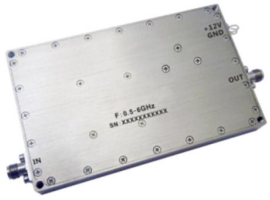
RFecho
A Gateway to RFWorld

# Wide Band Power Amplifier 0.5GHz~6GHz

## Features



- Gain: 33dB Typical
- Noise Figure: 3.0dB Typical
- P1dB Output Power: 30dBm Typical
- Supply Voltage: +12V @ 270mA
- 50 Ohm Matched

## 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 | 0.5 | | 4 | 4 | | 6 | GHz |
| Gain | 30 | 33 | 38 | 28 | 31 | 37 | dB |
| Gain Flatness | | ±2 | ±2.5 | | ±2.0 | ±3.0 | dB |
| Gain Variation Over Temperature (-40ºC~+85ºC) | | ±1.5 | | | ±1.5 | | dB |
| Input VSWR | | 1.8 | 2.2 | | 1.8 | 2.0 | : 1 |
| Output 1dB Compression Point (P1dB) | 28 | 30 | | 28 | 30 | | dBm |
| Saturated Output Power (Psat) | | 31 | | | 31 | | dBm |
| Supply Current (Vcc=+12V) | | 280 | 450 | | 280 | 450 | mA |
| Isolation S12 | | -60 | | | -60 | | dB |
| Efficiency at Psat (RF Output Power / DC Power Consumption) | | 25 | | | 25 | | % |

| | | | |
|---|---|---|---|
| Weight | 5.7 Max. ounces | Impedance | 50 ohms |
| Input /Output Connectors | SMA-Female | Material | Aluminum |
| Finish | Nickel Plated | Package Sealing | Epoxy Sealed (Standard) |
| | | | Hermetically Sealed (Optional) |

## Absolute Maximum Ratings

| | |
|---|---|
| Operating Voltage | +12.5V |
| RF Input Power (+12V) | +5dBm |

## Biasing 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 |

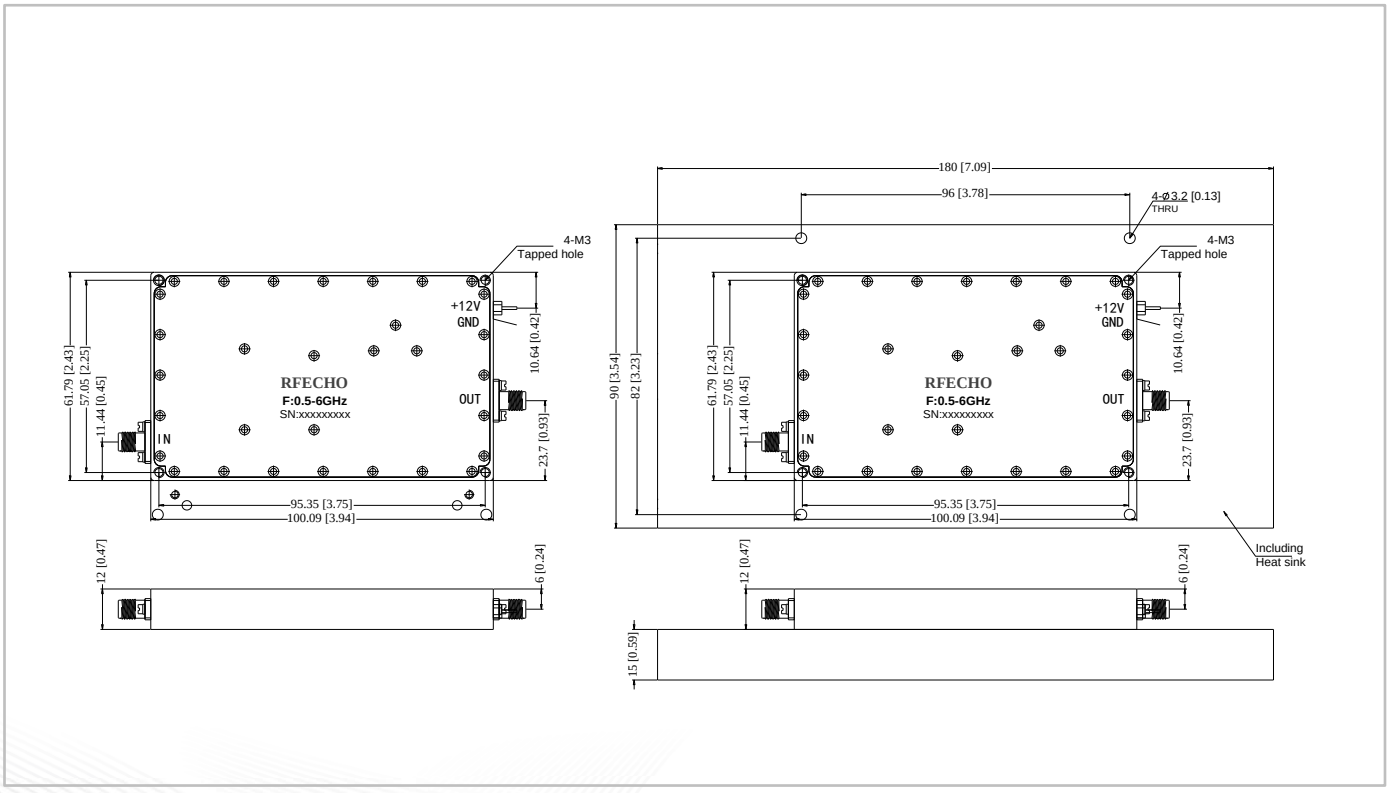
## Environmental Specifications

| | |
|---|---|
| Operational Temperature | -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 |

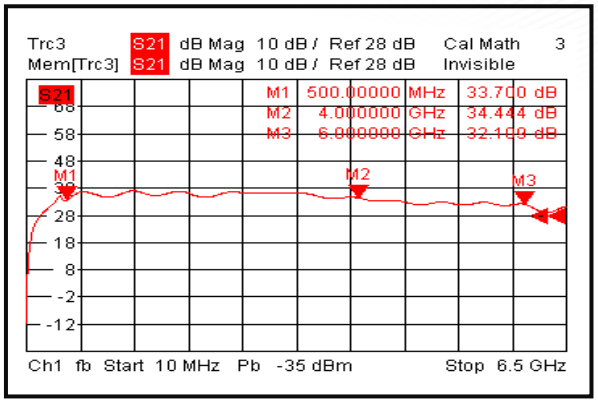
## Outline Drawing:

All Dimensions in mm (inches)
Tolerances ±0.2(0.008)(Excl heatsink)

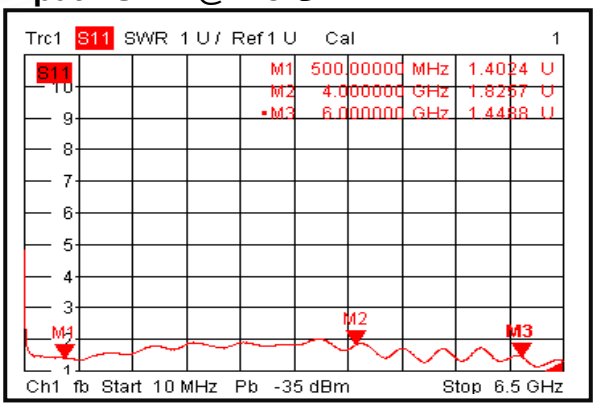
Heat Sink required during operation(Sold Separately)



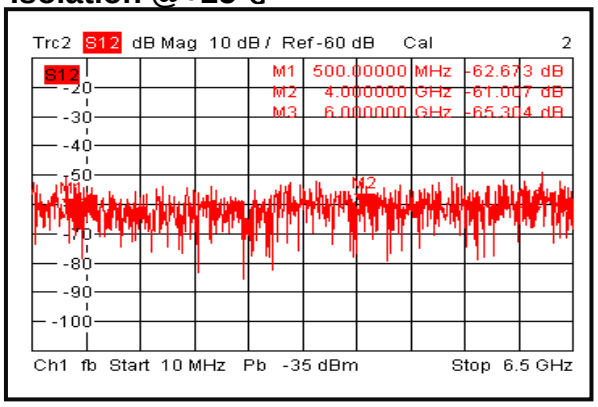
## Gain @+25℃



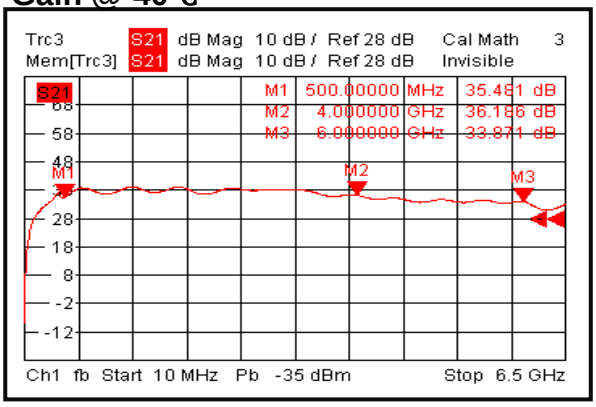

## Input VSWR @+25℃



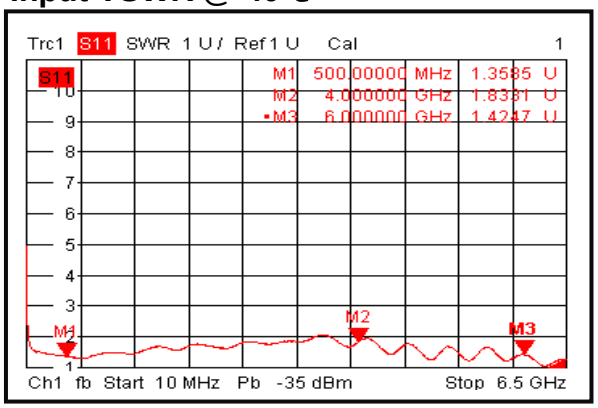

## Isolation @+25℃



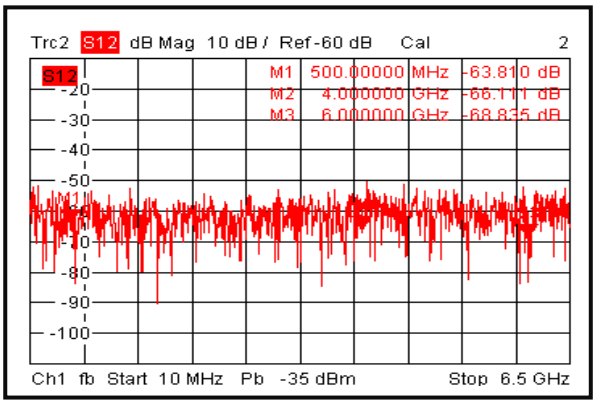

## Gain @-40℃



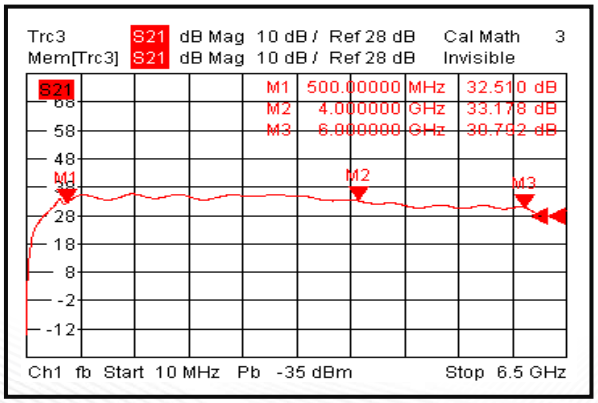

## Input VSWR @-40℃



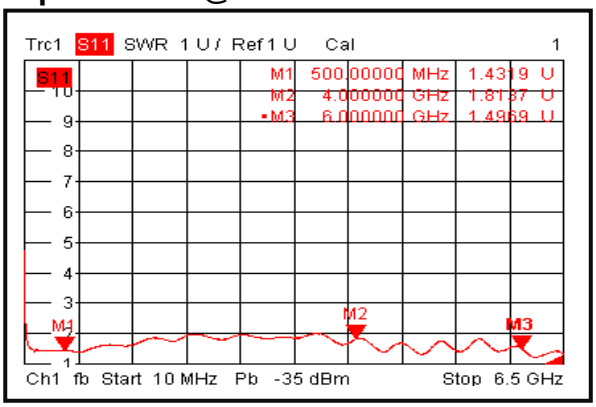

## Isolation @-40℃



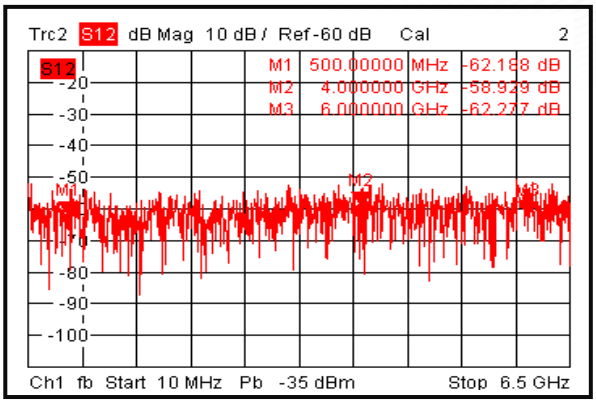

## Gain @+85℃



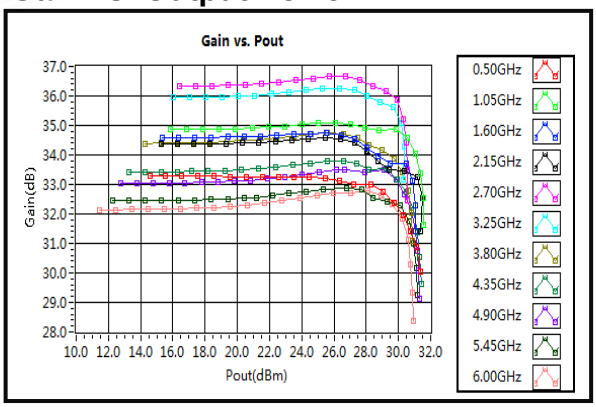

## Input VSWR @+85℃



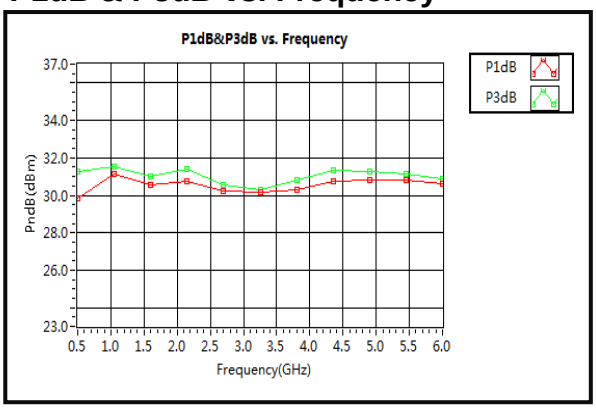
## Isolation @+85℃



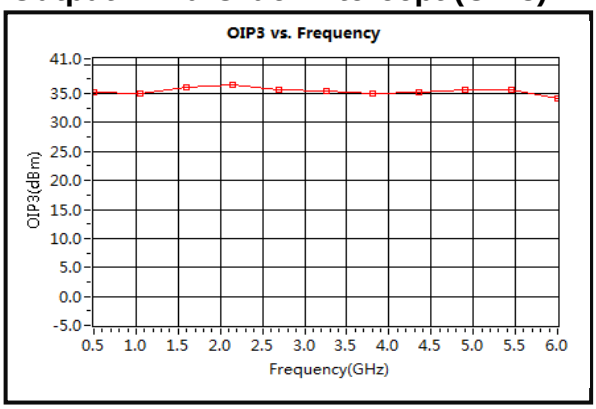

## Gain vs. Output Power



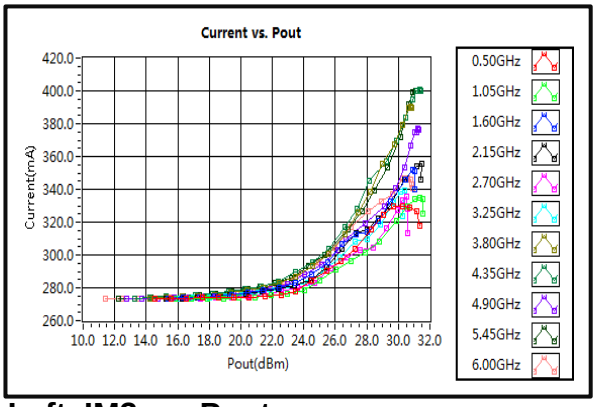

## P1dB & P3dB vs. Frequency



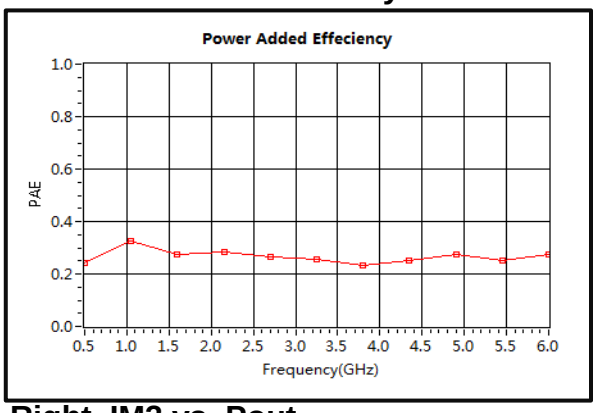

## Output Third Order Intercept (OIP3)



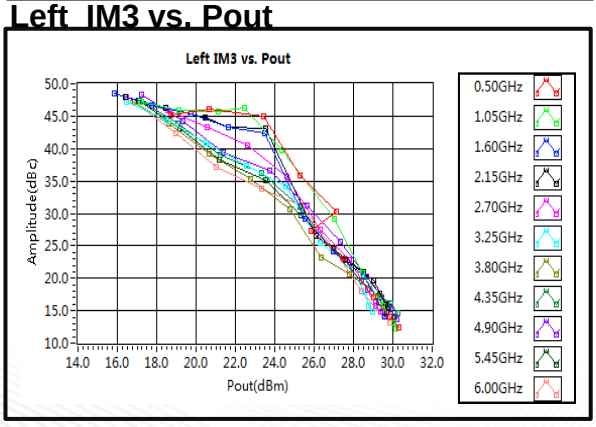

## Current vs. Pout



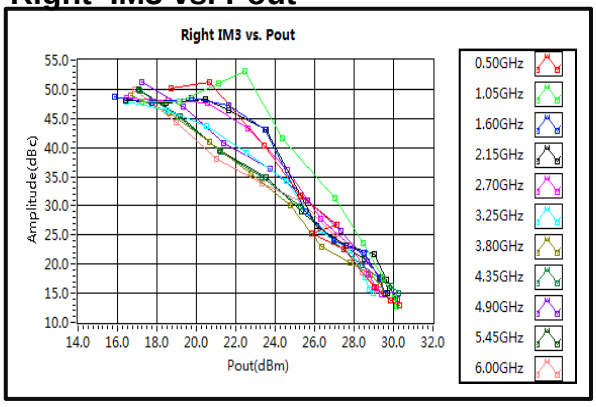

## Power Added Effeciency



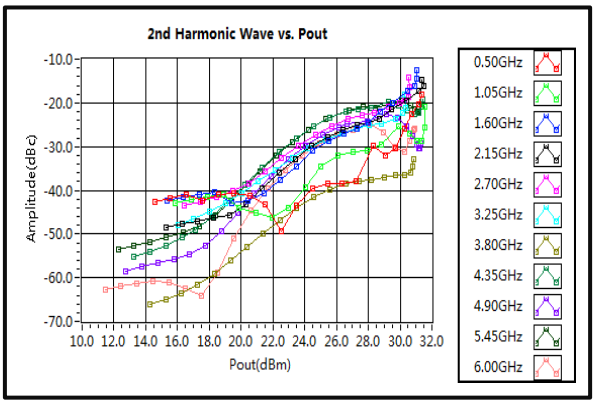

## Left IM3 vs. Pout



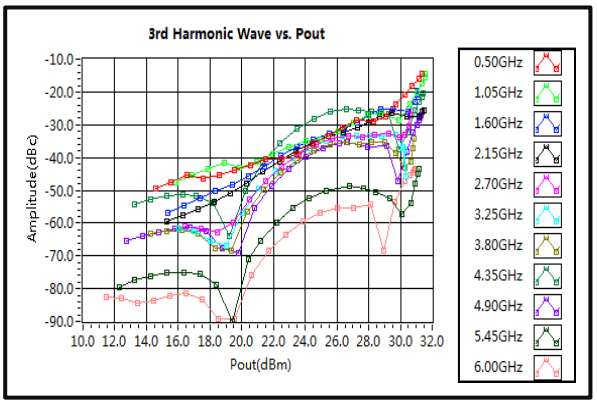

## Right IM3 vs. Pout



## 2nd Harmonic Wave Output Power




## 3rd Harmonic Wave Output Power




## 4th Harmonic Wave Output Power