LNA5025

Wideband Low Noise Amplifier Module 30 MHz – 40 GHz

Features

- 30 MHz to 40 GHz Frequency Range
- Gain: 16 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
- Fiber Optics
- 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

LNA5025 is a broadband PHEMT GaAs MMIC based medium output power and low noise amplifier, operating in the 30 MHz to 40 GHz frequency range. The amplifier offers 4.6 dB typical Noise Figure, 22.5 dBm of P1dB and 16 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 =25ºC, DC Voltage = +15V, DC Current = 200mA)

Parameter	Units	Minimum	Typical	Maximum
Frequency Range	GHz	0.03		40
Gain	dB		16	
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		200	

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	V
RF Input Power	17	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperature	-65 to +150	°C

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Typical Performance

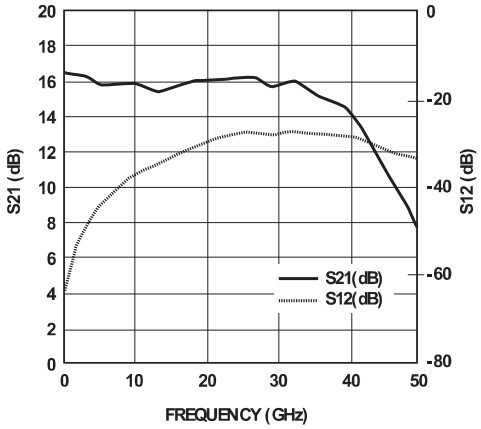

Figure 1. Gain and Reverse Isolation.

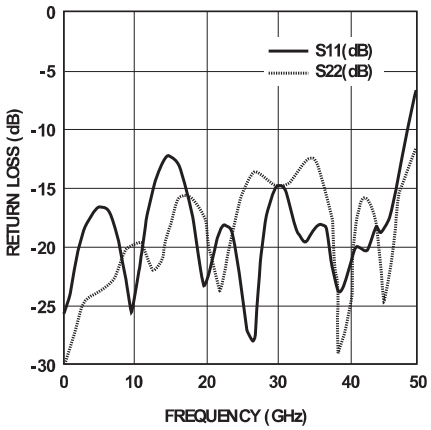

Figure 2. Return Loss (Input and Output).

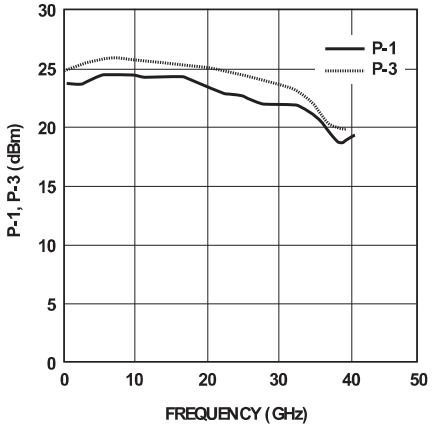

Figure 3. Output Power (P-1 and P-3).

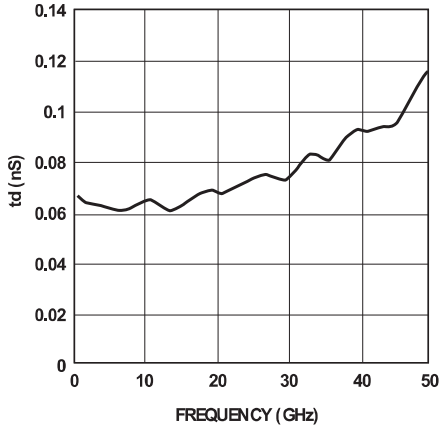

Figure 4. Group Delay.

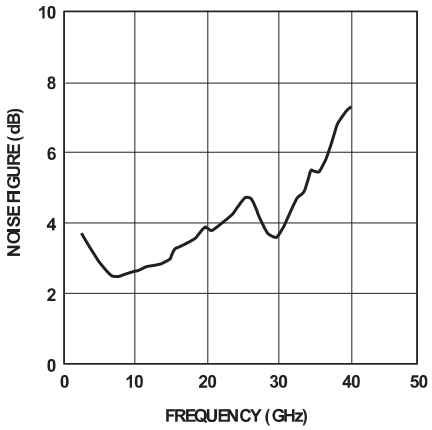

Figure 5. Noise Figure.

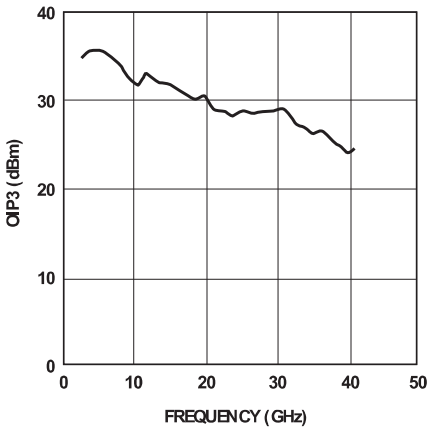

Figure 6. Output IP3.

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Package Outline Drawing