



Wide Band Low Noise Amplifier 28GHz~36GHz

Features

- Gain: 20dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +9dBm Typical
- Supply Voltage: +5V



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 | 28 | | 32 | 32 | | 36 | GHz |
| Gain | 20 | 22 | 24.5 | 19 | 21 | 23 | dB |
| Gain Flatness | | ±1.0 | | | ±2.0 | | dB |
| Gain Variation Over Temperature (-40°C~+85°C) | | ±2.0 | | | ±2.0 | | dB |
| Noise Figure | | 2.5 | 3.0 | | 3.0 | 3.5 | dB |
| Input VSWR | | 1.6 | | | 1.6 | | : 1 |
| Output VSWR | | 1.5 | | | 1.5 | | : 1 |
| Output 1dB Compression Point (P1dB) | 6 | 9 | | 6 | 9 | | dBm |
| Saturated Output Power (Psat) | | 12 | | | 12 | | dBm |
| Output Third Order Intercept (OIP3) | | 15 | | | 15 | | dBm |
| Isolation S12 | | -50 | | | -50 | | dB |
| Supply Current (Vcc=+5V) | | 66 | 80 | | 66 | 80 | mA |

| | | | |
|---------------------------|---------------|-----------------|--------------------------------|
| Weight | 0.35ounces | Impedance | 50ohms |
| Input / Output Connectors | 2.92mm-Female | Material | Aluminum |
| Finish | Gold Plated | Package Sealing | Epoxy Sealed (Standard) |
| | | | Hermetically Sealed (Optional) |



Absolute Maximum Ratings

| | | |
|-----------------------|----------|-------|
| Operating Voltage | +5 .5V | |
| RF Input Power (RFIN) | 28-32GHz | +5dBm |
| | 32-36GHz | -1dBm |

Biassing Up Procedure

| | |
|--------|--------------------------|
| Step 1 | Connect Ground Pin |
| Step 2 | Connect input and output |
| Step 3 | Connect +5V biasing |

Power OFF Procedure

| | |
|--------|----------------------|
| Step 1 | Turn off +5V biasing |
| Step 2 | Remove RF connection |
| Step 3 | Remove Ground |

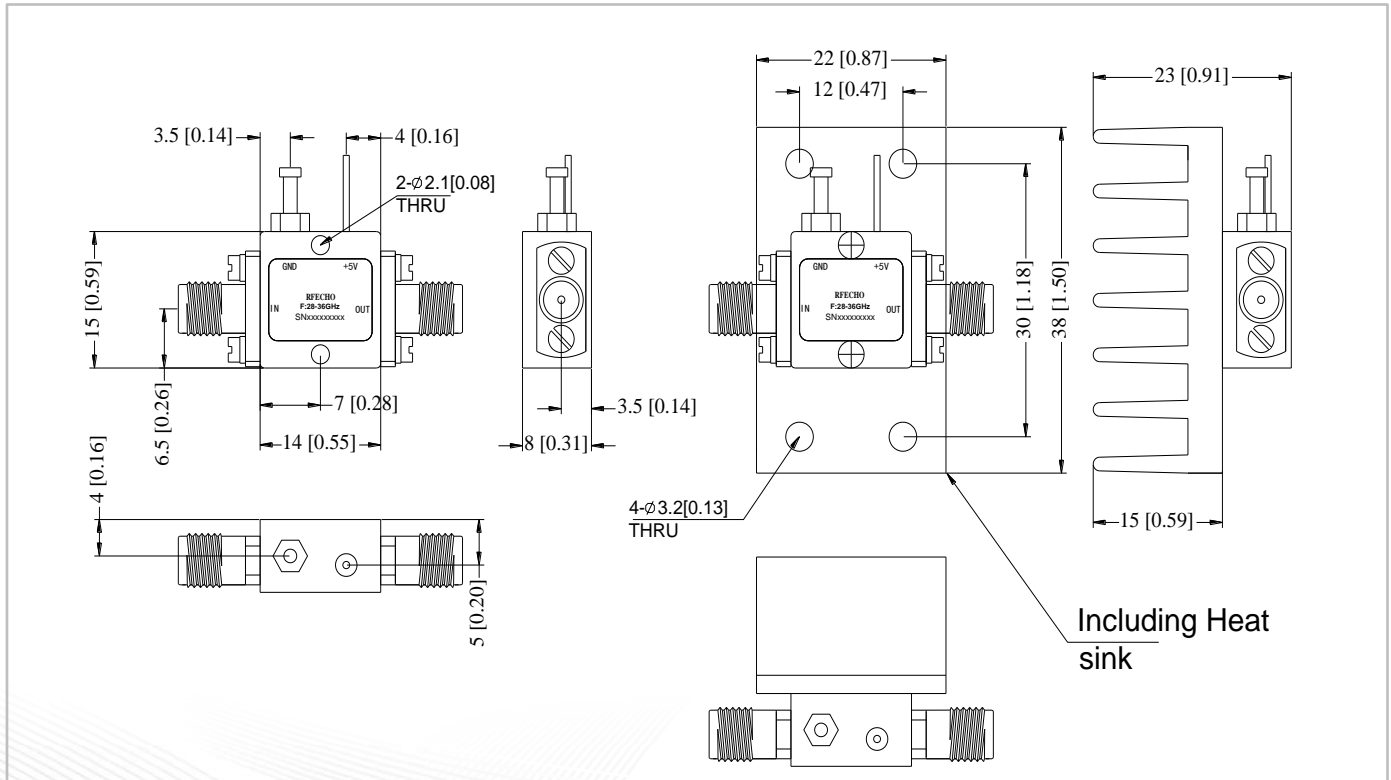
Environmental Specifications

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

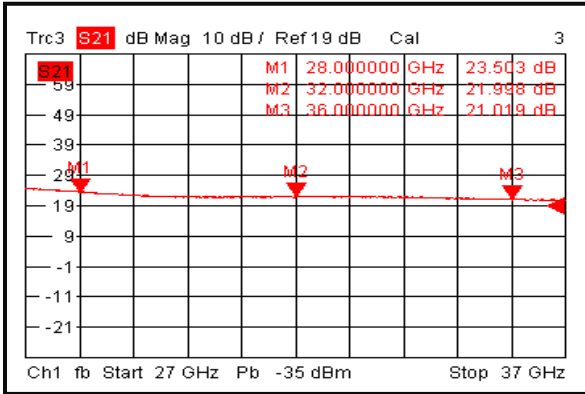
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

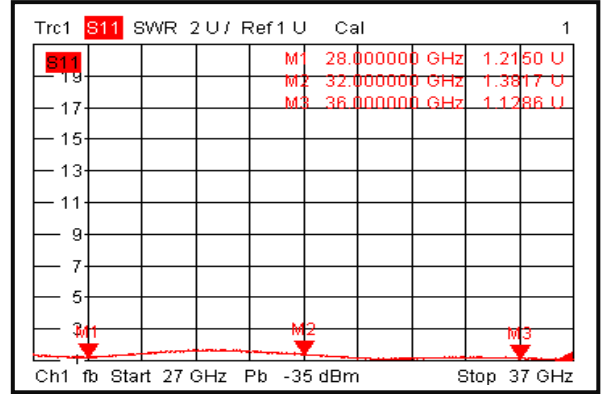




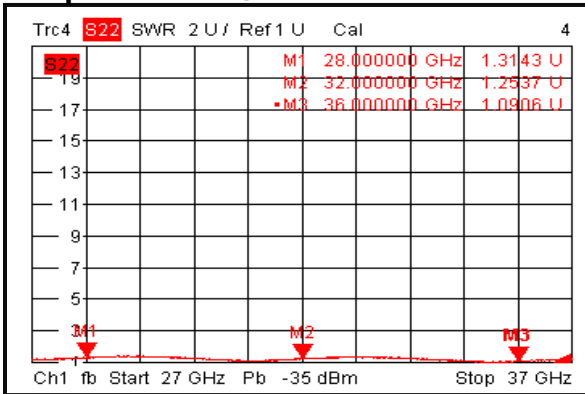
Gain @+25°C



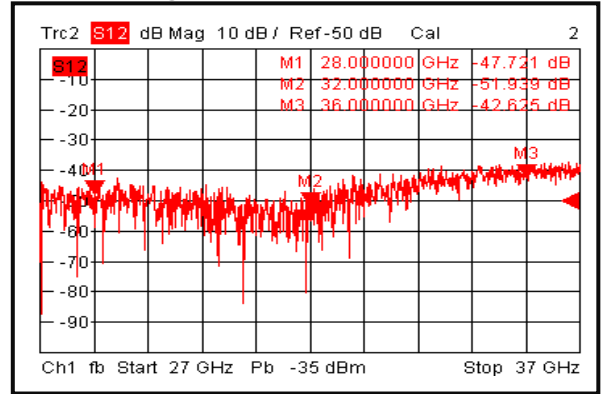
Input VSWR @+25°C



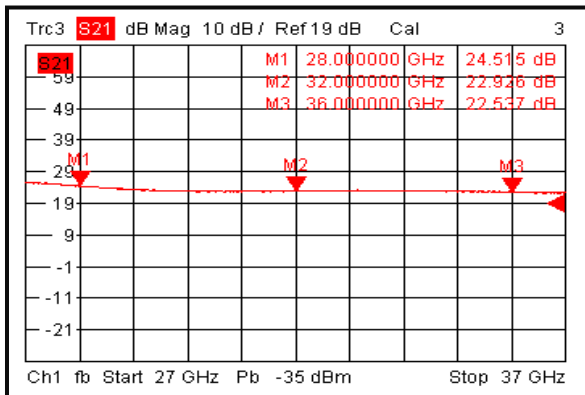
Output VSWR @+25°C



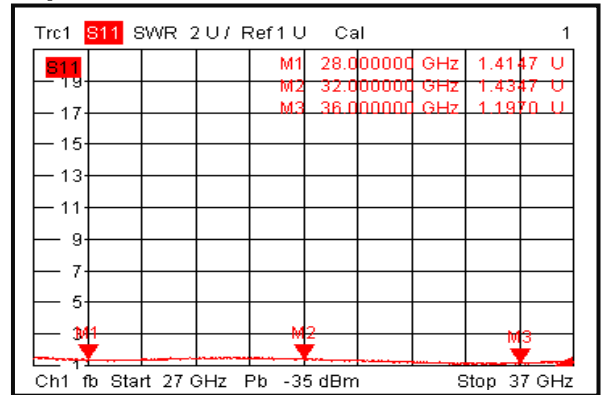
Isolation @+25°C



Gain @-40°C

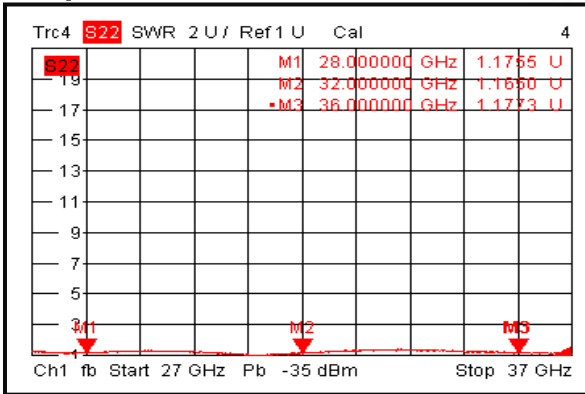


Input VSWR @-40°C

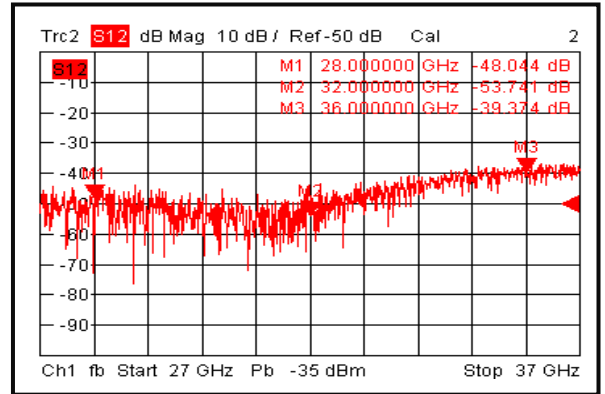




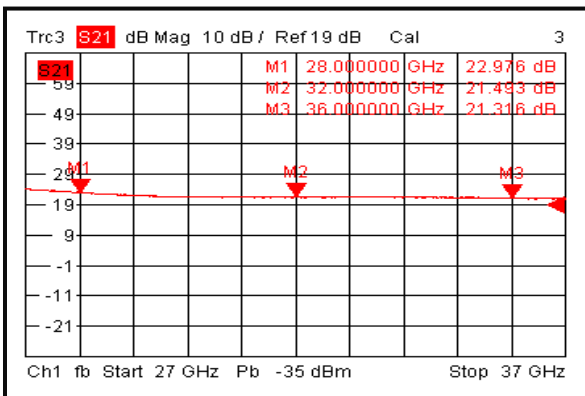
Output VSWR @-40°C



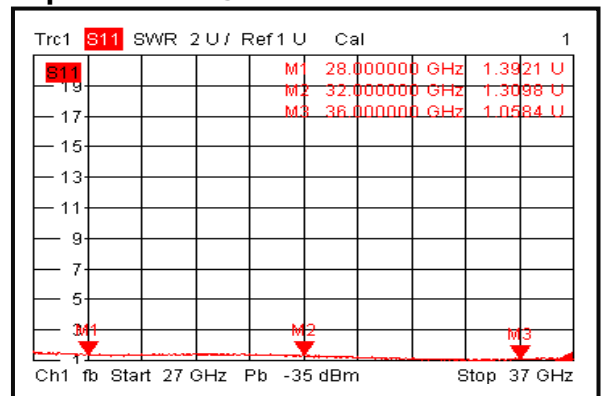
Isolation @-40°C



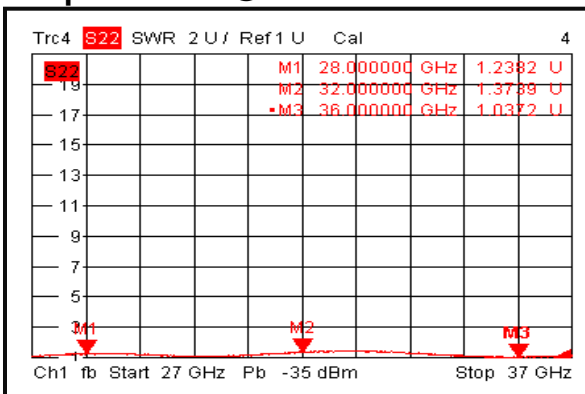
Gain @+85°C



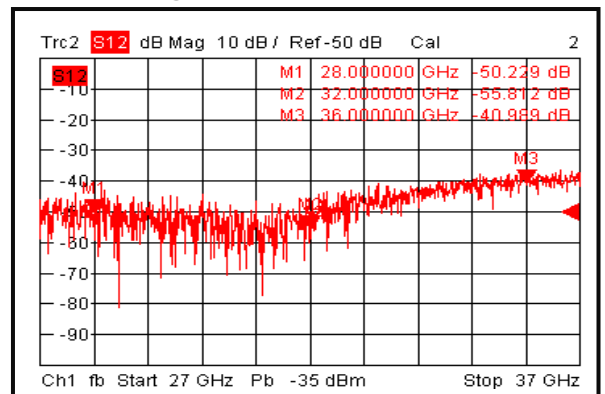
Input VSWR @+85°C



Output VSWR @+85°C

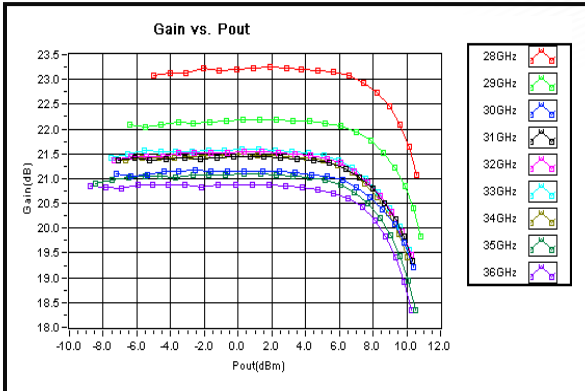


Isolation @+85°C

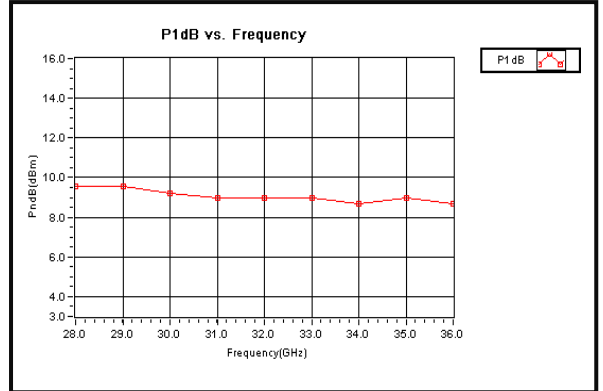




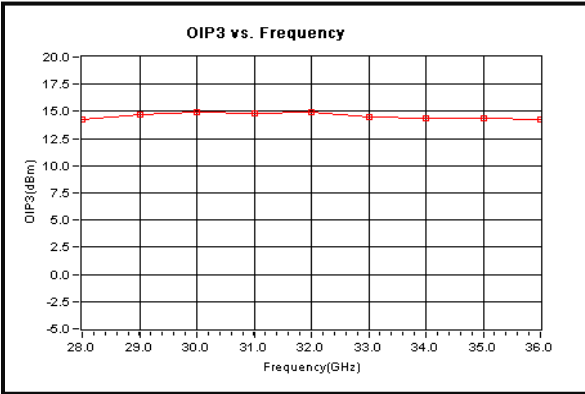
Gain vs. Output Power



P1dB vs. Frequency



Output Third Order Intercept (OIP3)



Noise Figure

