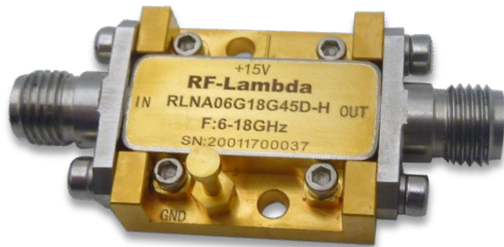


Hermetically Sealed Wide Band Ultra Low Noise Amplifier 6GHz~18GHz



Features

- Gain: 55dB Typical
- Noise Figure: 1.5dB Typical
- P1dB Output Power: +14dBm Typical
- Supply Voltage: +15V
- Drop in Package

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C, Vcc = +15V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	6		18	GHz
Gain	45	50		dB
Gain Flatness		±2.5		dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0		dB
Noise Figure	1.0	1.5	2.0	dB
Input VSWR		1.8	2.5	: 1
Output VSWR		1.6	2.0	: 1
Output 1dB Compression Point (P1dB)	12	14		dBm
Saturated Output Power (Psat)		17		dBm
Output Third Order Intercept (OIP3)		20		dBm
Supply Current (Vcc=+15V)		165	200	mA
Isolation S12		-50		dB
Weight	0.5Max.			ounces
Impedance	50			Ohms
Input / Output Connectors	SMA -Female			
Finish	Gold Plated			
Material	Kovar			
Package Sealing	Hermetically Sealed			

Hermetically Sealed Wide Band Ultra Low Noise Amplifier 6GHz~18GHz

Absolute Maximum Ratings

Operating Voltage	+16V
RF Input Power	-30dBm

Biasing Up Procedure

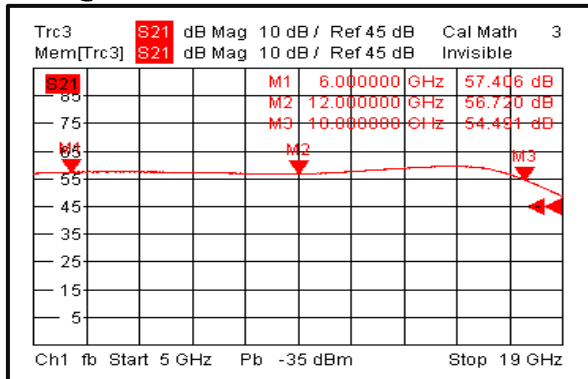
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +15V biasing
Power OFF Procedure	
Step 1	Turn off +15V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

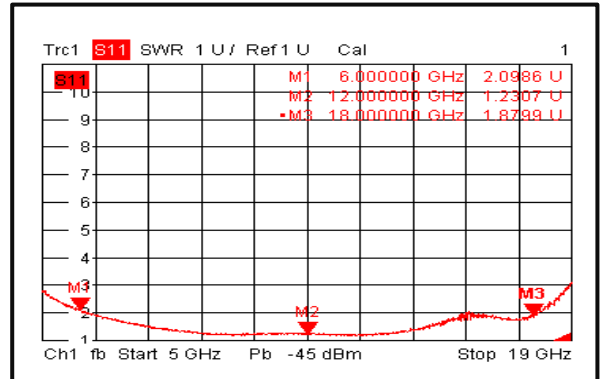
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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	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)

Typical Performance Plots

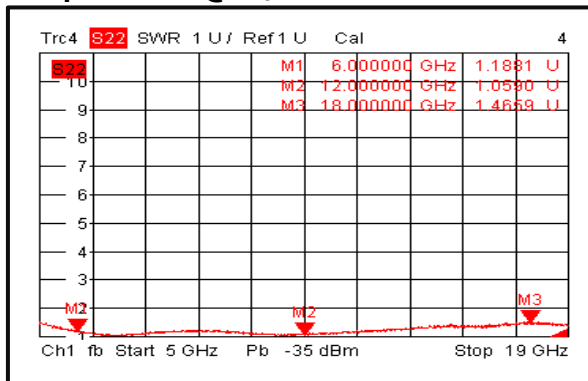
Gain@+25°C



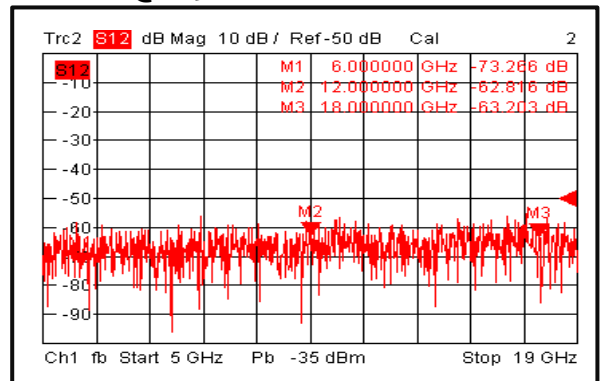
Input VSWR@+25°C



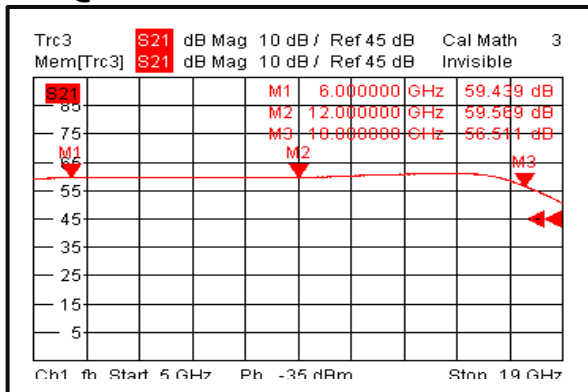
Output VSWR@+25°C



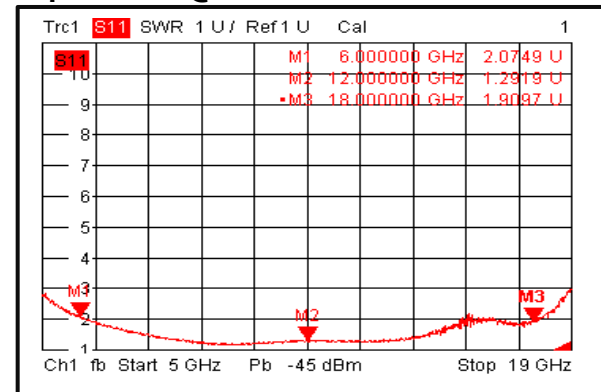
Isolation@+25°C



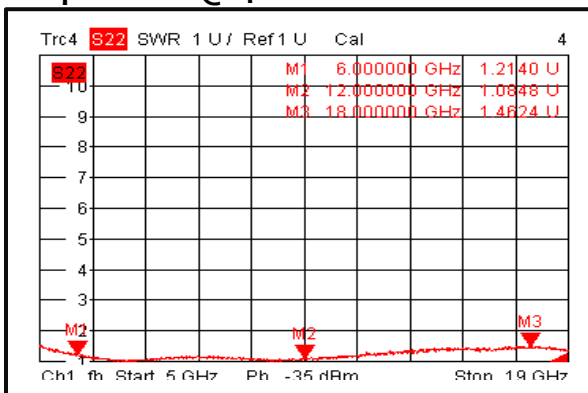
Gain@-40°C



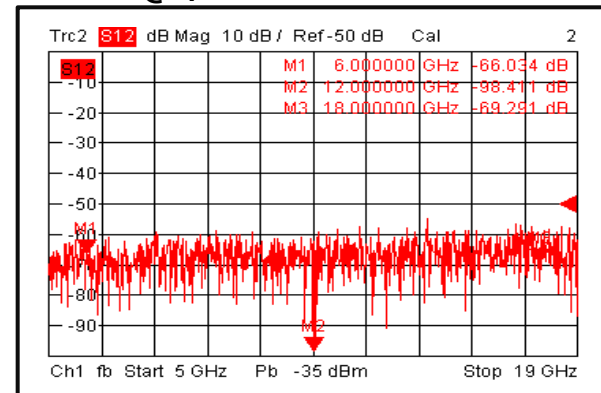
Input VSWR@-40°C



Output VSWR@-40°C

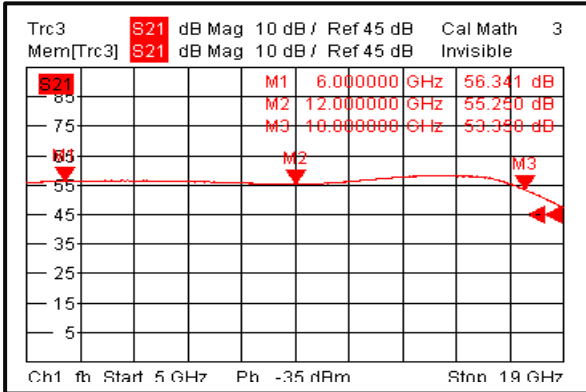


Isolation@-40°C

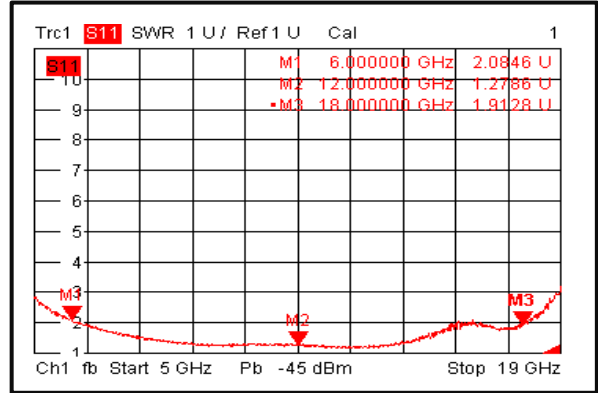


Hermetically Sealed Wide Band Ultra Low Noise Amplifier 6GHz~18GHz

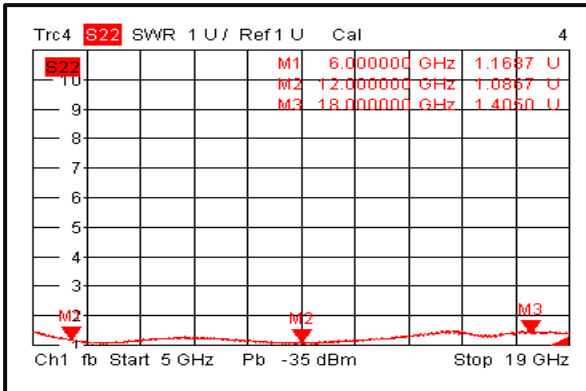
Gain@+85°C



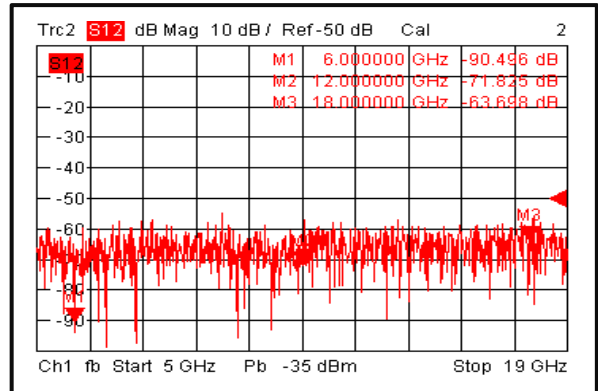
Input VSWR@+85°C



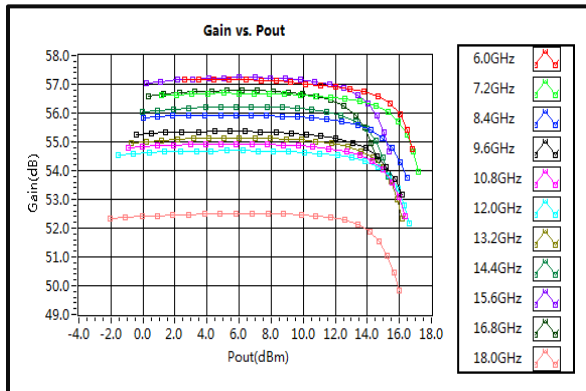
Output VSWR@+85°C



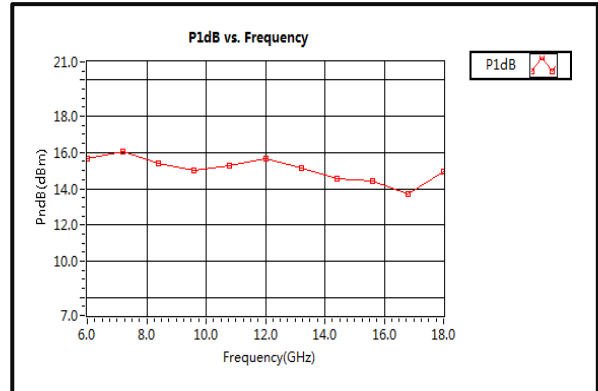
Isolation@+85°C



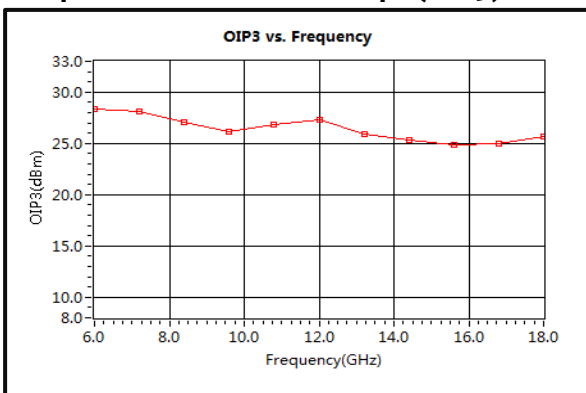
Gain vs. Output Power



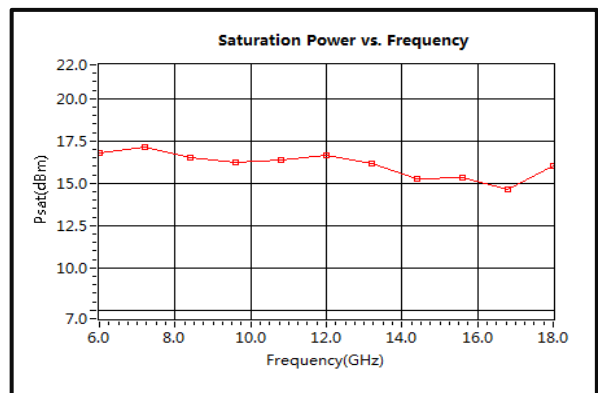
P1dB vs. Frequency



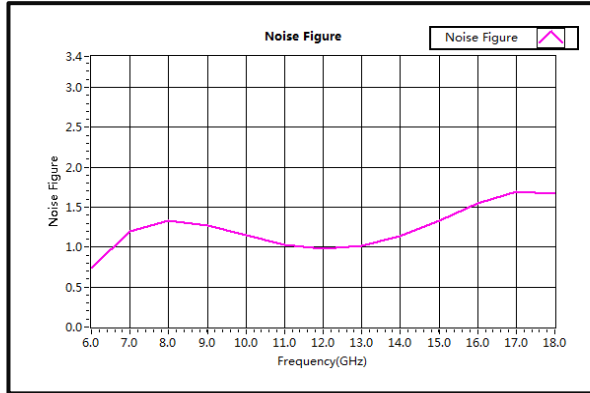
Output Third Order Intercept (OIP3)



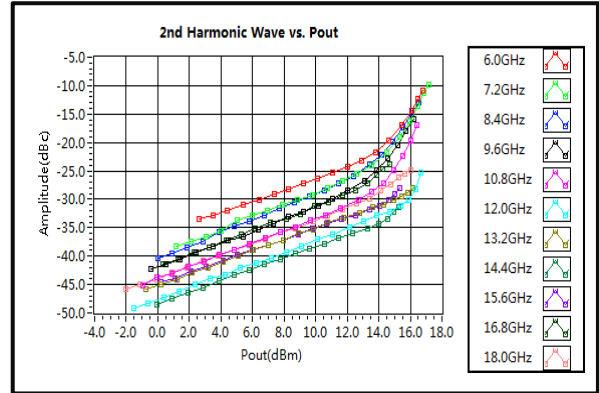
Saturation Power vs. Frequency



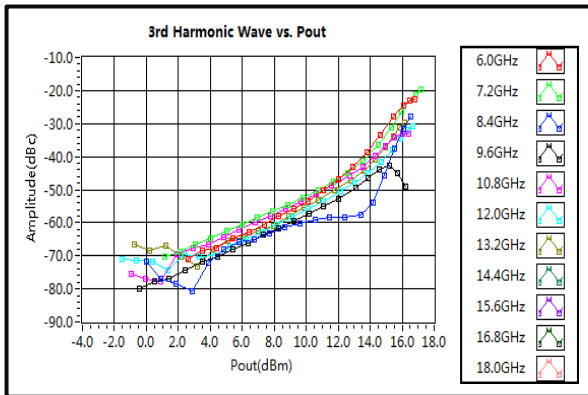
Noise Figure



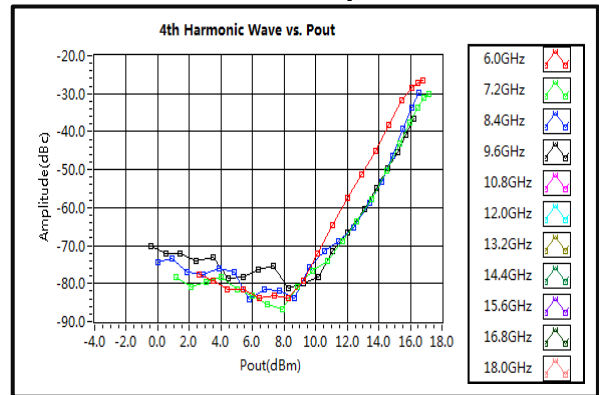
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

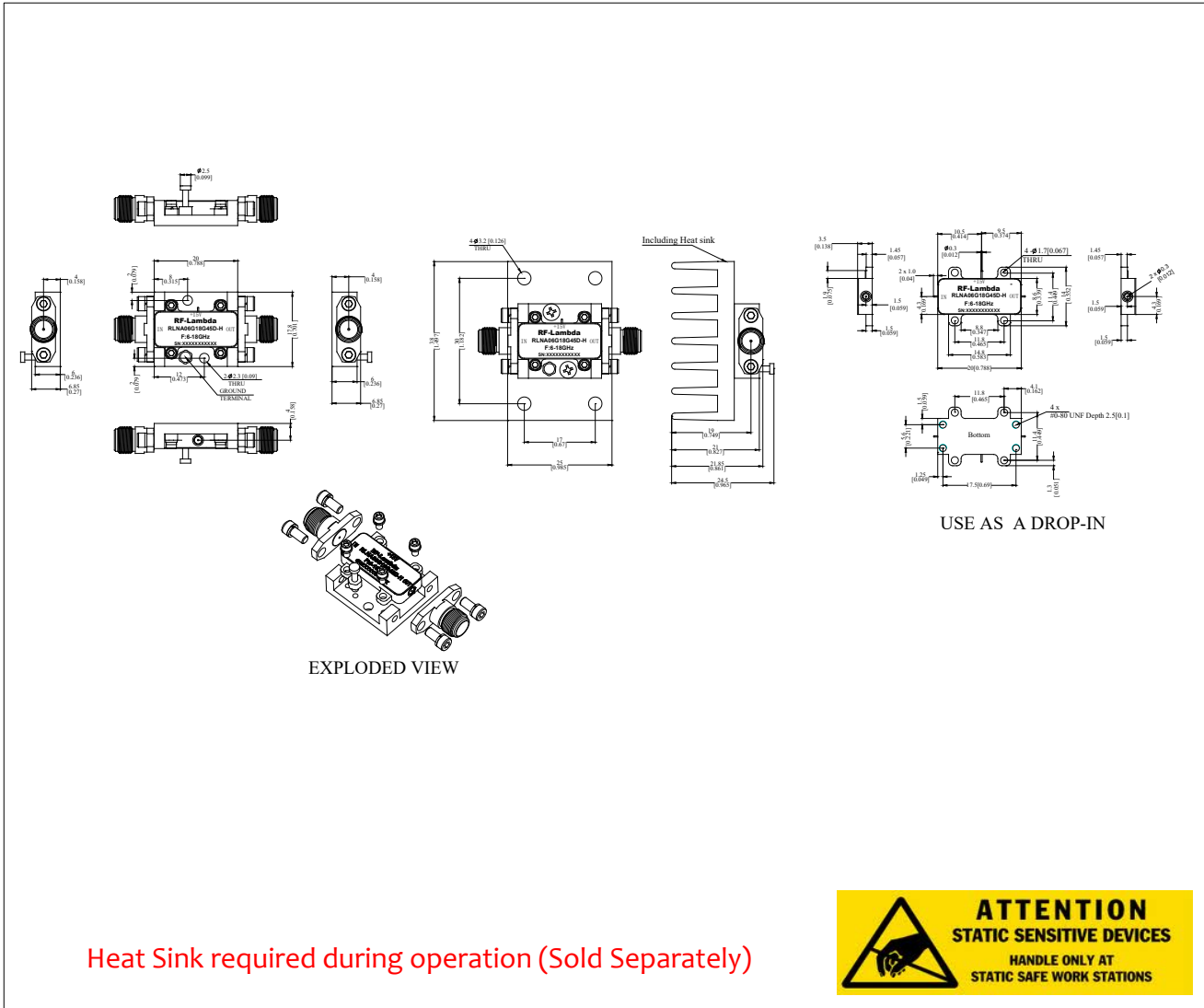


Hermetically Sealed Wide Band Ultra Low Noise Amplifier 6GHz~18GHz

Outline Drawing:

All Dimensions in mm [inches]

Housing Tolerances ± 0.1 [0.004]



Hermetically Sealed Wide Band Ultra Low Noise Amplifier 6GHz~18GHz

Ordering Information

Part No.	Description
RLNA06G18G45D-H	Hermetically Sealed 6-18GHz Wide Band Ultra Low Noise Amplifier

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