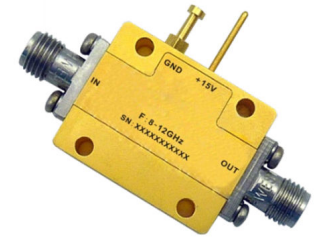




# Wide Band Ultra Low Noise Amplifier 8GHz~12GHz

## Features

- Gain: 55dB Typical
- Noise Figure: 1.1dB Typical
- P1dB Output Power: +17dBm Typical
- Supply Voltage: +15V
- 50 Ohm Matched



## Typical Applications

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

RF Microwave & VSAT  
Fiber Optics

| Parameter                                    | Min. | Typ. | Max. | Units |
|--|------|------|------|-------|
| Frequency Range                              | 8    |      | 12   | GHz   |
| Gain   | 50   | 55   |      | dB    |
| Gain Flatness                                |      | ±1.0 | ±2.0 | dB    |
| Gain Variation Over Temperature(-40°C~+85°C) |      | ±1.0 |      | dB    |
| Noise Figure                                 | 1.0  | 1.2  | 1.4  | dB    |
| Input VSWR                                   |      | 1.5  | 2.0  | : 1   |
| Output VSWR                                  |      | 1.6  | 2.0  | : 1   |
| Output 1dB Compression Point (P1dB)          | 15   | 17   |      | dBm   |
| Saturated Output Power (Psat)                |      | 18   |      | dBm   |
| Output Third Order Intercept (OIP3)          |      | 20   |      | dBm   |
| Supply Current (Vcc=+15V)                    |      | 165  | 200  | mA    |
| Isolation S12                                |      | -65  |      | dB    |

|                           |                      |                 |  |
|---------------------------|----------------------|-----------------|--|
| Weight                    | 0.71 ounces          | Impedance       | 50ohms   |
| Input / Output Connectors | SMA or 2.92mm-Female | Material        | Aluminum                                       |
| Finish                    | Gold Plated          | Package Sealing | Epoxy Sealed (Standard)                        |
|                           |                      |                 | Hermetically Sealed (Option with extra charge) |



### Absolute Maximum Ratings

|                   |        |
|-------------------|--------|
| Operating Voltage | +15.5V |
| RF Input Power    | -15dBm |

### Biassing 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.        |

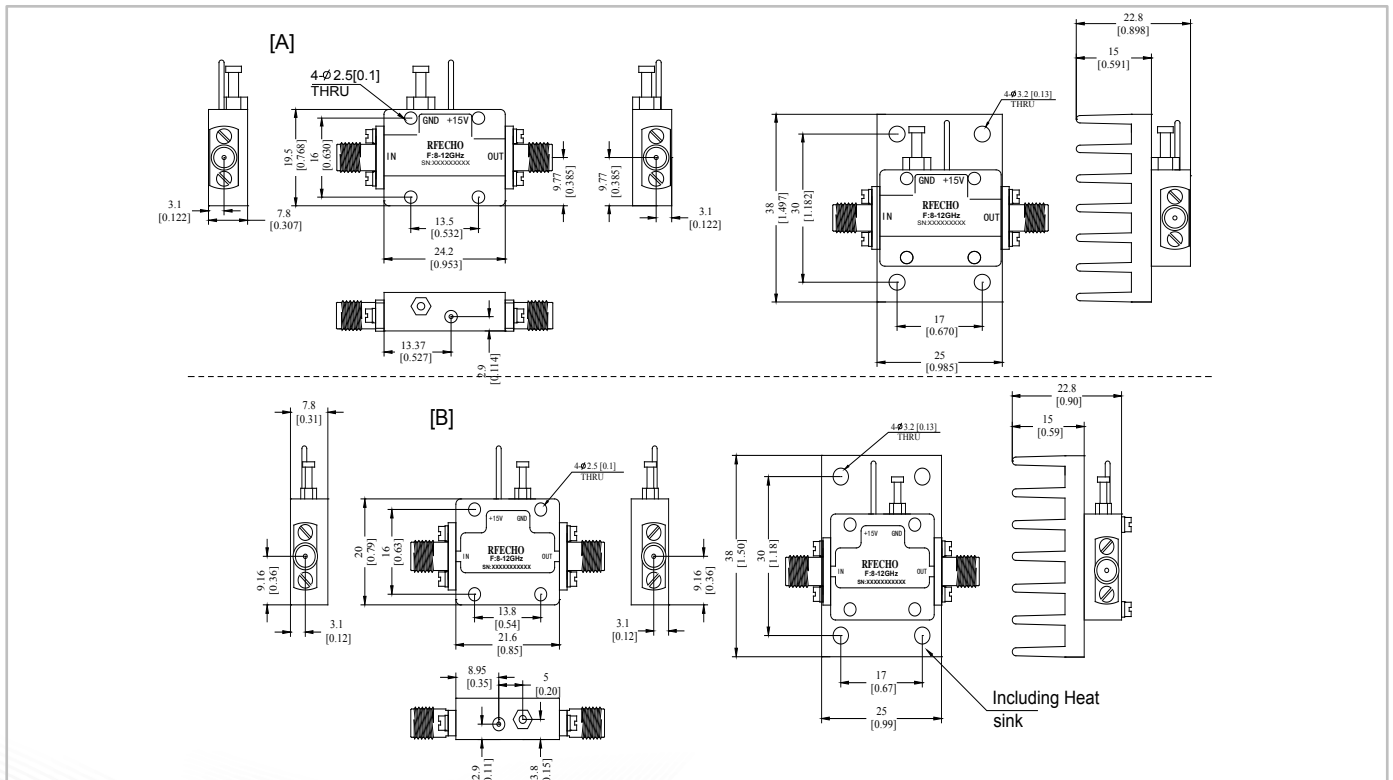
### Environmental Specifications

|                         |  |
|-------------------------|--|
| 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:

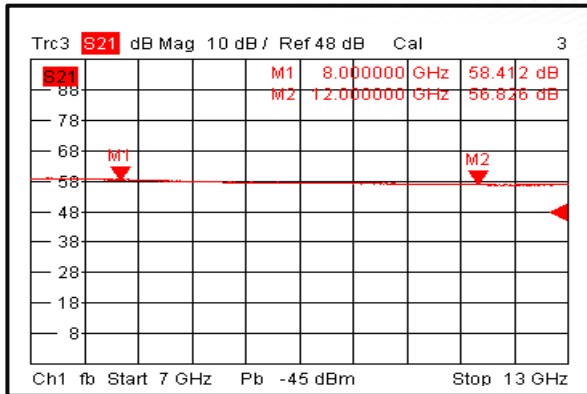
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

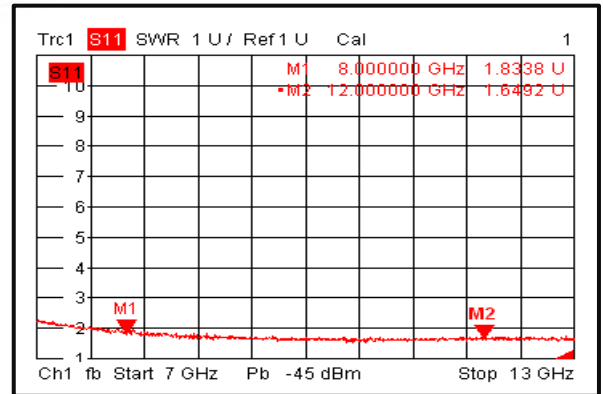




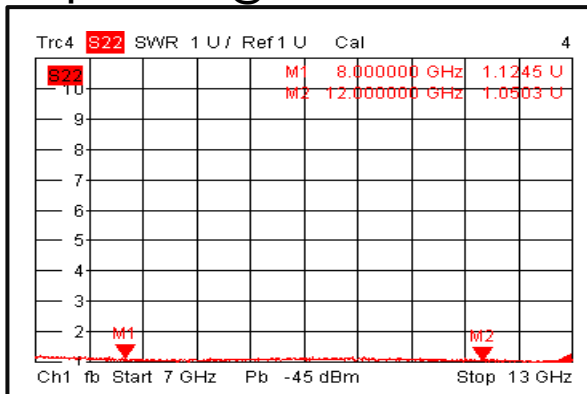
### Gain @ +25°C



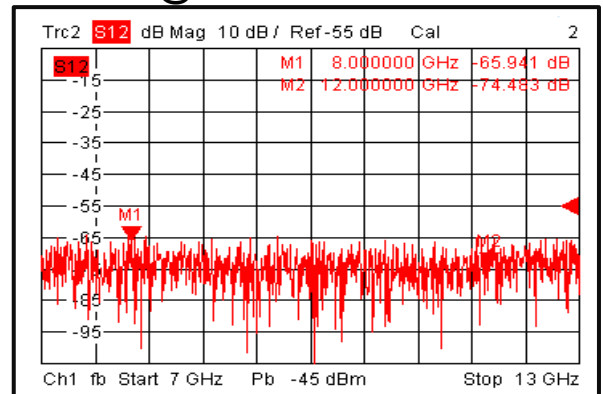
### Input VSWR @ +25°C



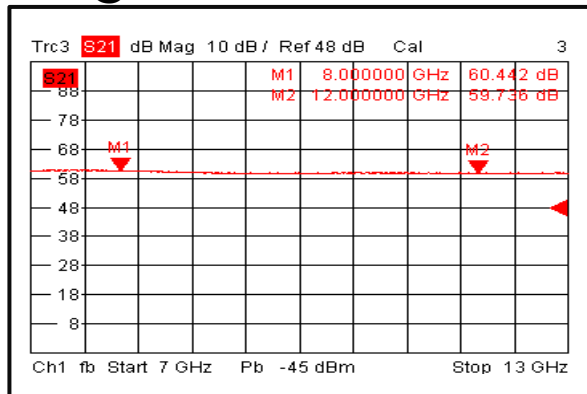
### Output VSWR @ +25°C



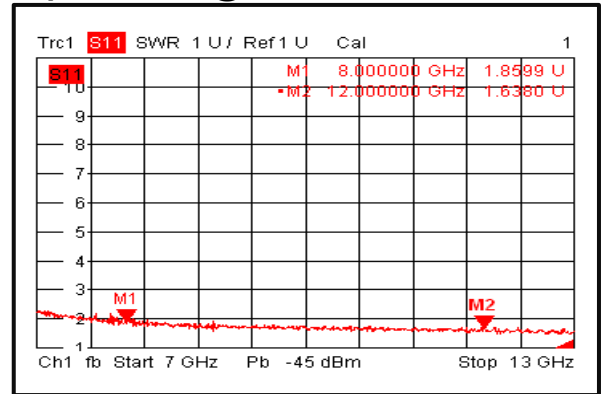
### Isolation @ +25°C



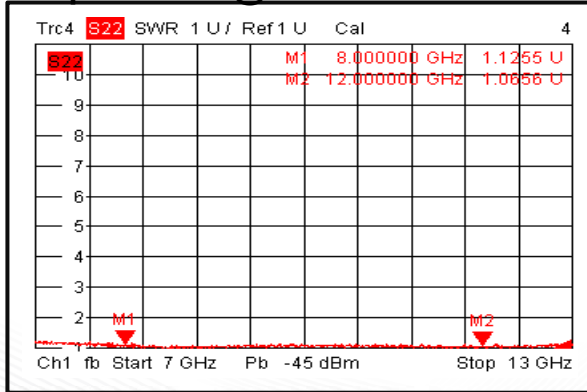
### Gain @ -40°C



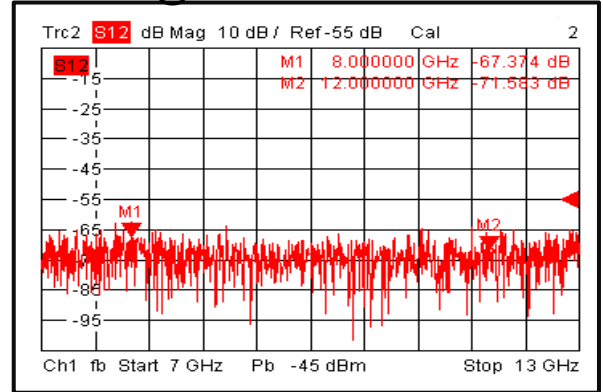
### Input VSWR @ -40°C



### Output VSWR @ -40°C

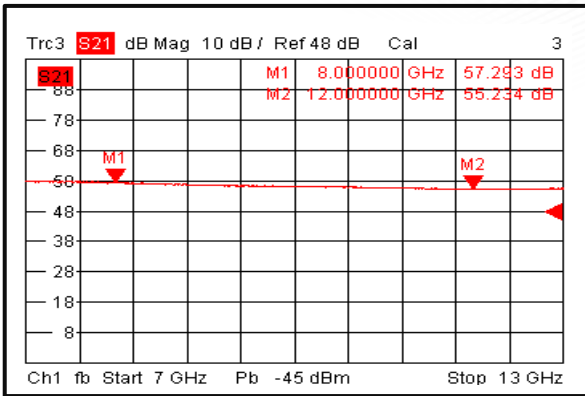


### Isolation @ -40°C

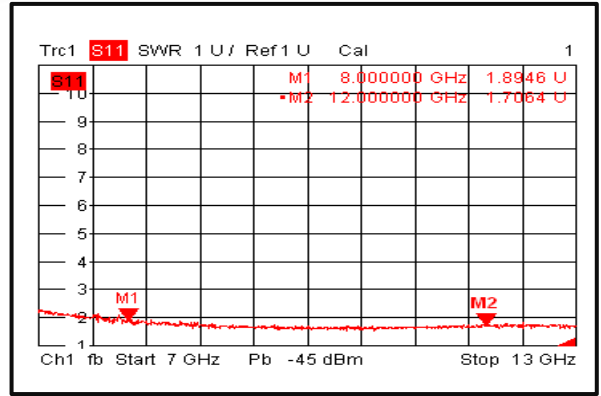




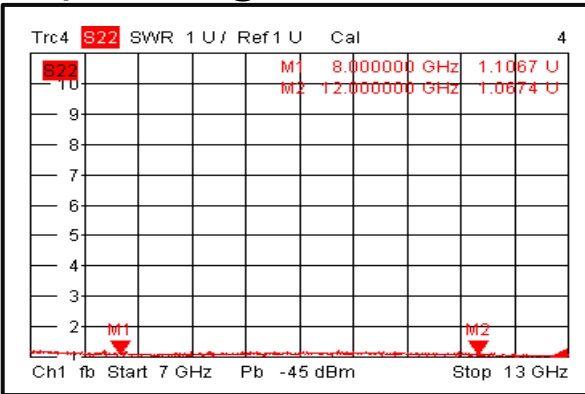
### Gain @ +85°C



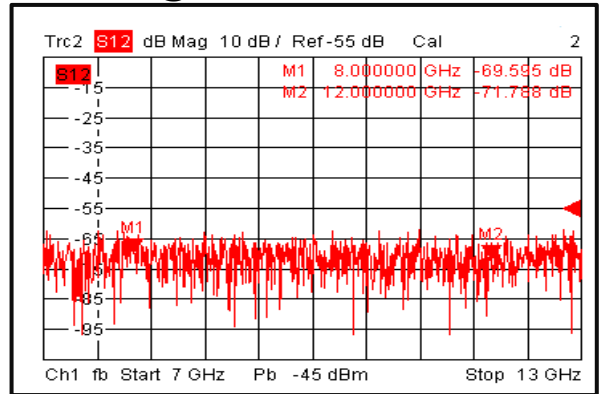
### Input VSWR @ +85°C



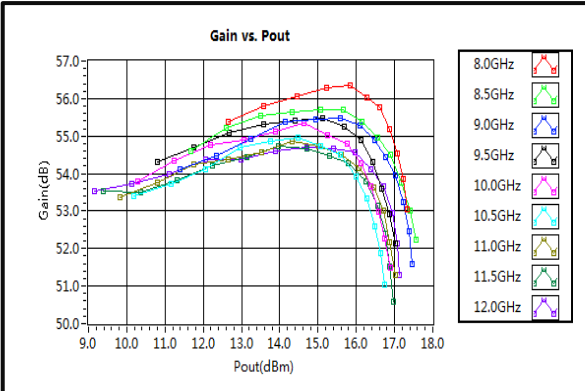
### Output VSWR @ +85°C



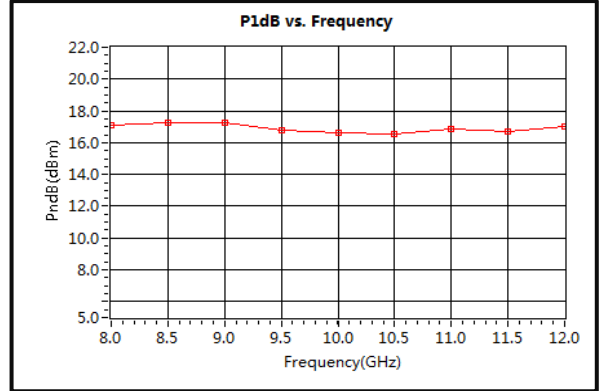
### Isolation @ +85°C



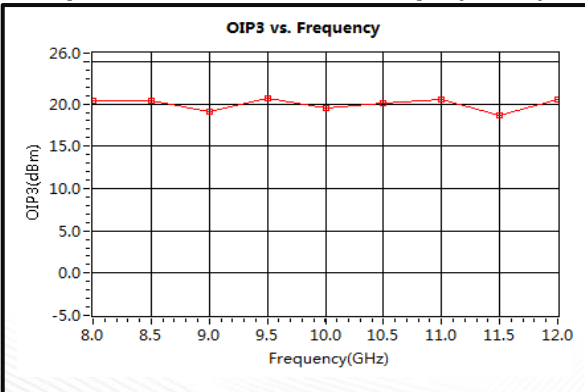
### Gain vs. Output Power



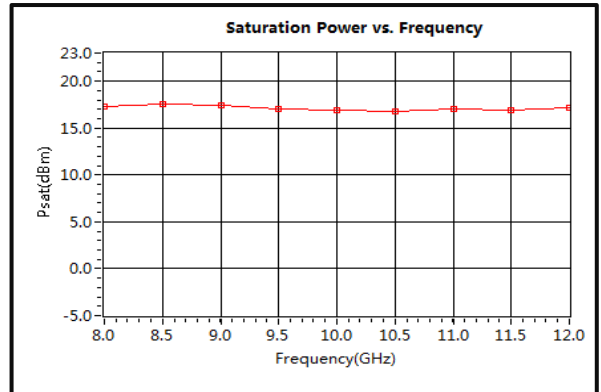
### P1dB vs. Frequency



### Output Third Order Intercept (OIP3)

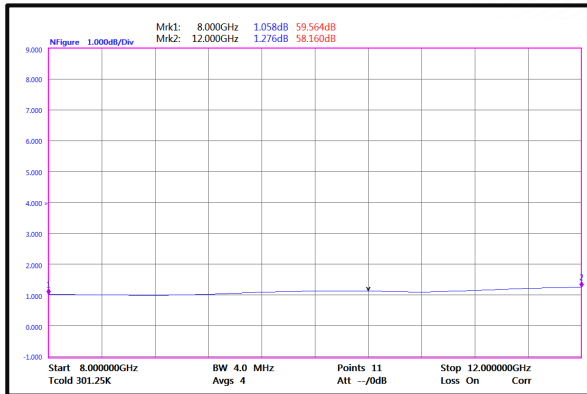


### Saturation Power vs. Frequency

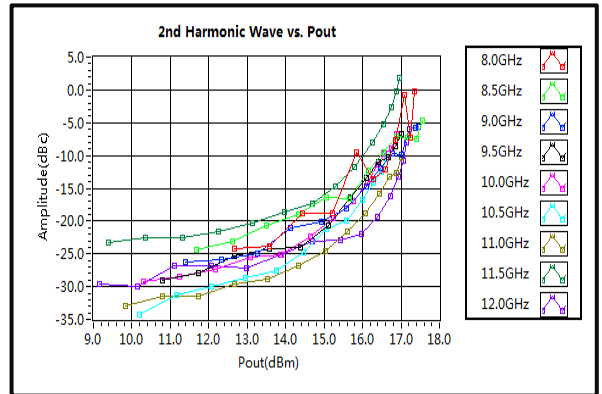




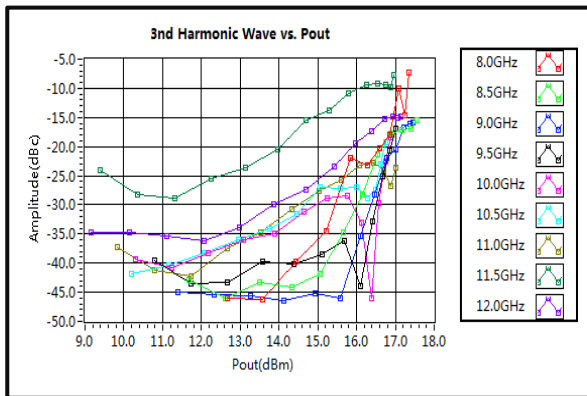
### Noise Figure



### 2nd Harmonic Wave Output Power



### 3rd Harmonic Wave Output Power



### 4th Harmonic Wave Output Power

