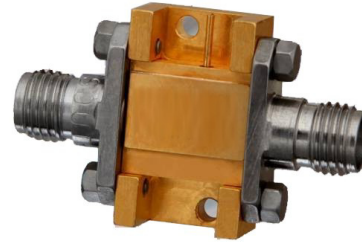


Wideband Low Noise Amplifier Module 2 – 40 GHz

Features

- 2 GHz to 40 GHz Frequency Range
- Gain: 32 dB
- P1dB: 22.5 dBm @ 22 GHz
- Gain flatness: ± 0.75 dB
- Low noise figure: 4.6 dB @ 26 GHz
- Unconditionally Stable
- 50 Ohm Input and Output Matched
- Hermetically Sealed Module
- Field Replaceable 2.92 mm connectors
- -55 °C to +85 °C Operating Temperature
- Tested to MIL-STD-810G
- Single DC Positive Supply
- Built-in DC Voltage Regulator

Picture



Applications

- Telecom Infrastructure
- Microwave Radio & VSAT
- Military & Space
- Test Instrumentation
- R&D Labs
- Communication Systems
- Radar Systems
- Electronic Warfare
- Wireless Communications
- Unmanned Systems
- Power Amplifier
- Low Noise Amplifier
- RF Front Ends

Description

LNA5024 is a broadband PHEMT GaAs MMIC based medium output power and low noise amplifier, operating in the 2 GHz to 40 GHz frequency range. The amplifier offers 4.6 dB typical Noise Figure, 22.5 dBm of P1dB and 32 dB small signal gain, with the gain flatness of ± 0.75 dB performance. This amplifier requires only a single positive DC supply, is unconditionally stable, operates over the temperature range of -55 °C to +85 °C, and characterized by a light weight (10 g) and small size (0.74"x0.43"x0.29").

Electrical Specifications ($T_A = 25^\circ\text{C}$, DC Voltage = +15V, DC Current = 400mA)

Parameter	Units	Minimum	Typical	Maximum
Frequency Range	GHz	2		40
Gain	dB		32	
Gain Flatness	dB		± 0.75	
Output 1dB Compression (P1dB)	dBm		+22.5	
Noise Figure	dB		4.6	
Operating DC Voltage	V	9		15
Operating DC Current	mA		400	

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	V
RF Input Power	0	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperature	-65 to +150	°C

Wideband Low Noise Amplifier Module 2 – 40 GHz

Typical Performance

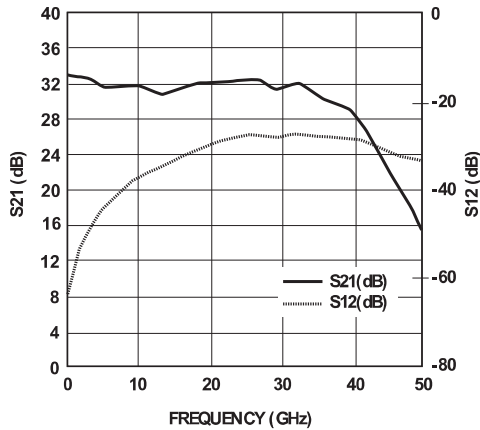


Figure 1. Gain and Reverse Isolation.

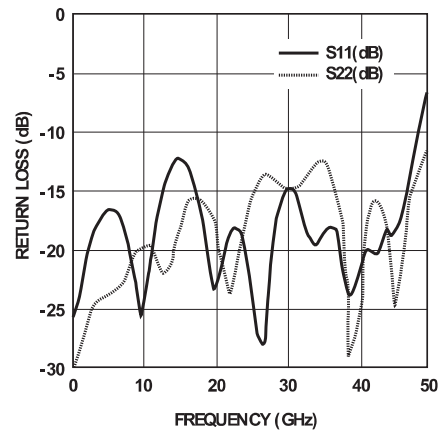


Figure 2. Return Loss (Input and Output).

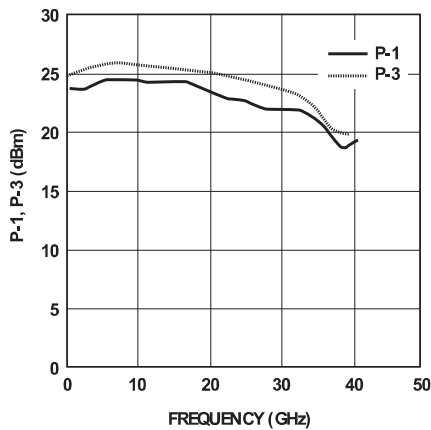


Figure 3. Output Power (P-1 and P-3).

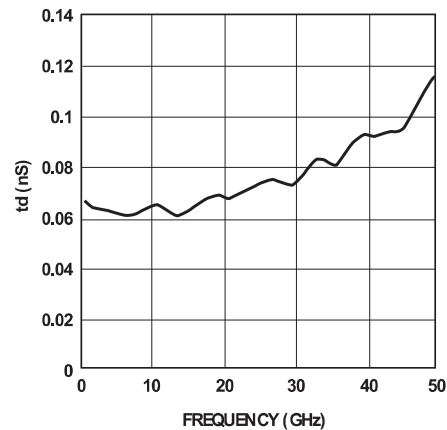


Figure 4. Group Delay.

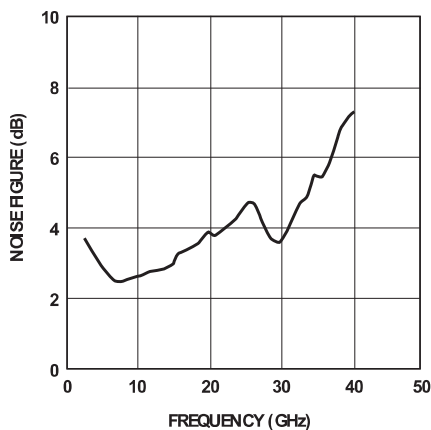


Figure 5. Noise Figure.

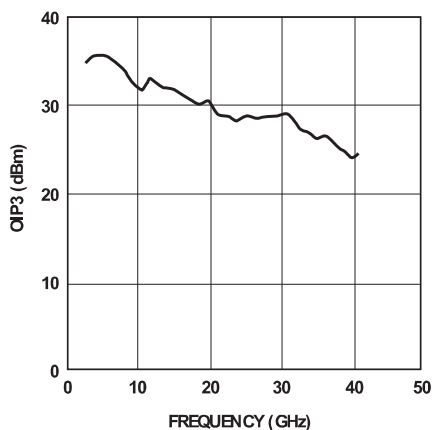


Figure 6. Output IP3.

Wideband Low Noise Amplifier Module 2 – 40 GHz

Package Outline Drawing

