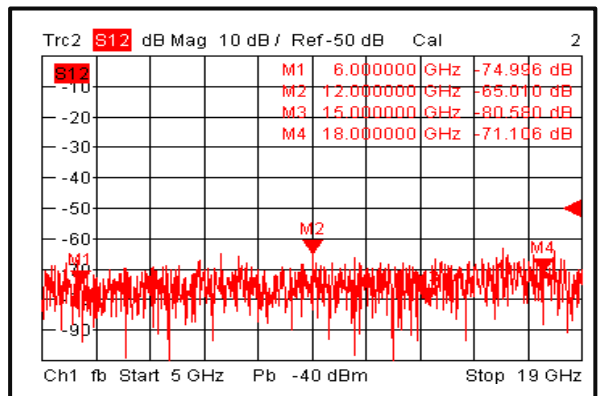
### Input VSWR @+85°C



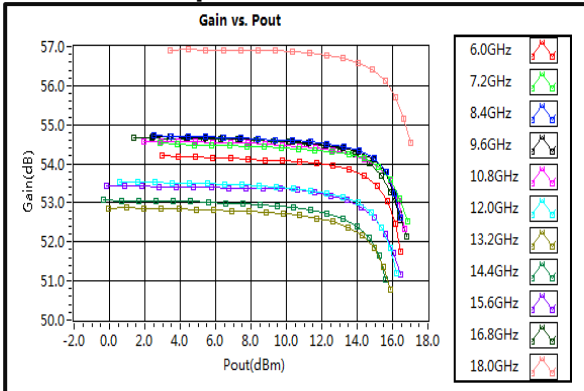
### Output VSWR @+85°C



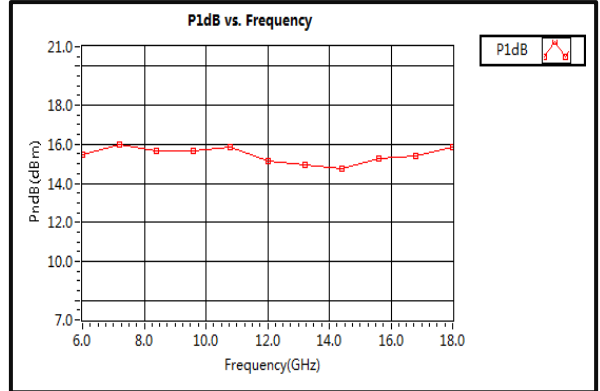
### Isolation @+85°C



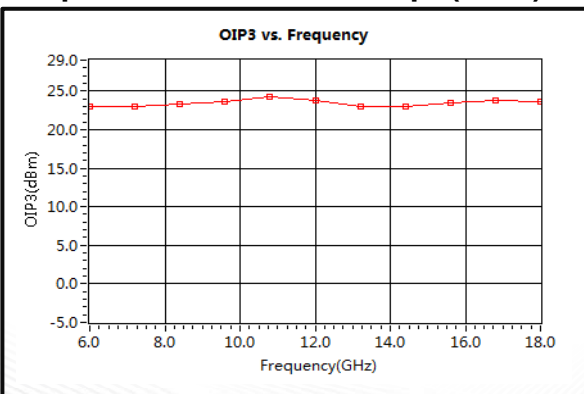
### Gain vs. Output Power



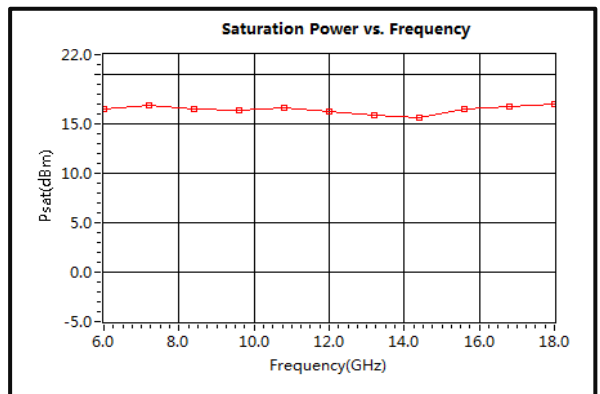
### P1dB vs. Frequency



### Output Third Order Intercept (OIP3)

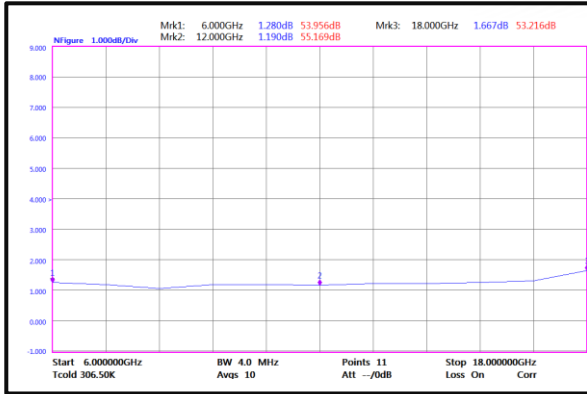


### Saturation Power vs. Frequency

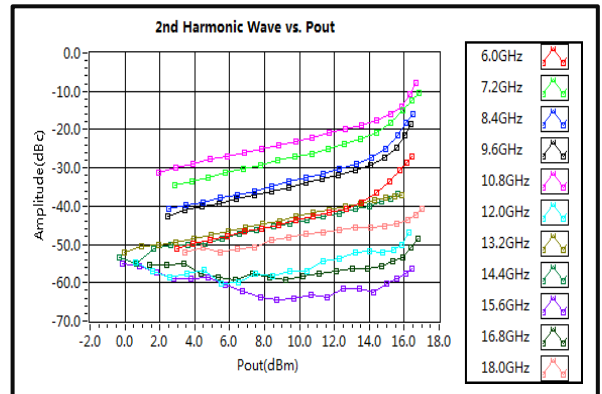




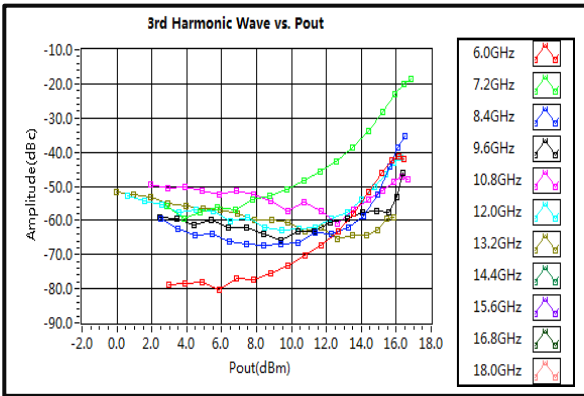
### Noise Figure



### 2nd Harmonic Wave Output Power



### 3rd Harmonic Wave Output Power



### 4th Harmonic Wave Output Power

