



Wide Band Low Noise Amplifier 12GHz~18GHz



Features

- Gain: 31dB typical
- Noise Figure: 2.0dB typical
- High P1dB: +19.5dBm typical
- Supply Voltage: +12V @ 200mA
- 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 | 12 | | 18 | GHz |
| Gain | 29 | 31 | | dB |
| Gain Flatness | | ±1.0 | | dB |
| Gain Variation Over Temperature (-40°C~+85°C) | | ±0.8 | ±1.0 | dB |
| Noise Figure | | 2.0 | 2.5 | dB |
| Input VSWR | | 1.7 | 2.0 | : 1 |
| Output VSWR | | 1.5 | 2.0 | : 1 |
| Output 1dB Compression Point (P1dB) | 17.5 | 19.5 | | dBm |
| Saturated Output Power (Psat) | | 20.5 | | dBm |
| Output Third Order Intercept (OIP3) | | 25 | | dBm |
| Supply Current (Vcc=+12V) | | 200 | 230 | mA |
| Isolation S12 | | -55 | | dB |
| Weight | 0.71 | | | ounces |

| | | | |
|--------------------------|-------------|-----------------|--|
| Weight | 0.71ounces | 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 | +15V |
| RF Input Power (RFIN) | -10dBm |

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 |

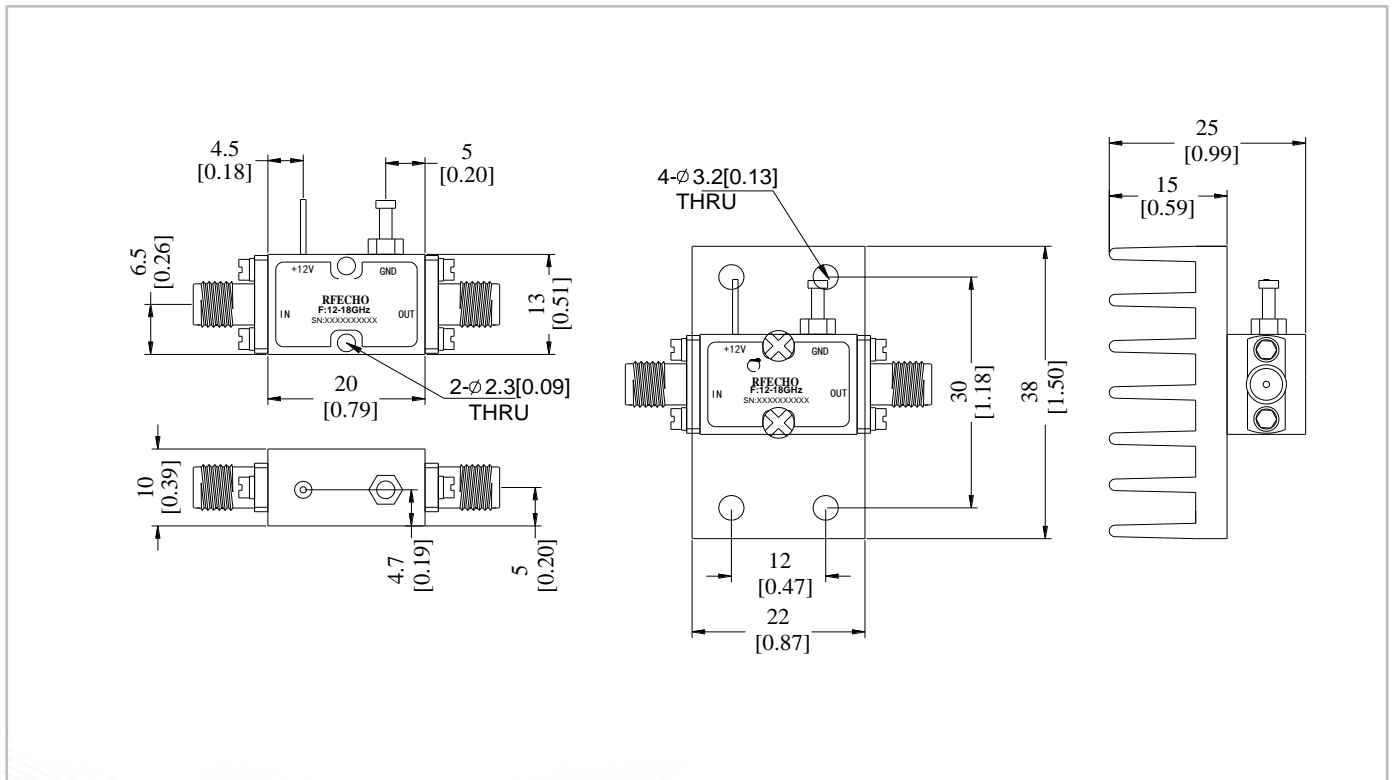
Environmental Specifications

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

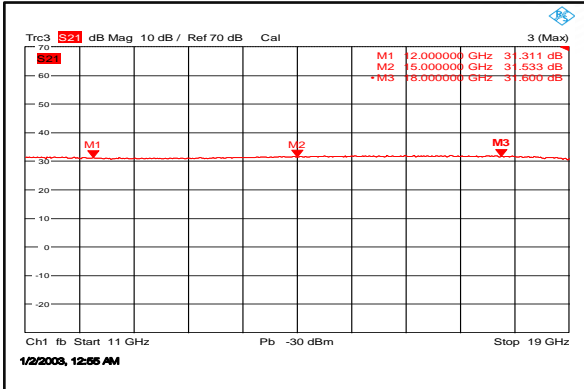
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

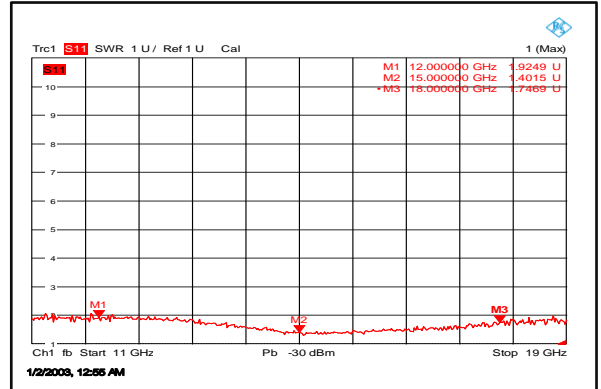




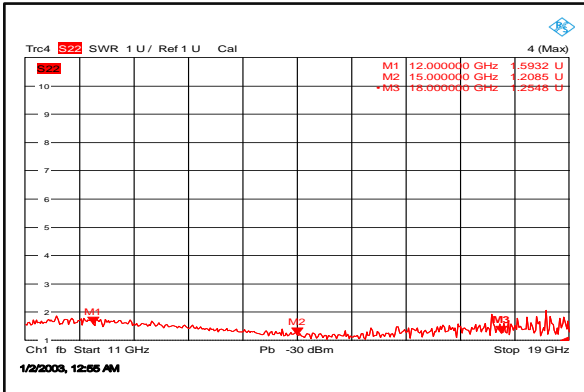
Gain @+25°C



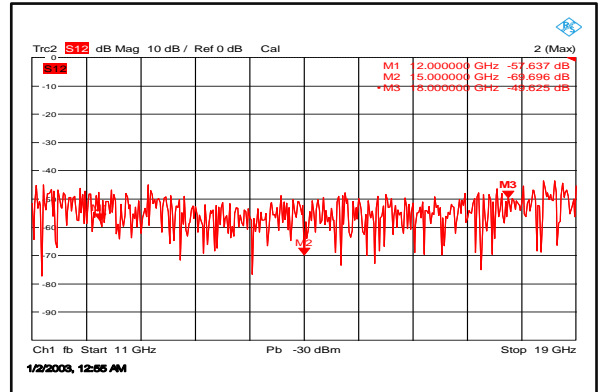
Input VSWR @+25°C



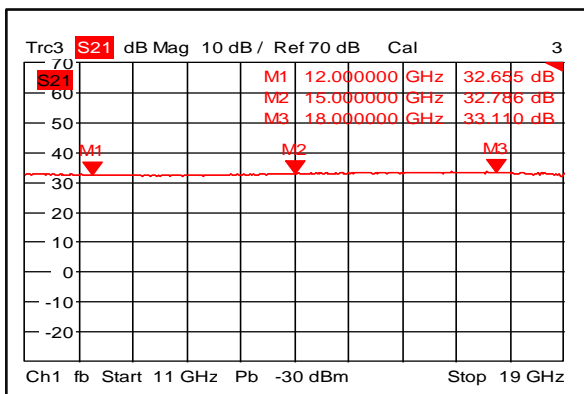
Output VSWR @+25°C



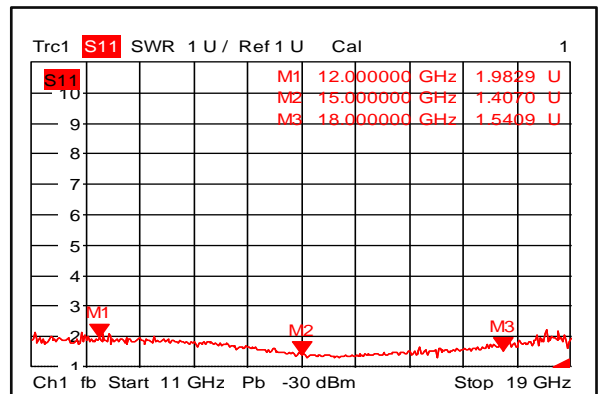
Isolation @+25°C



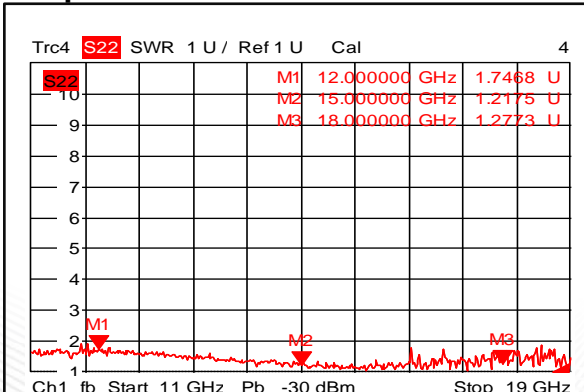
Gain @-40°C



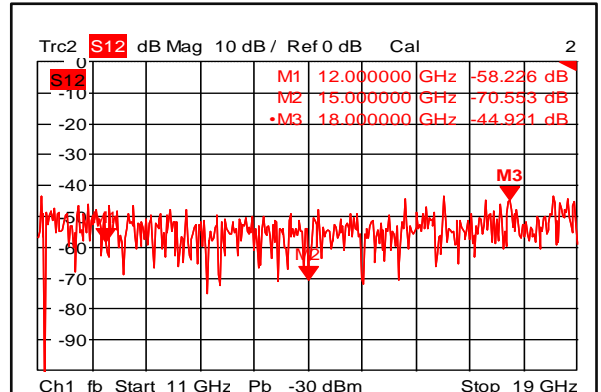
Input VSWR @-40°C



Output VSWR @-40°C

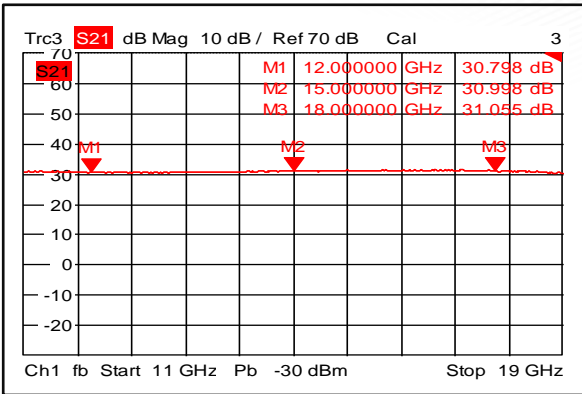


Isolation @-40°C

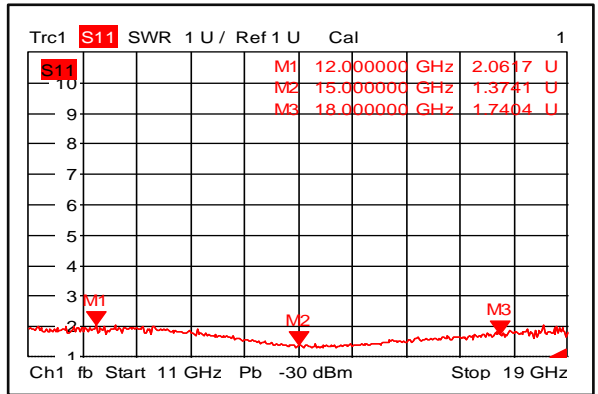




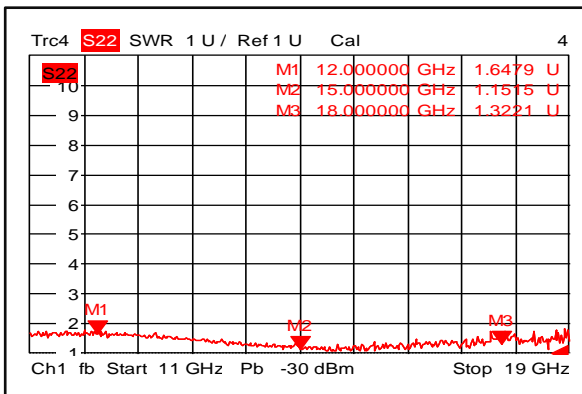
Gain @+85°C



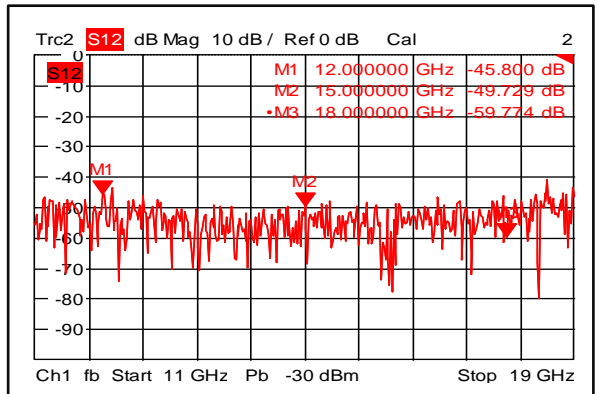
Input VSWR @+85°C



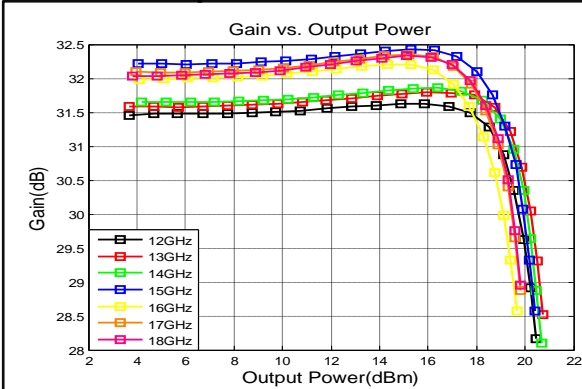
Output VSWR @+85°C



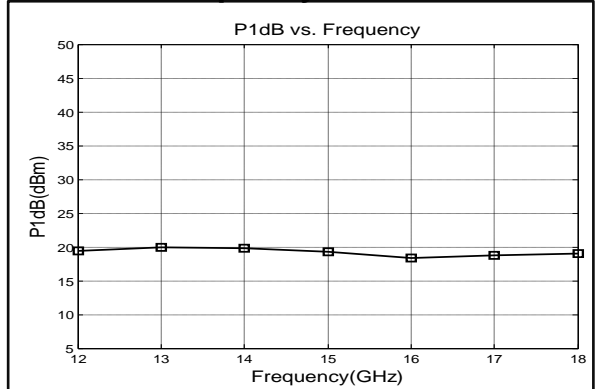
Isolation @+85°C



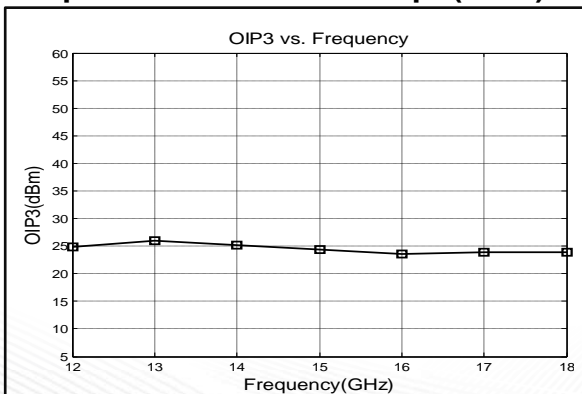
Gain vs. Output Power



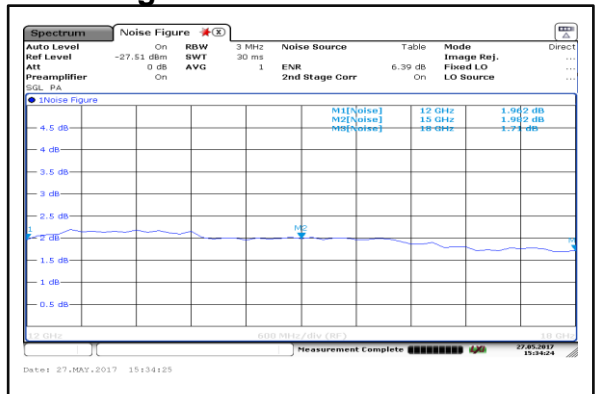
P1dB vs. Frequency



Output Third Order Intercept (OIP3)

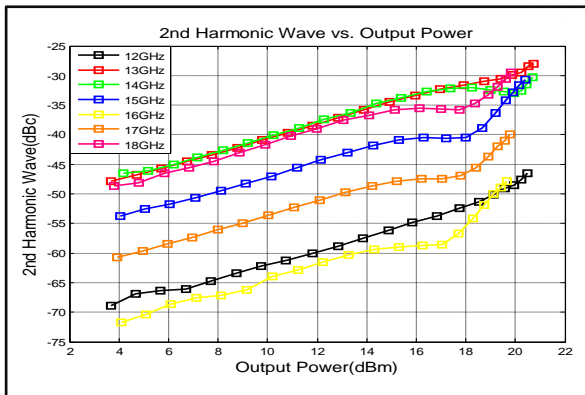


Noise Figure





2nd Harmonic Wave output Power



3rd Harmonic Wave output Power

