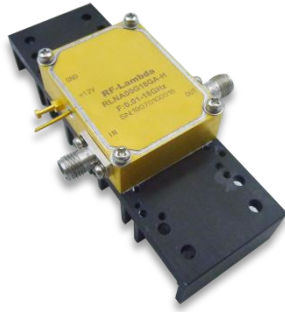




Hermetically Sealed Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



Features

- Gain: 31dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +26dBm Typical
- Supply Voltage: +12 V

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	0.01		10	10		18	GHz
Gain	27	31		25	27		dB
Gain Flatness		±2.0			±2.0		dB
Gain Variation Over Temperature (-45°C~+85°C)		±1.0			±1.0		dB
Noise Figure		2.5	5.5		3.0	4.5	dB
Input VSWR		1.4			1.5	1.8	:1
Output VSWR		1.6			1.8	2.1	:1
Output 1dB Compression Point (P1dB)	24	26		20	22		dBm
Saturated Output Power (Psat)		27			24		dBm
Output Third Order Intercept (IP3)		35			28		dBm
Supply Current (Vcc=+12V)		320	500		320	500	mA
Isolation S12		-60			-60		dB
Weight	1.06						ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Finish	Gold Plated						
Material	Aluminum						
Package Sealing	Hermetically Sealed (Laser Sealed)						

Hermetically Sealed Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	+3dBm

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		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

Hermetically Sealed Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



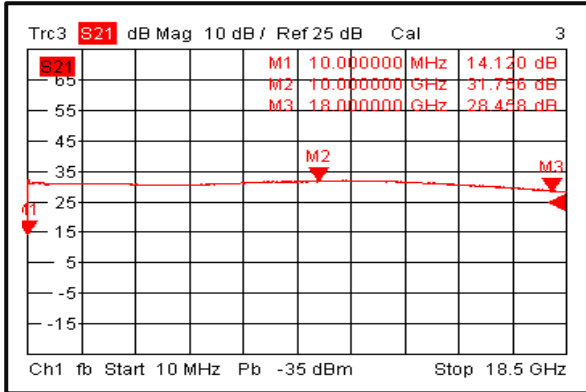
RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

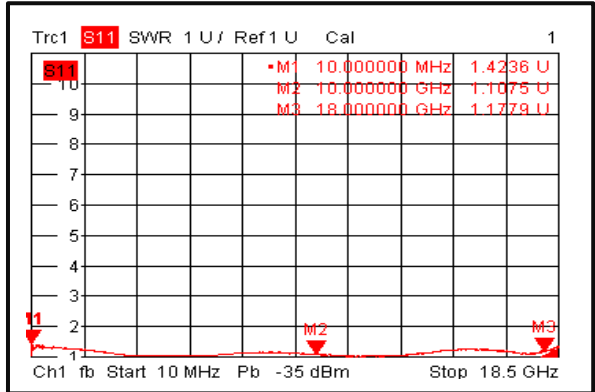
RLNA00G18GA-H

Typical Performance Plots

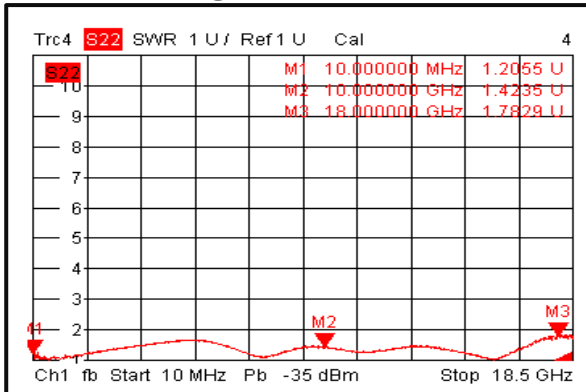
Gain @+25°C



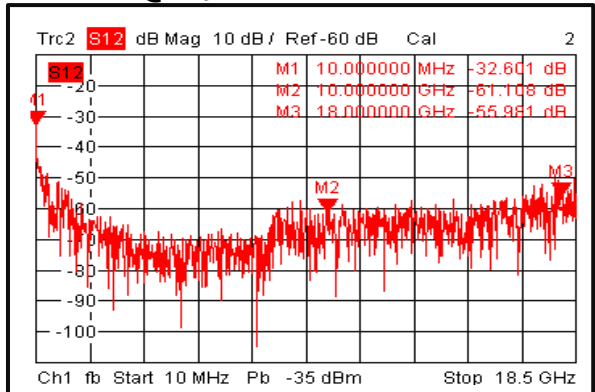
Input VSWR @+25°C



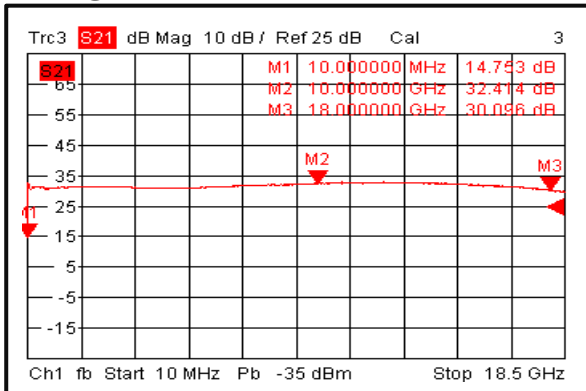
Output VSWR @+25°C



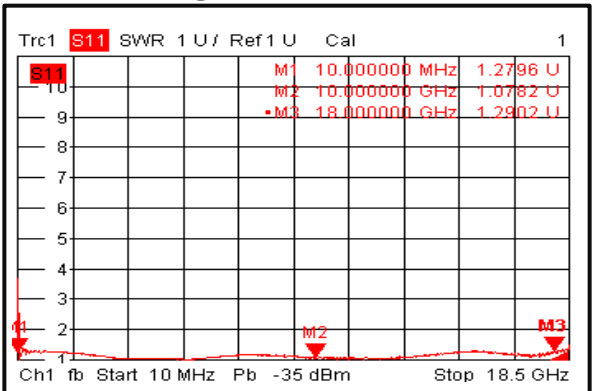
Isolation @+25°C



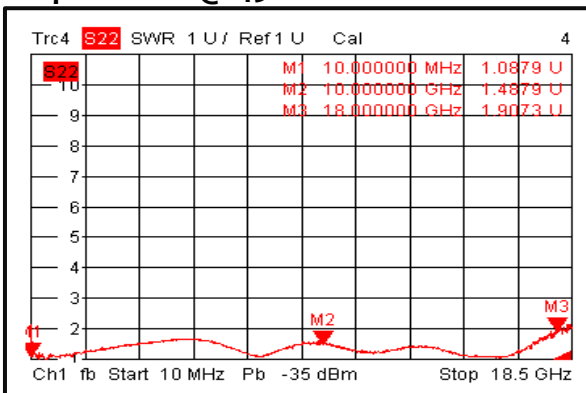
Gain @-45°C



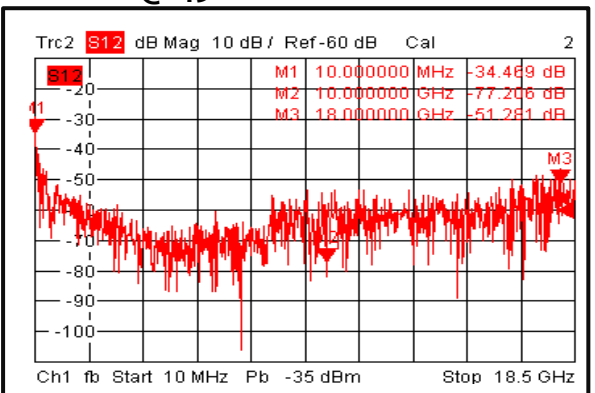
Input VSWR @-45°C



Output VSWR @-45°C



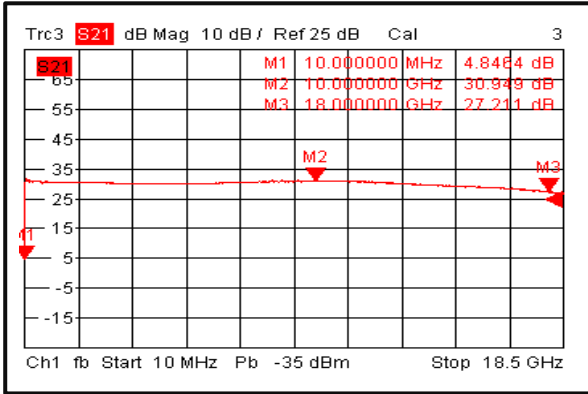
Isolation @-45°C



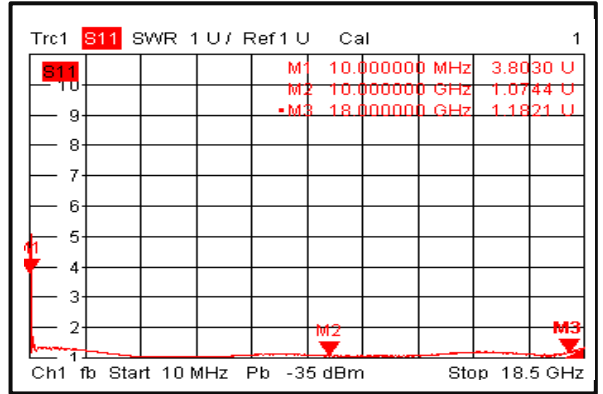
Hermetically Sealed Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



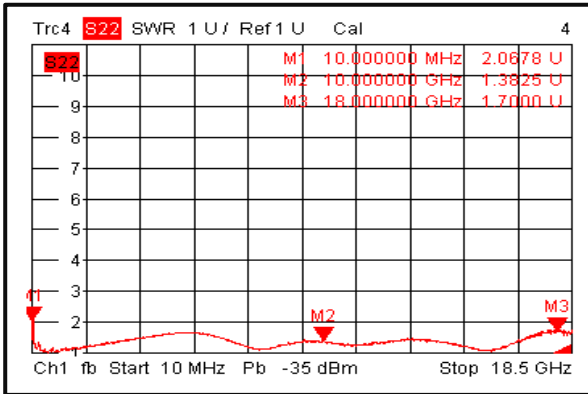
Gain @+85°C



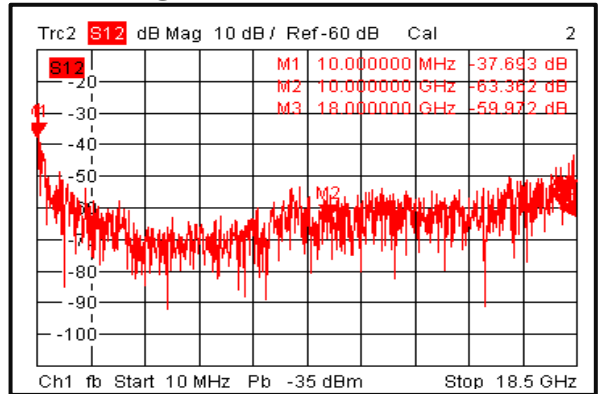
Input VSWR @+85°C



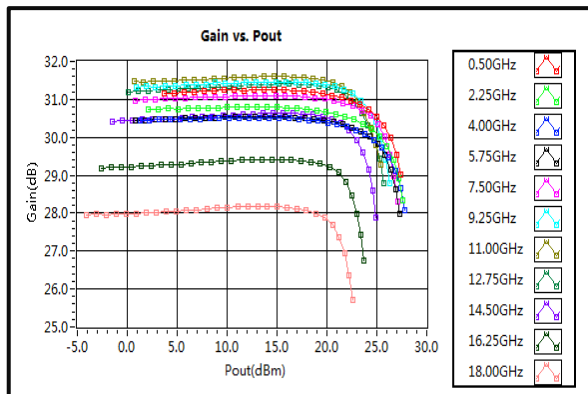
Output VSWR @+85°C



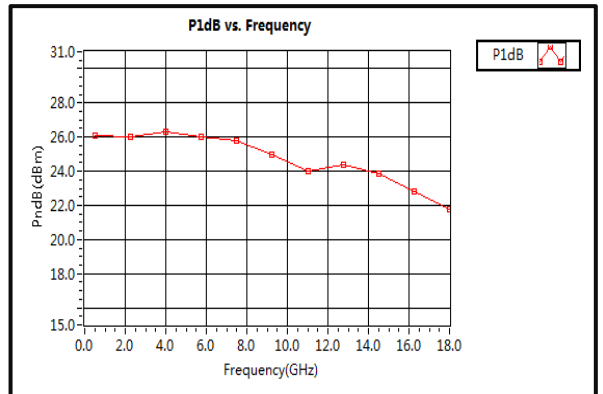
Isolation @+85°C



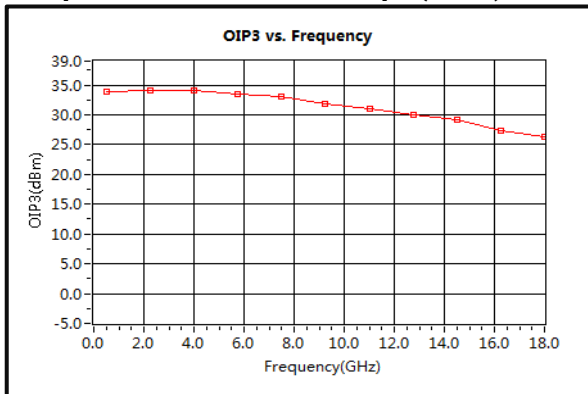
Gain vs. Output Power



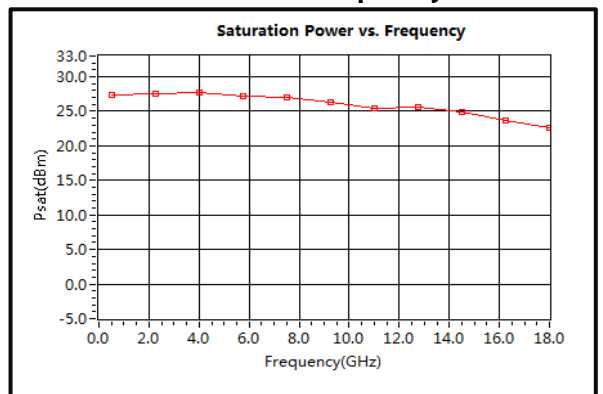
P1dB vs. Frequency



Output Third Order Intercept (OIP3)



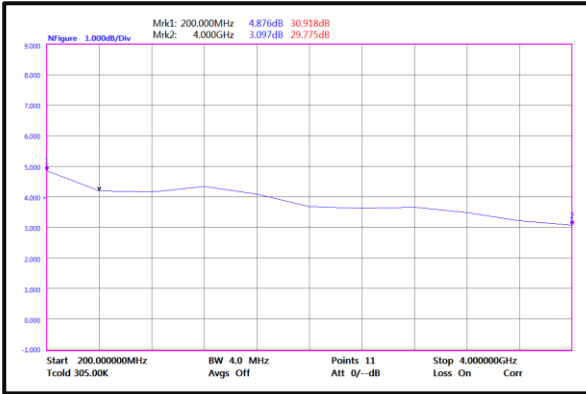
Saturation Power vs. Frequency



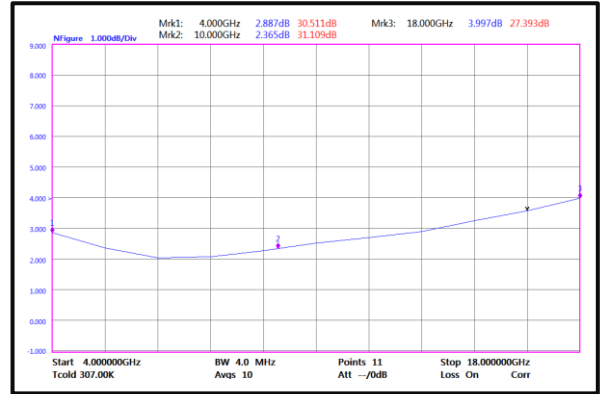
Hermetically Sealed Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



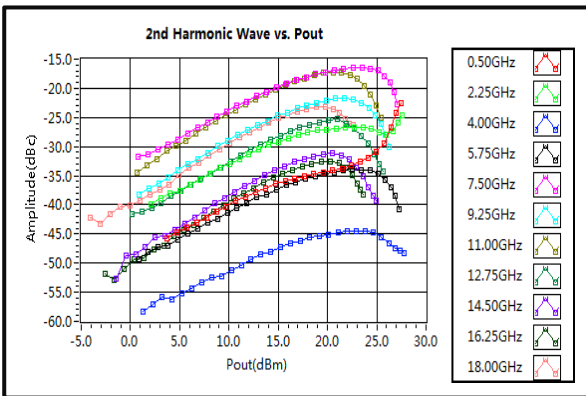
Noise Figure(200MHz-4GHz)



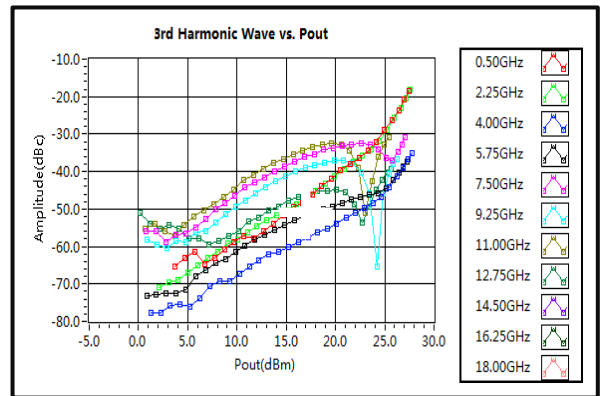
Noise Figure(4GHz-18GHz)



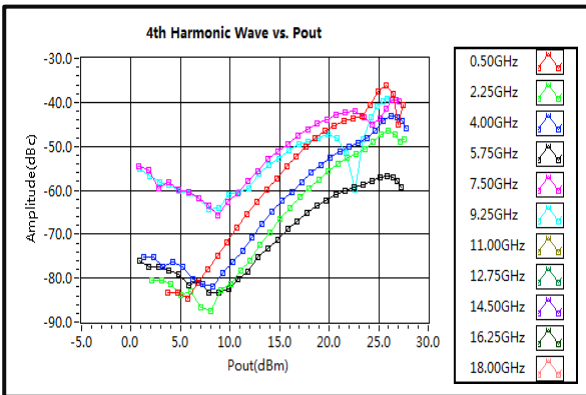
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

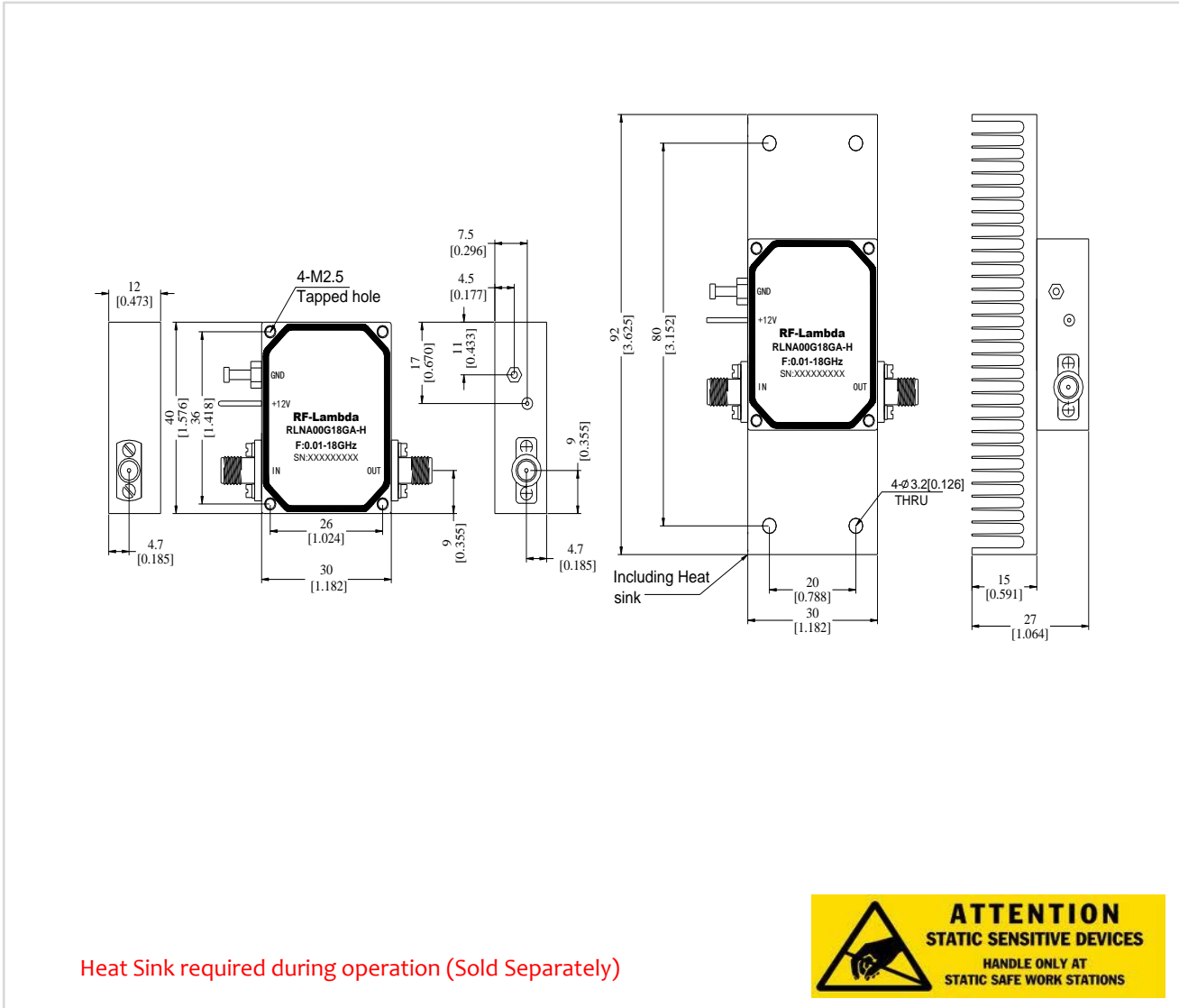


Hermetically Sealed Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	ECCN	Description
RLNA00G18GA-H	EAR99	0.01-18GHz Low Noise Amplifier

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