



2W Wide Band Solid State Power Amplifier 6~10 GHz



Features

- Gain: 48dB Typical
- Noise Figure: 7.5dB Typical
- P1dB Output Power: +31dBm
- Supply Voltage: +31.5V @ 420mA
- 50 Ohm Matched Input / Output

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	6		8	8		10	GHz
Gain	46	48		45	47		dB
Gain Flatness		±1.0			±1.0		dB
Gain Variation Over Temperature (-40°C ~ +85°C)		±2.0			±2.0		dB
Noise Figure		7.5			7.5		dB
Input Return Loss		15			15		dB
Output Return Loss		12			14		dB
Output 1dB Compression Point (P1dB)	31	33		31	32.5		dBm
Saturated Output Power (Psat)		34			33.5		dBm
Output Third Order Intercept (IP3)		41.5			41.5		dBm
Supply Voltage (Vcc)	20		40	20		40	V
Supply Current (Vcc=+31.5V)		420	500		420	500	mA

Weight	27.4 ounces	Impedance	50 ohms
Input /Output Connectors	SMA-Female	Material	copper
Finish	Nickel Plated (220 micron thickness)	Package Sealing	Epoxy Sealed



Absolute Maximum Ratings

Operating Voltage	+40V
RF Input Power	Psat - Gain

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output with 50 Ohm source/load. (in band VSWR<1.9:1 or >10dB return loss)
Step 3	Connect +31.5V

Power OFF Procedure

Step 1	Turn Off +31.5V
Step 2	Remove RF connection
Step 3	Remove Ground

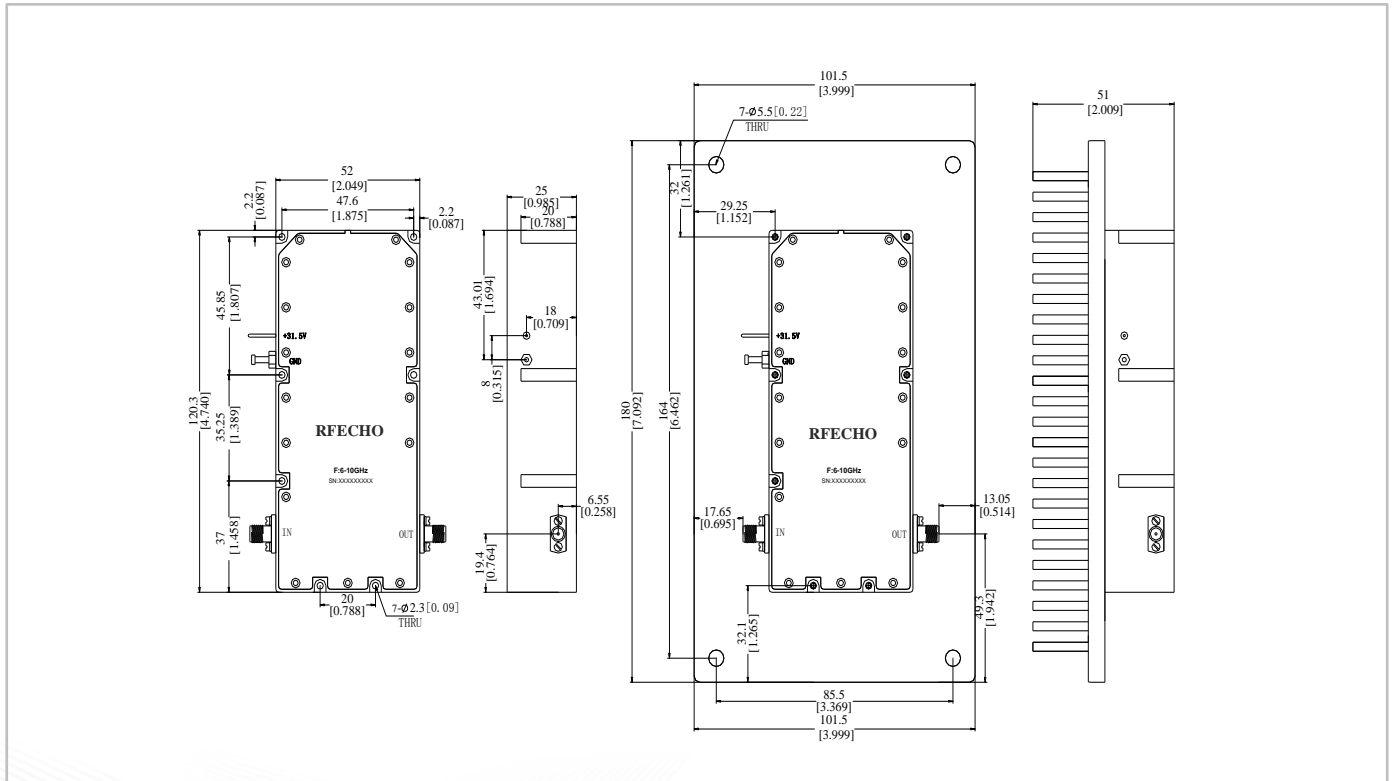
Environmental Specifications

Operational Temperature	-40°C~+85°C(Case Temperature must be less than 85°C at all times)
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:

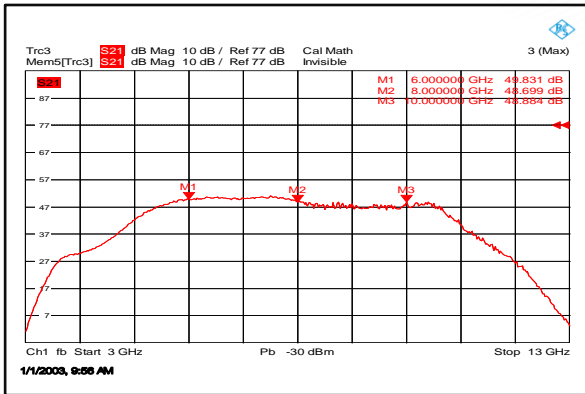
All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

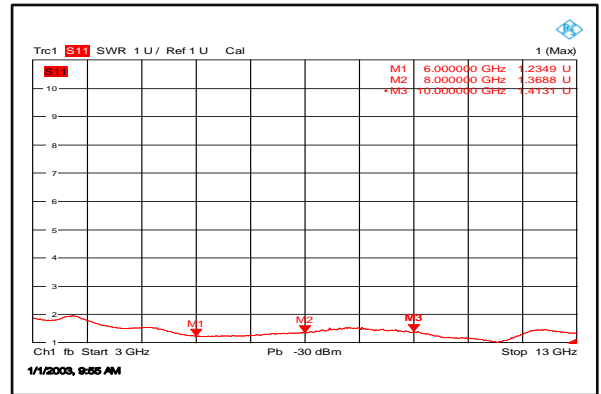




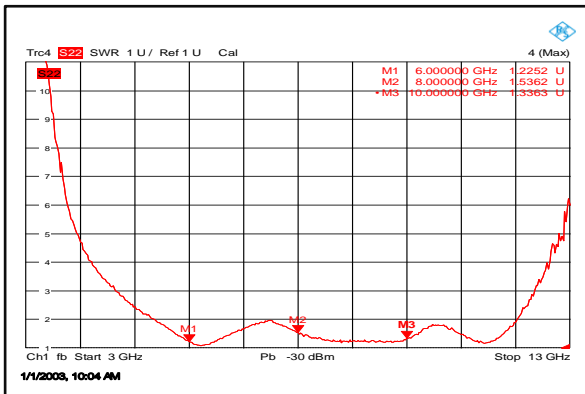
Gain @+25°C



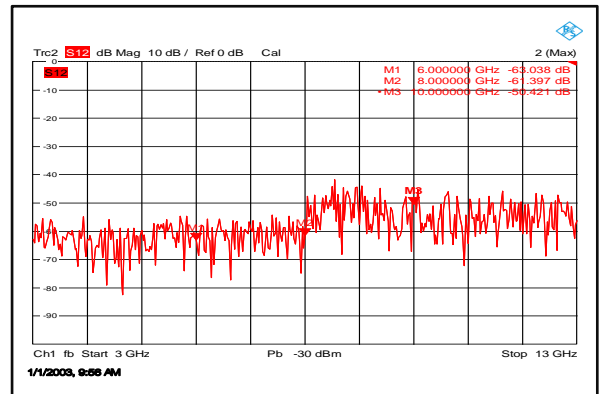
Input VSWR @+25°C



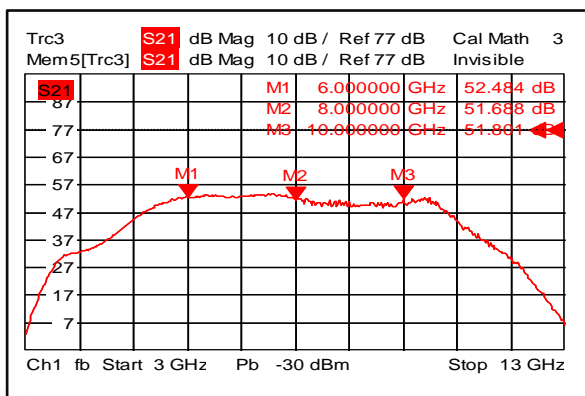
Output VSWR @+25°C



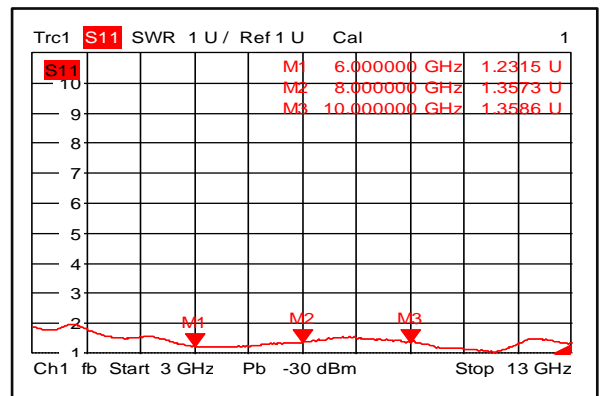
Isolation @+25°C



Gain @-40°C

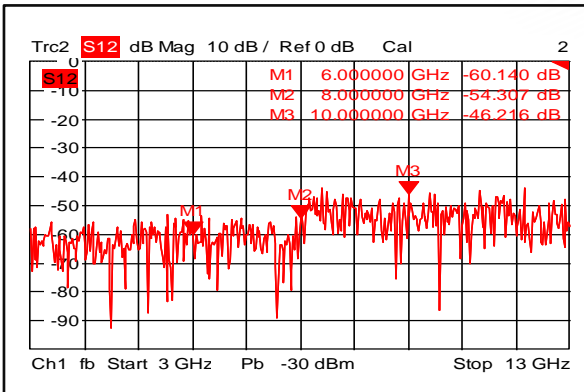


Input VSWR @-40°C

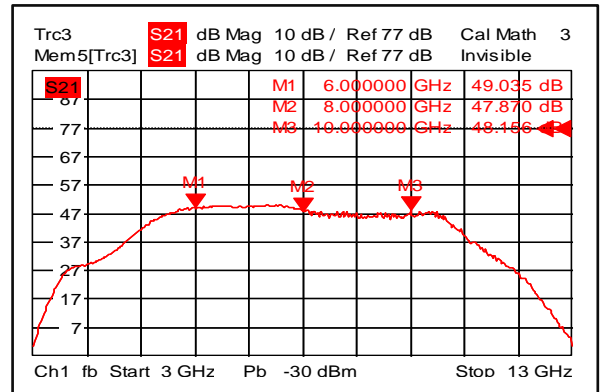




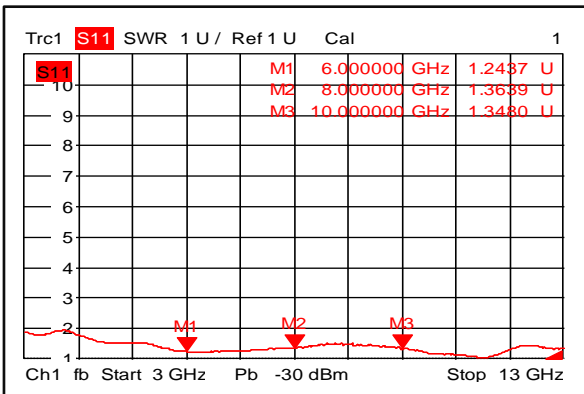
Isolation @-40°C



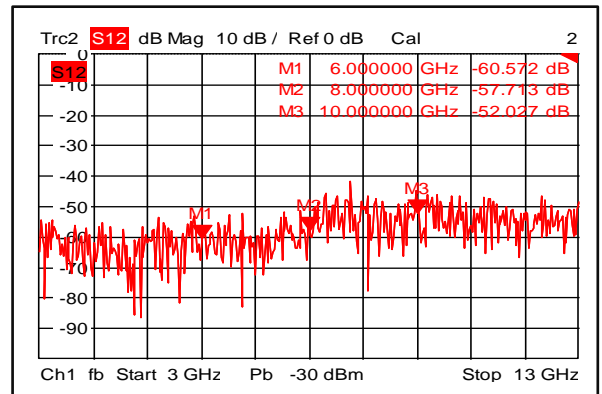
Gain @+85°C



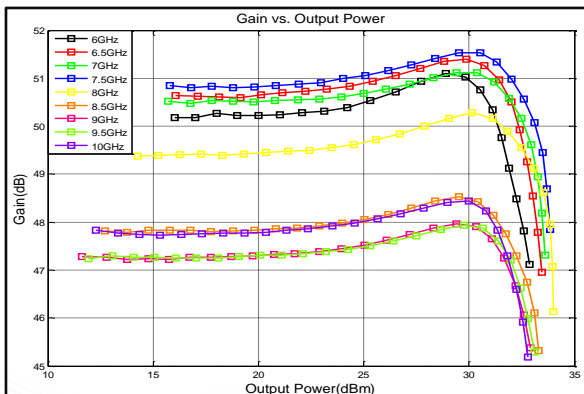
Input VSWR @+85°C



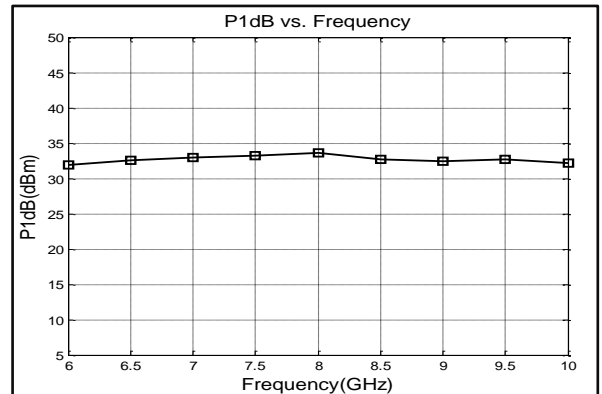
Isolation @+85°C



Gain vs. Output Power

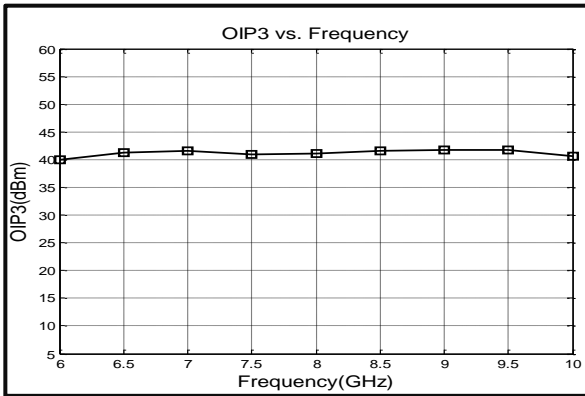


P1dB vs. Frequency

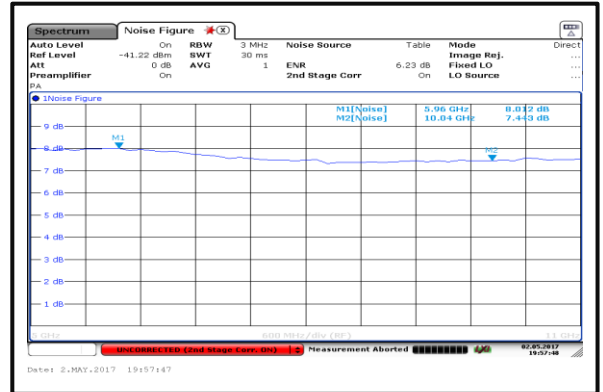




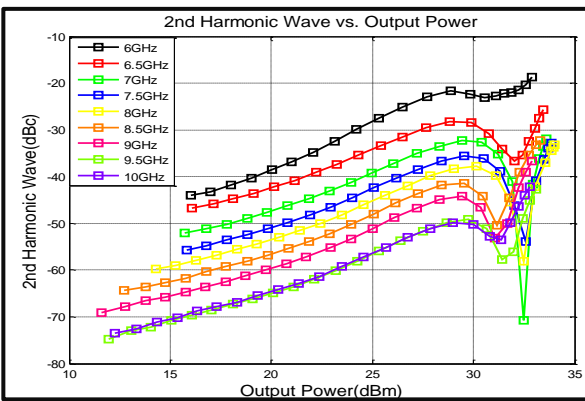
Output Third Order Intercept (IP3)



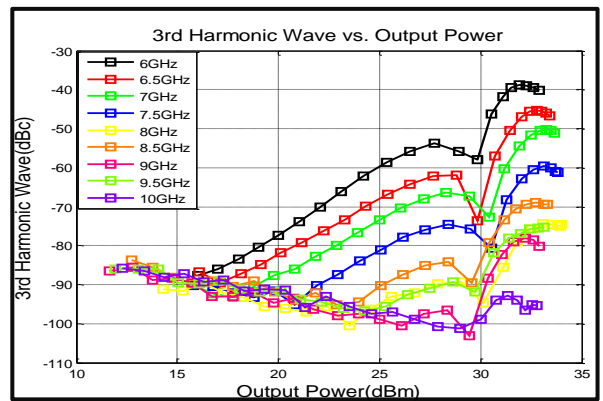
Noise Figure



2nd Harmonic Wave output Power



3rd Harmonic Wave output Power



4th Harmonic Wave output Power

