



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA01M06GB

Ultra Wide Band Low Noise Amplifier 0.1GHz~6GHz



Features

- Gain: 30dB Typical
- Noise Figure: 3.0dB Typical
- Output P1dB : +26dBm
- Supply Voltage: +12V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test Instrument

Electrical Specifications, TA = +25°C, Vcc=+12V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.1		3	3		6	GHz
Gain	33	37		33	36		dB
Gain Flatness		±1.0			±1.0		dB
Gain Variation Over Temperature (-45 ~ +85)		±0.8			±0.8		dB
Noise Figure		4.5			2.0	3.5	dB
Input VSWR		2.0			1.8		:1
Output VSWR		1.3			1.5		:1
Output 1dB Compression Point (P1dB)	25	26		23	24		dBm
Saturated Output Power (Psat)		28			27		dBm
Output Third Order Intercept (IP3)		36			34		dBm
Supply Current (Vcc=+12V)		290	350		290	350	mA
Isolation S12		-60			-55		dB
Weight	2.47						Ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Finish	Nickel Plated						
Material	Aluminum						
Package Seal	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

Ultra Wide Band Low Noise Amplifier 0.1GHz~6GHz



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA01M06GB

Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	+2dBm

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 and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)

Ultra Wide Band Low Noise Amplifier 0.1GHz~6GHz



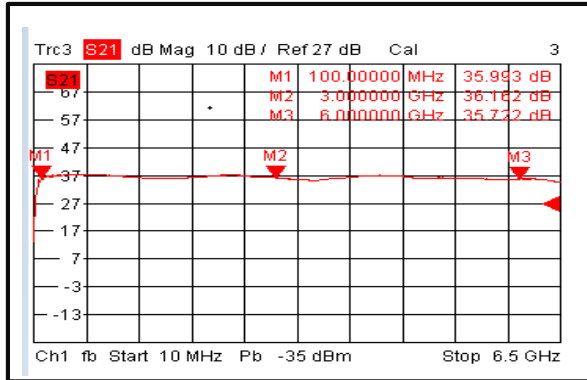
RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

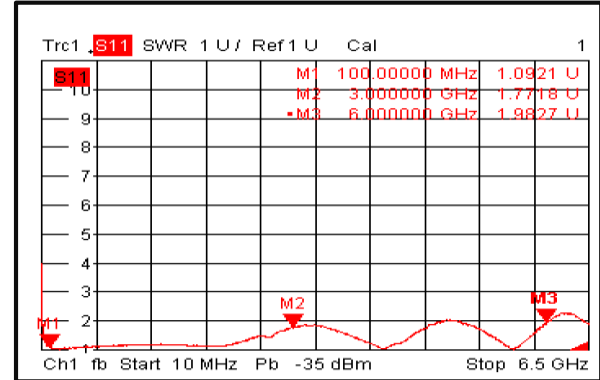
RLNA01M06GB

Typical Performance Plots

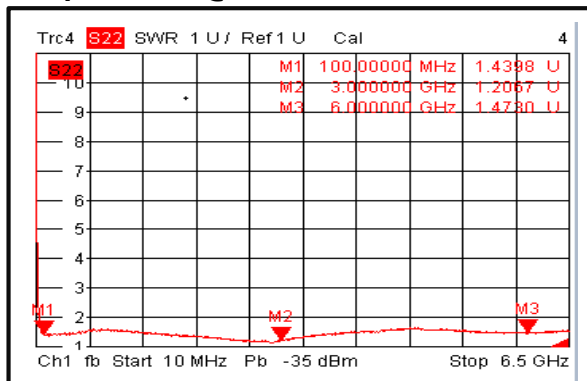
Gain@+25°C



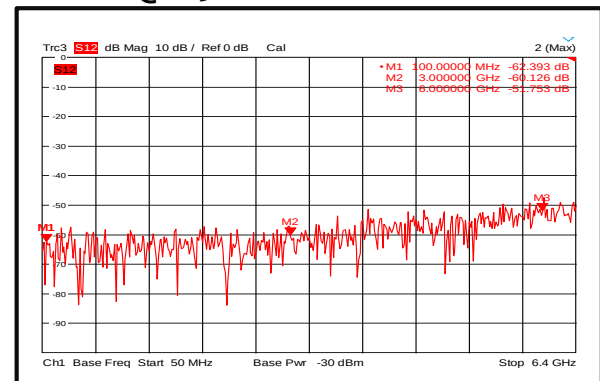
Input VSWR@+25°C



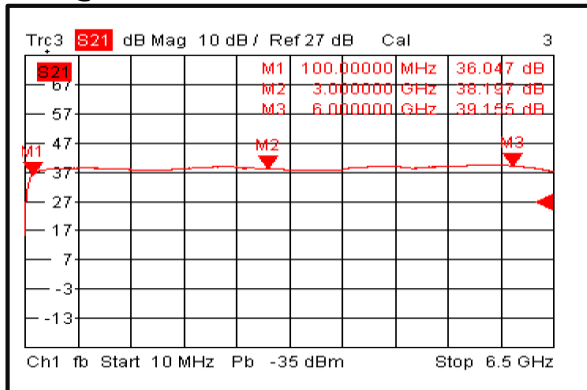
Output VSWR@+25°C



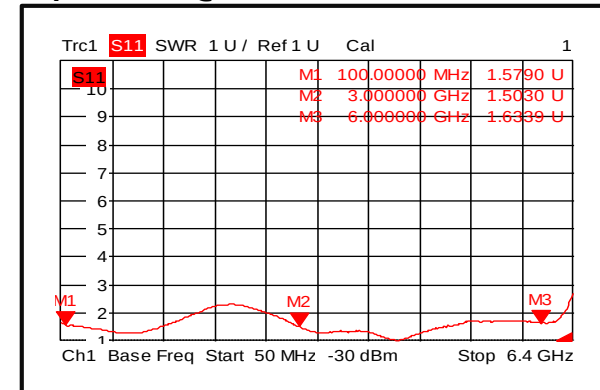
Isolation@+25°C



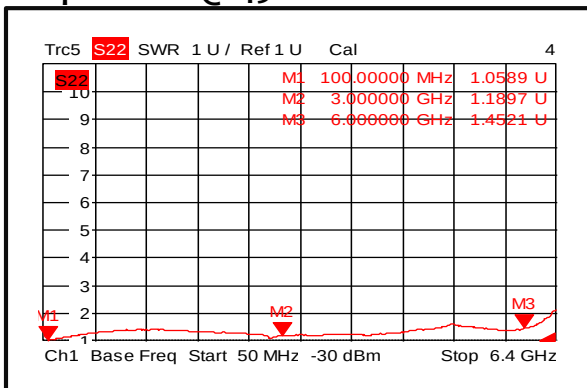
Gain@-45°C



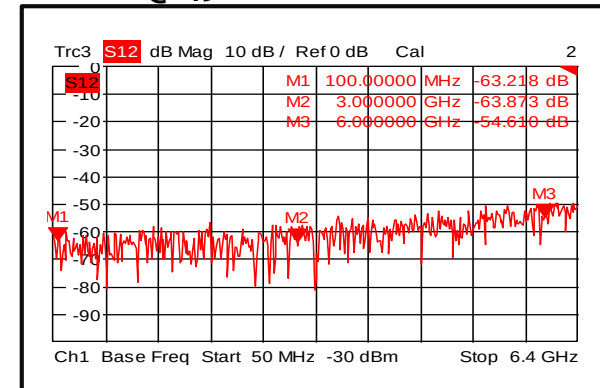
Input VSWR@-45°C



Output VSWR@-45°C



Isolation@-45°C



Ultra Wide Band Low Noise Amplifier 0.1GHz~6GHz

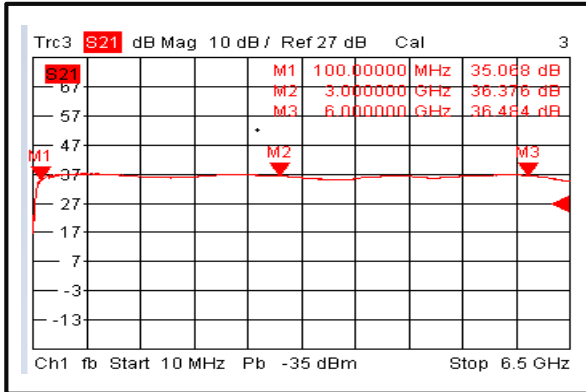


RF-LAMBDA

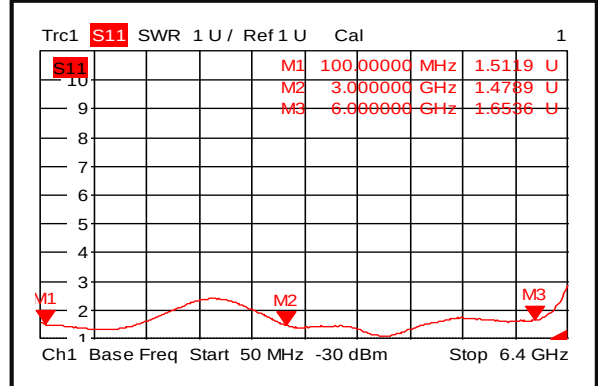
LEADER OF RF BROADBAND SOLUTIONS

RLNA01M06GB

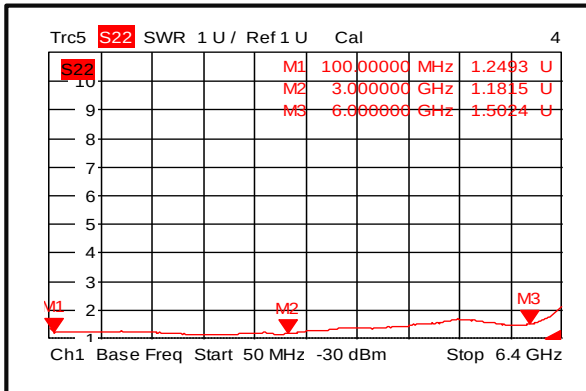
Gain@+85°C



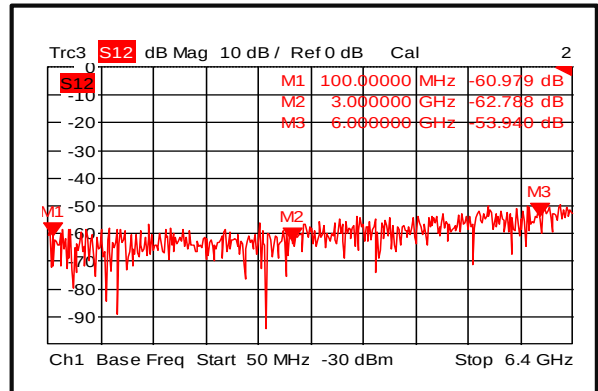
Input VSWR@+85°C



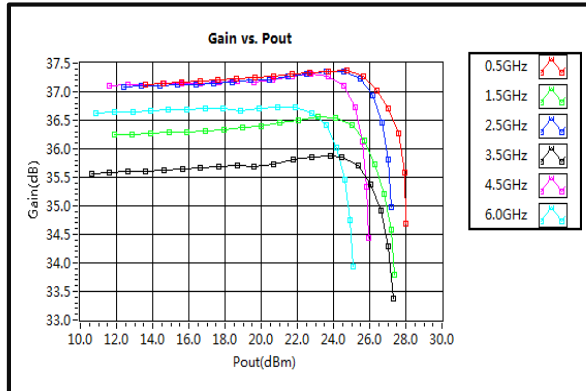
Output VSWR@+85°C



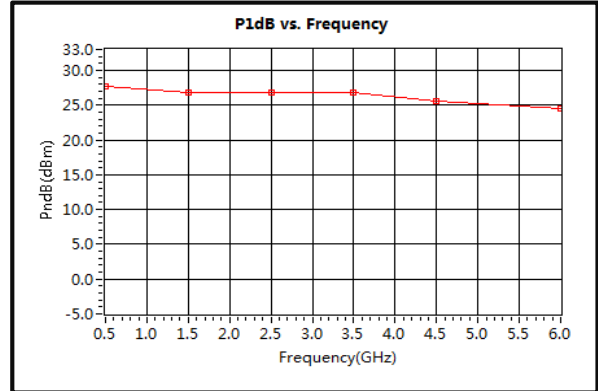
Isolation@+85°C



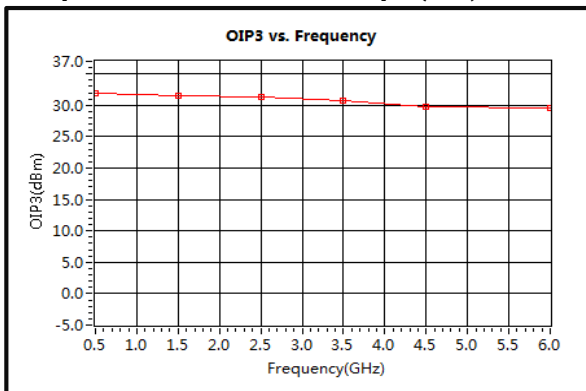
Gain vs. Output Power



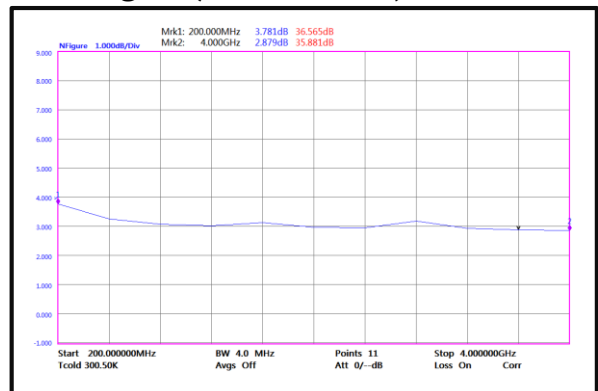
P1dB vs. Frequency



Output Third Order Intercept (IP3)



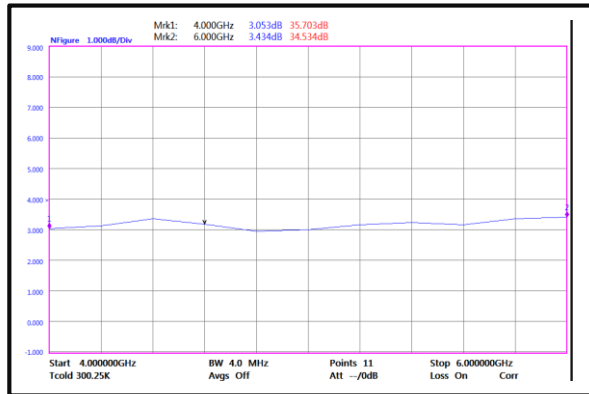
Noise Figure (200MHz-4GHz)



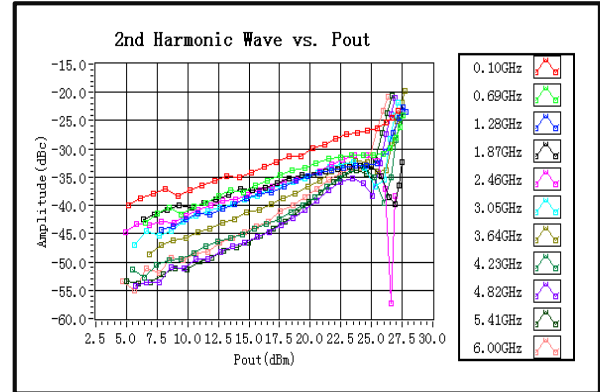
Ultra Wide Band Low Noise Amplifier 0.1GHz~6GHz



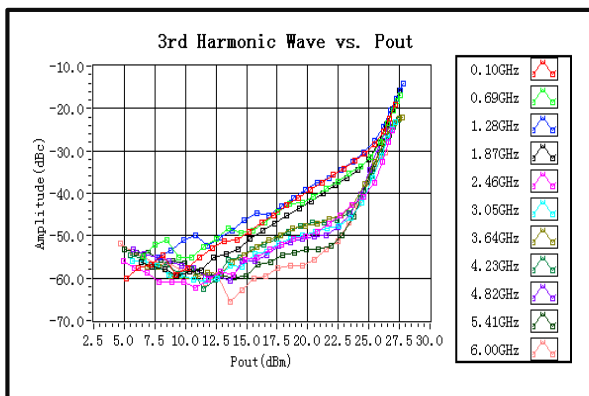
Noise Figure (4GHz-6GHz)



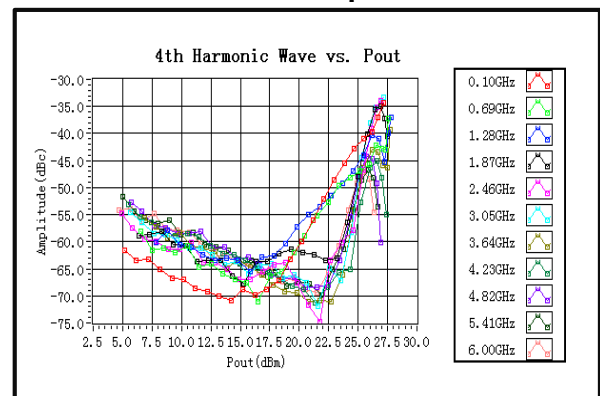
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



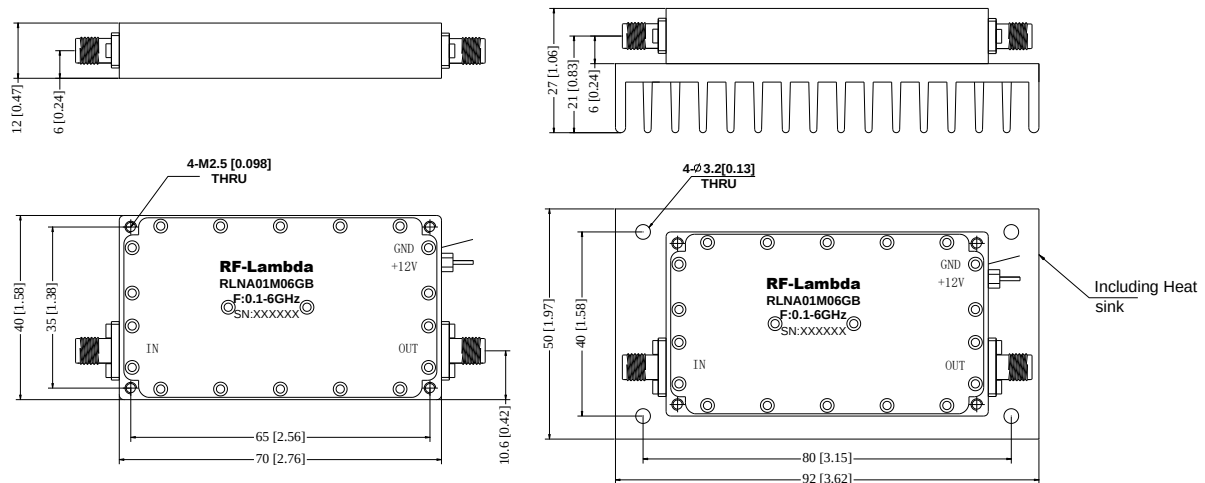
4th Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA01M06GB	EAR99	0.1-6GHz Low Noise Amplifier

Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.