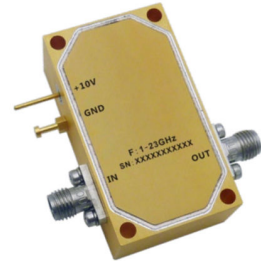




# Hermetically Sealed Wide Band Power Amplifier 1GHz ~ 23GHz

## Features

- Gain: 15dB Typical
- Output Power +23dBm Typical
- High P1dB: +15dBm Full Band
- Supply Voltage: +10V



## 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	1		12	12		23	GHz
Gain	14	16		14	16		dB
Gain Flatness		± 1.5			± 1.0		dB
Gain Variation Over Temperature (-40°C ~ +85°C)		± 1.5			± 2.0		dB
Noise Figure		3.0	5.0		3.5	5.0	dB
Input Return Loss		10			10		dB
Output Return Loss		18			18		dB
Output 1dB Compression Point (P1dB)	20	23		15	20		dBm
Saturated Output Power (Psat)		25			22		dBm
Output Third Order Intercept (OIP3)		33			29		dBm
Supply Current (Vcc=+10V)		190	260		190	260	mA

Weight	1.8Max. ounces	Impedance	50ohms
Input /Output Connectors	SMA-Female	Material	Aluminum
Finish	Gold Plated	Package Sealing	Hermetically Sealed (Laser Welded)



### Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	+40dBm

### Biassing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +10V biasing

### Power OFF Procedure

Step 1	Turn off +10V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

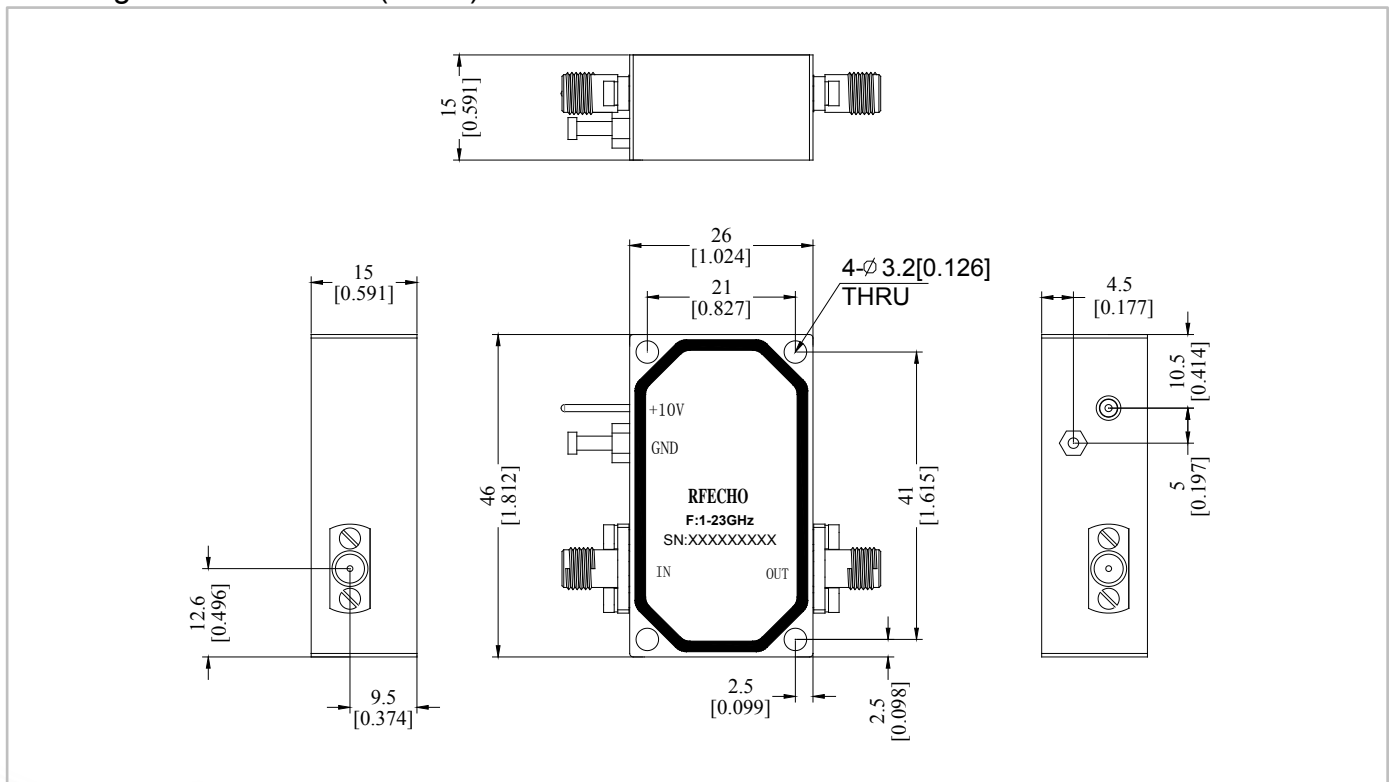
### Environmental Specifications

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:

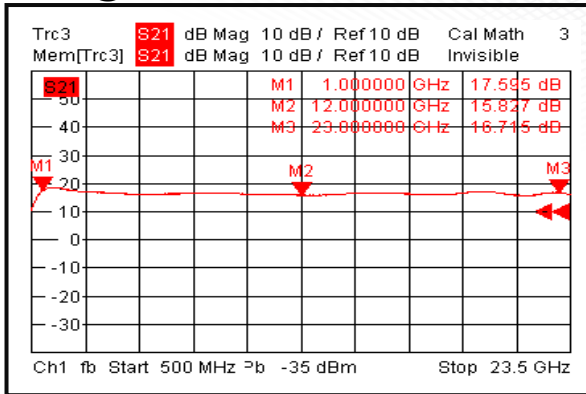
All Dimensions in mm (inches)  
Housing Tolerances  $\pm 0.1$  (0.004)

Heat Sink required during operation(Sold Separately)

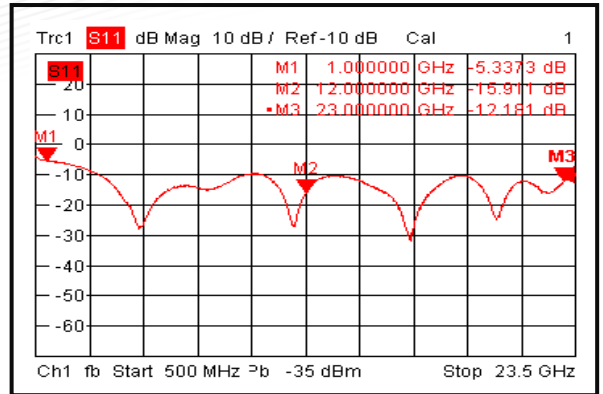




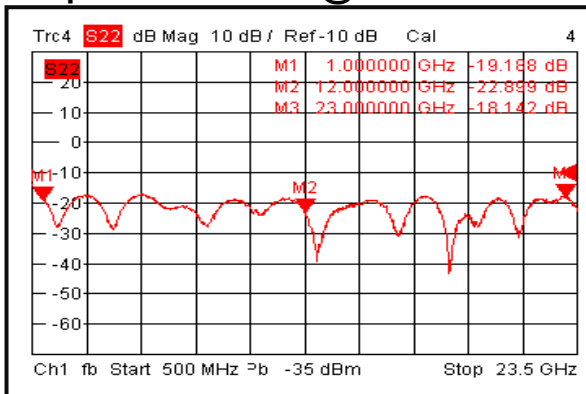
### Gain @+25°C



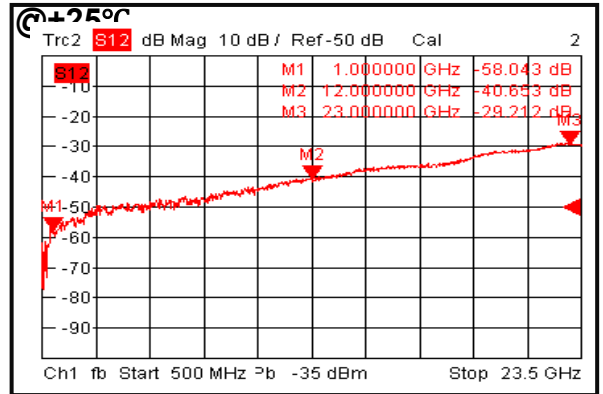
### Input Return Loss @+25°C



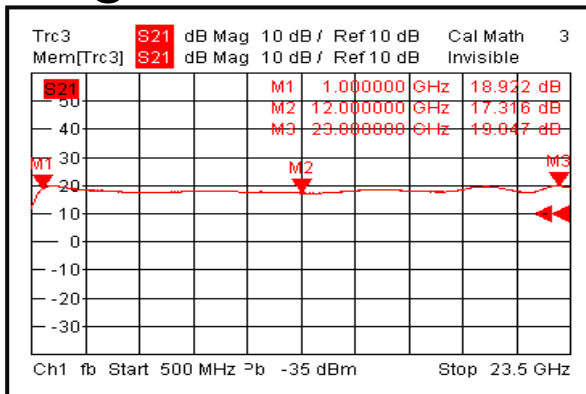
### Output Return Loss @+25°C



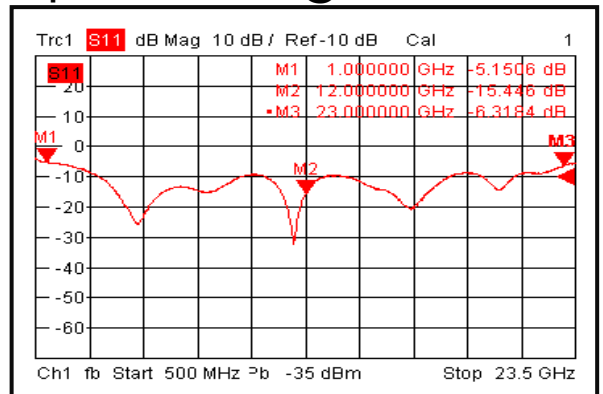
### Isolation



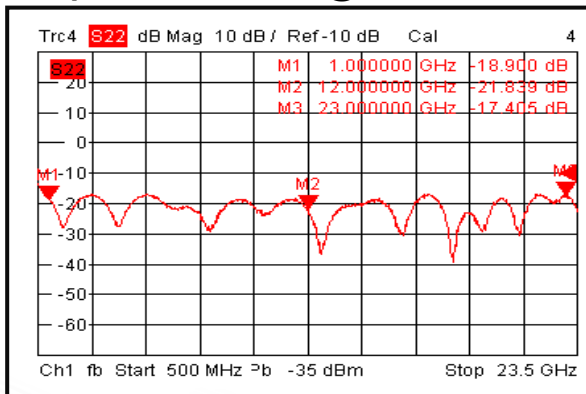
### Gain @-40°C



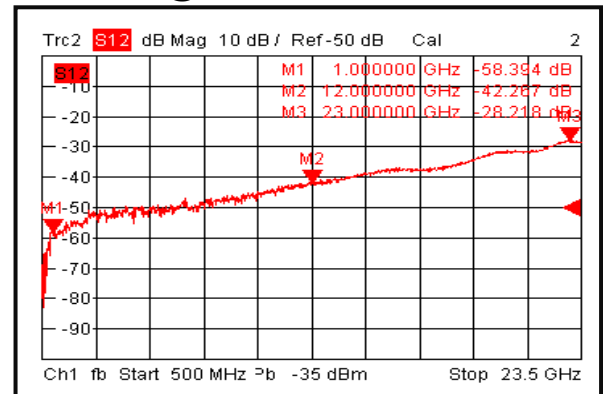
### Input Return Loss @-40°C



### Output Return Loss @-40°C

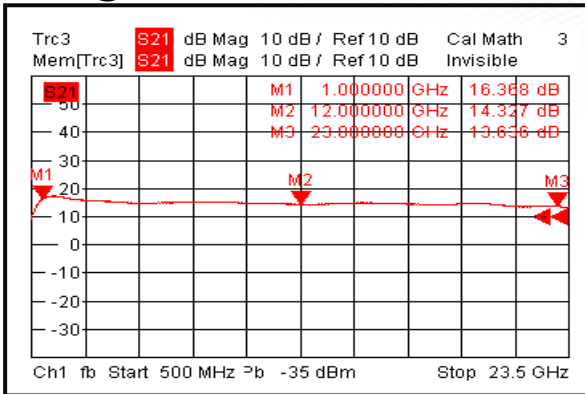


### Isolation @-40°C

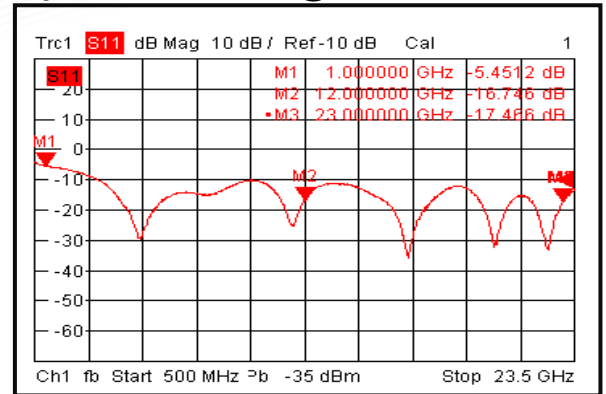




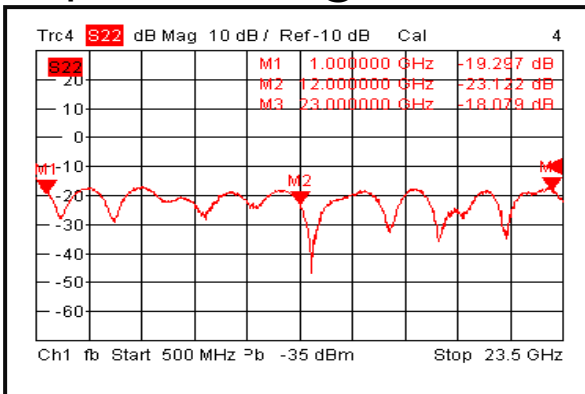
### Gain @+85°C



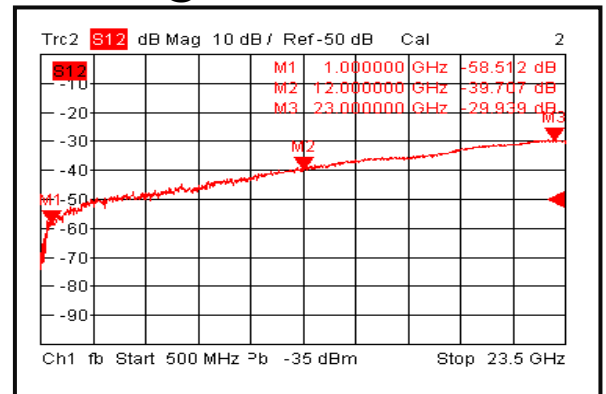
### Input Return Loss @+85°C



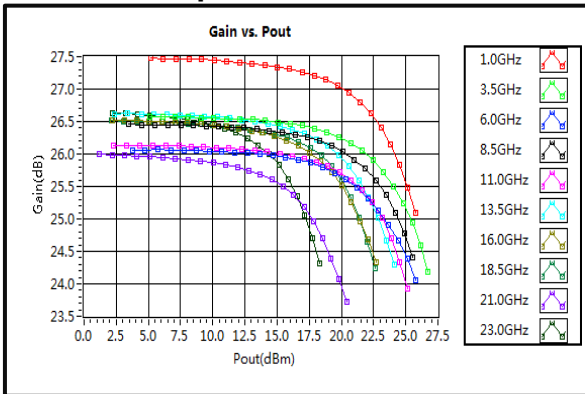
### Output Return Loss @+85°C



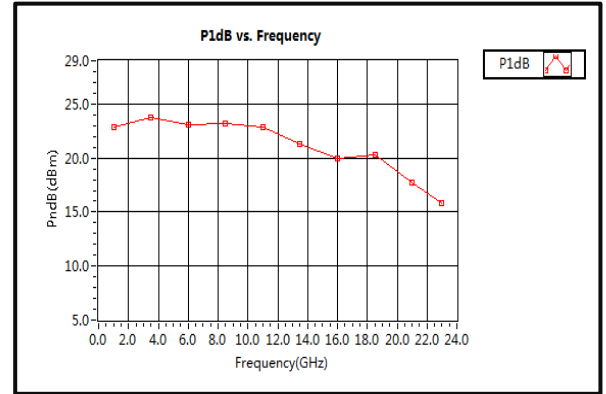
### Isolation @+85°C



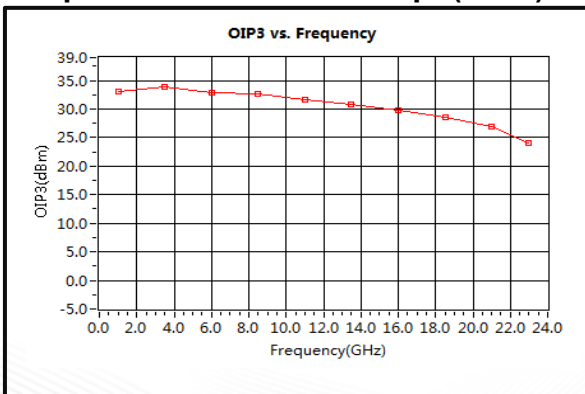
### Gain vs. Output Power



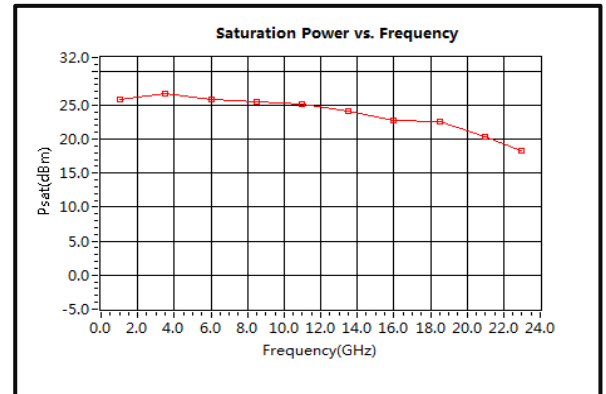
### P1dB vs. Frequency



### Output Third Order Intercept (OIP3)

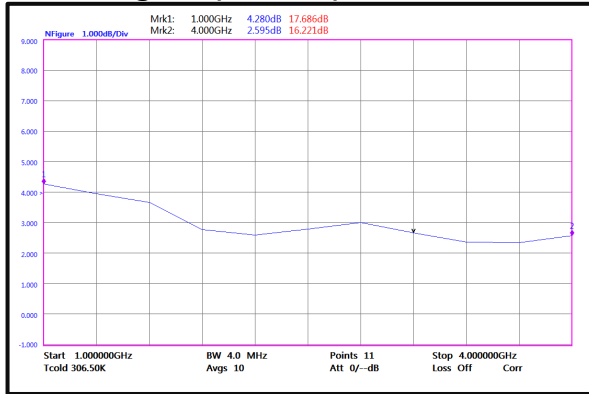


### Saturation Power vs. Frequency





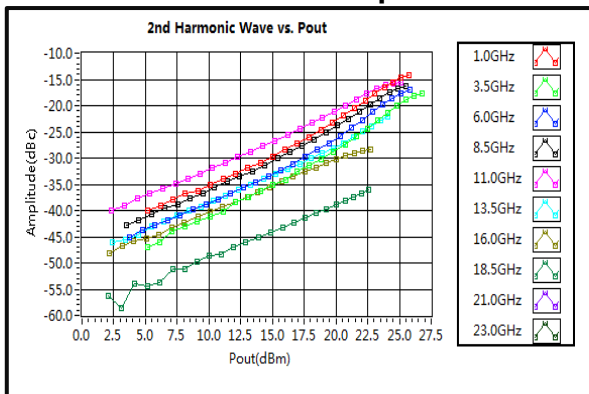
### Noise Figure (1-4GHz)



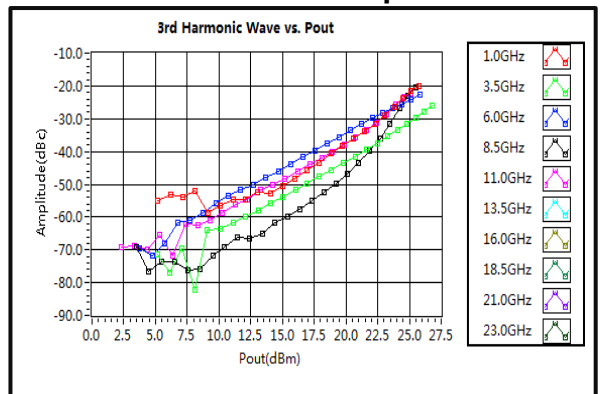
### Noise Figure (4-23GHz)



### 2nd Harmonic Wave Output Power



### 3rd Harmonic Wave Output Power



### 4th Harmonic Wave Output Power

