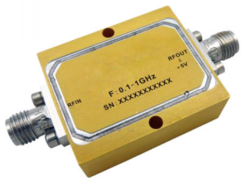
Ultra Wide Band Low Noise Amplifier 0.1GHz~1GHz



Features

- Gain: 15dB Typical
- Functional Bandwidth : 100MHz to 4GHz
- Noise Figure: 1.0dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +5V @ 70mA
- 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.	Min.	Typ.	Max.	Min.
Frequency Range	0.1		1	1		2	2		4	GHz
Gain	13	15	17		13			11		dB
Gain Flatness		±0.6	±1.0		±1.0			±1.5		dB
Gain Variation Over Temperature (-40ºC~+85ºC)		±0.5	±0.75		±0.5			±0.8		dB
Noise Figure		1.5	2.0		2.0			2.5		dB
Input VSWR		1.5	1.8		2.0			1.8		: 1
Output VSWR		1.5	1.8		2.2			1.8		: 1
Output 1dB Compression Point (P1dB)	19	20			19			17		dBm
Saturated Output Power (Psat)		23			21			19		dBm
Output Third Order Intercept (IP3)		31			27			23		dBm
Supply Current (Vcc=+5V)		70	100		70	100		70	100	mA
Isolation S12		-20			-21			-21		dB

Weight	0.71ounces	Impedance	50 ohms
Input /Output Connectors	SMA-Female	Material	Aluminum
Finish	Gold Plated	Sealing	Hermetically Sealed (laser welded)

Absolute Maximum Ratings

Operating Voltage	+5.5V
RF Input Power (RFIN)	+33dBm

Biasing 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

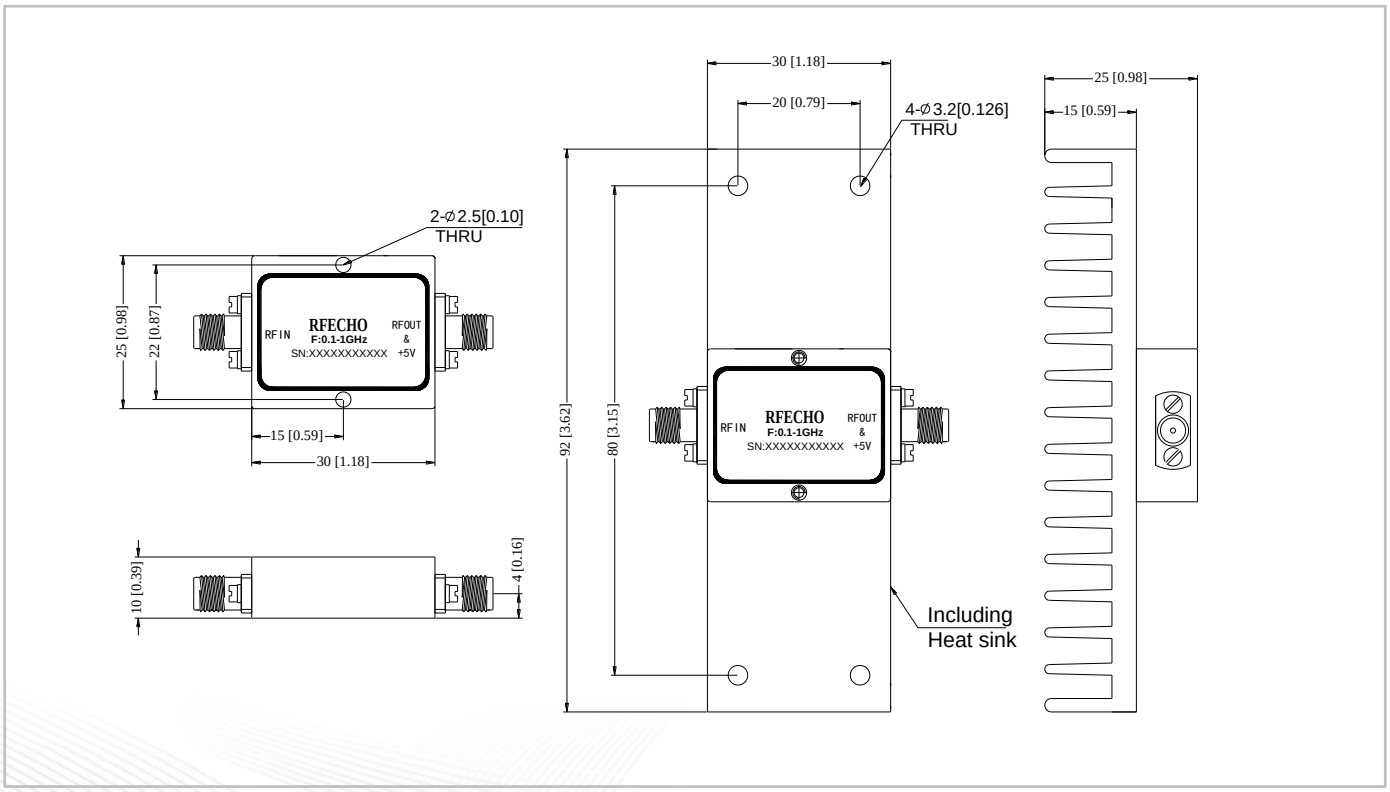
Environmental Specifications

Operational Temperature	-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

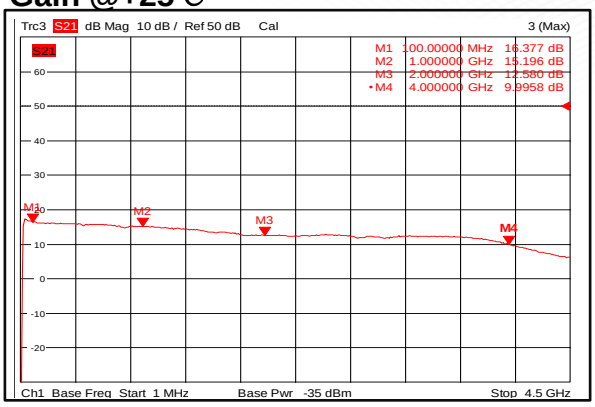
Outline Drawing:

All Dimensions in mm (inches)

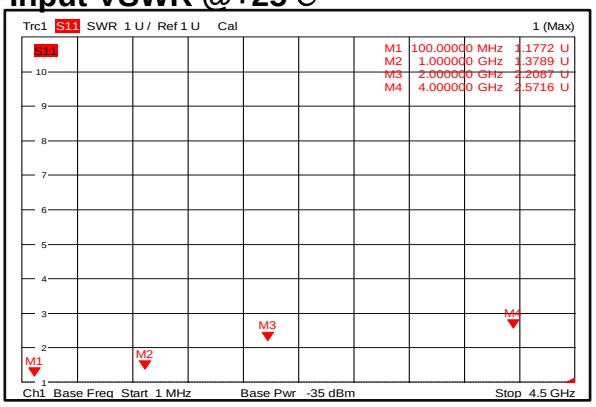
Heat Sink required during operation(Sold Separately)



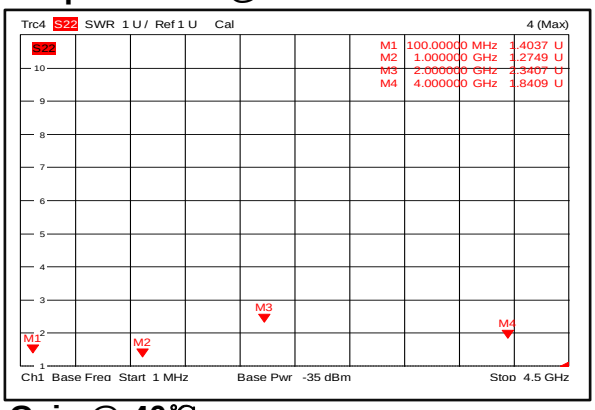
Gain @+25℃



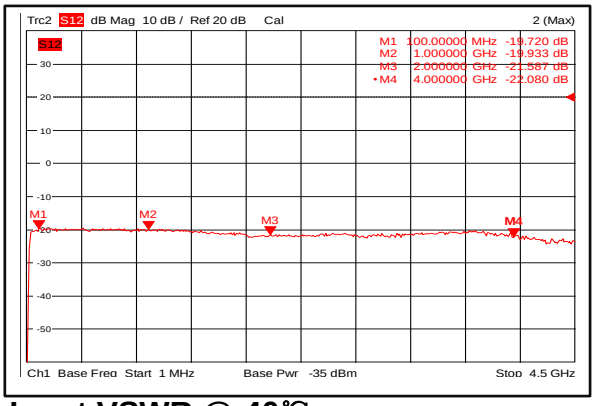
Input VSWR @+25℃



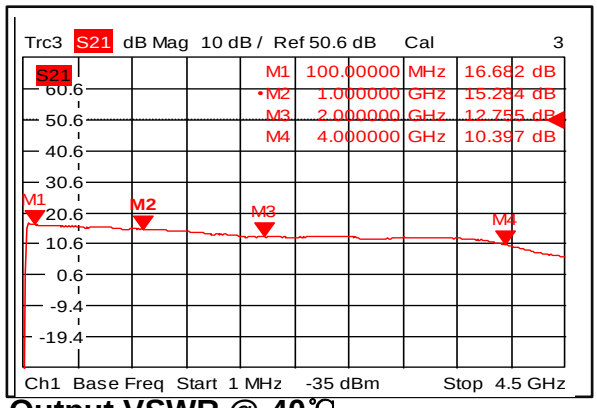
Output VSWR @+25℃



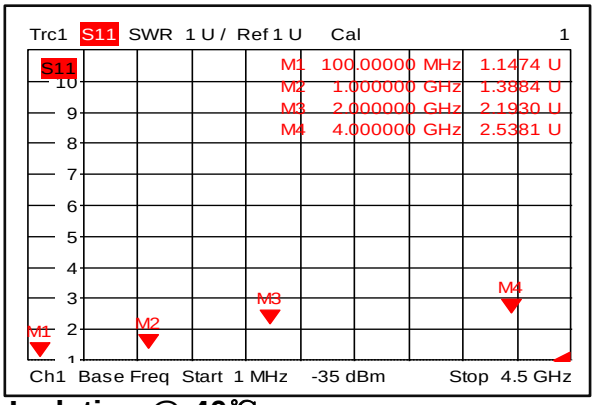
Isolation @+25℃



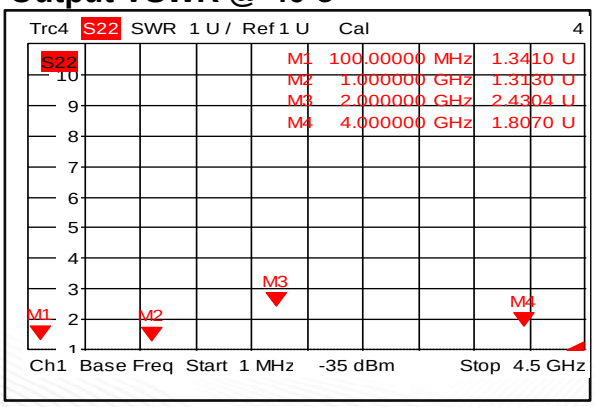
Gain @-40℃



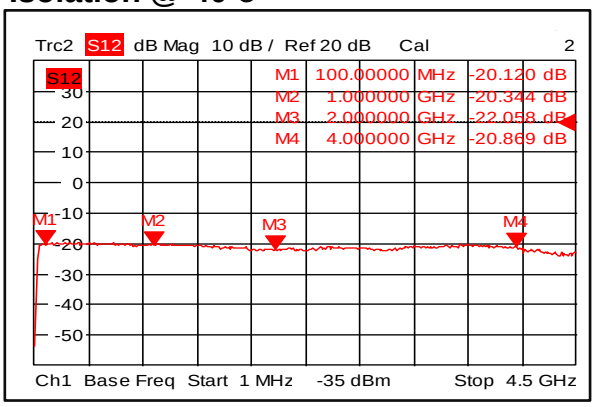
Input VSWR @-40℃



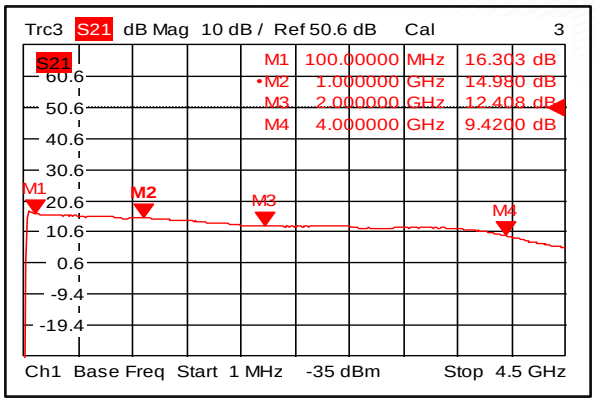
Output VSWR @-40℃



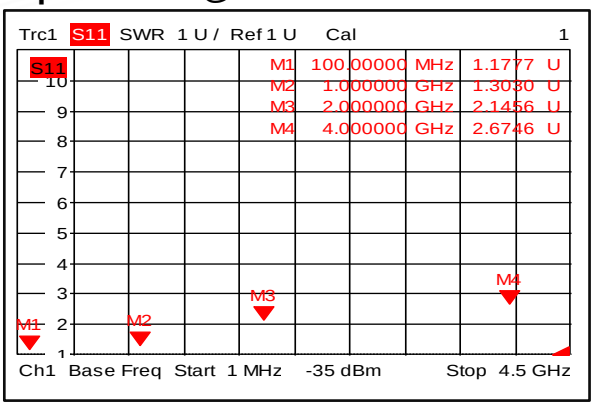
Isolation @-40℃



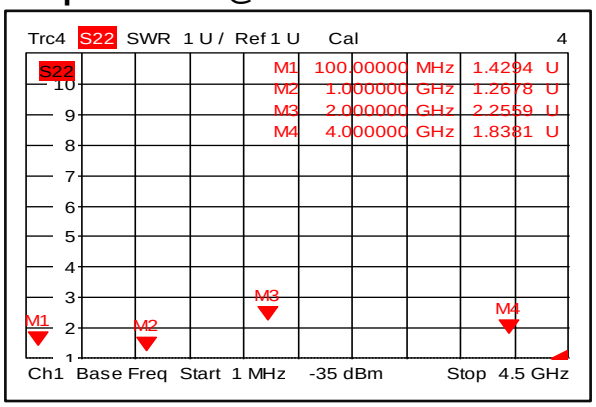
Gain @+85℃



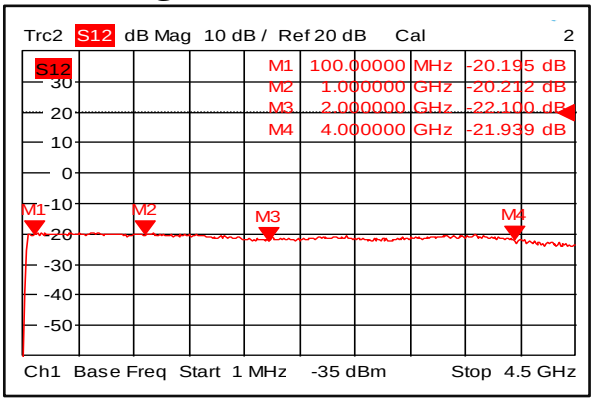
Input VSWR @+85℃



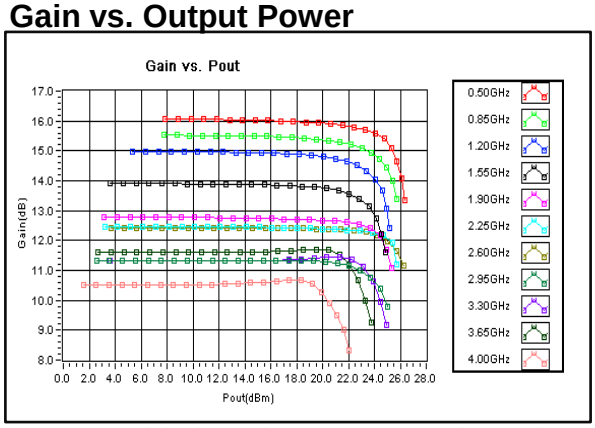
Output VSWR @+85℃



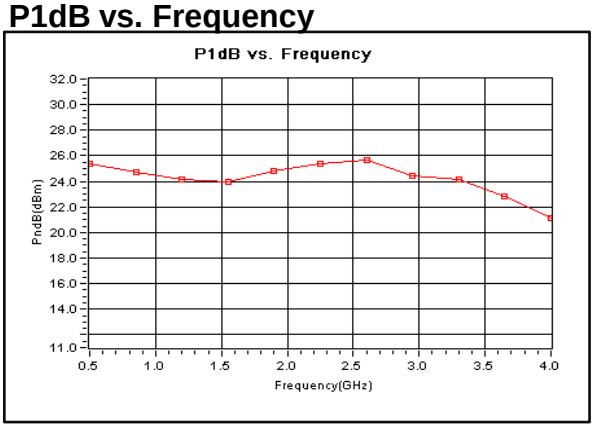
Isolation @+85℃



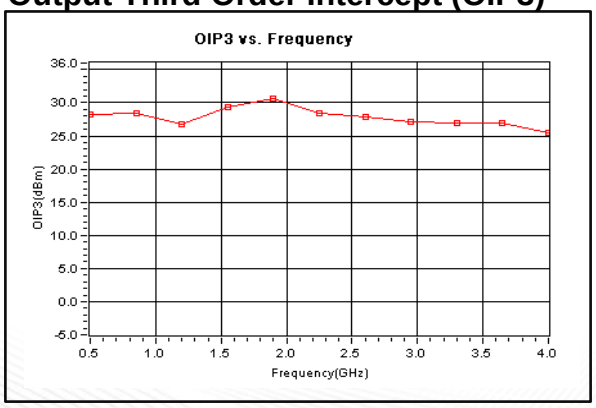
Gain vs. Output Power



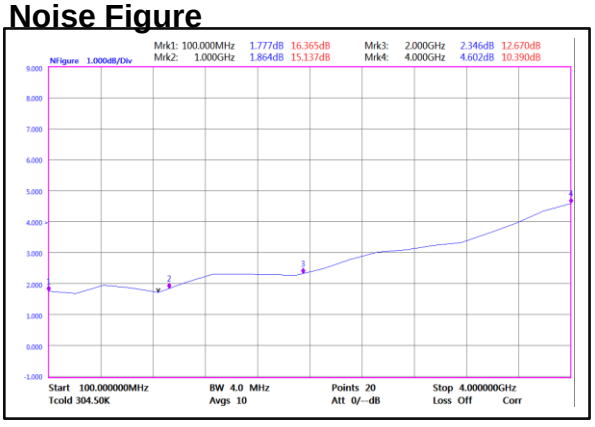
P1dB vs. Frequency



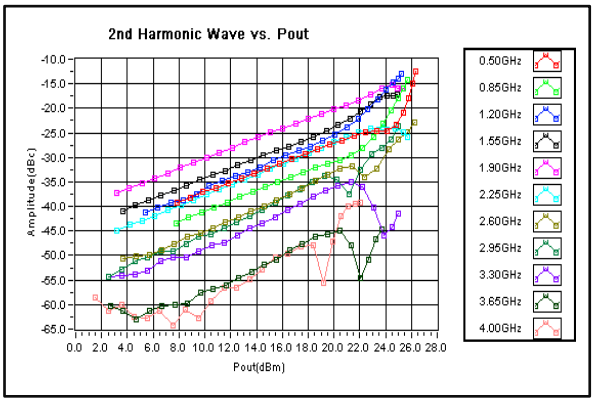
Output Third Order Intercept (OIP3)



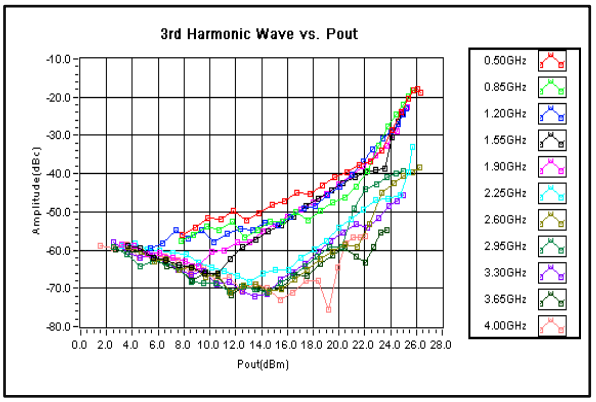
Noise Figure



2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power