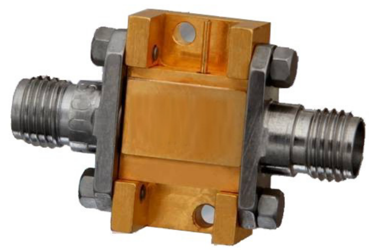
LNA5026

Wideband Low Noise Amplifier Module 2 – 50 GHz

Features

- 2 GHz to 50 GHz Frequency Range
- Gain: 8.5 dB
- P1dB: 12 dBm @ 40 GHz
- Gain flatness: ±0.75 dB
- Low noise figure: 5 dB @ 2-35 GHz
- Unconditionally Stable
- 50 Ohm Input and Output Matched
- Hermetically Sealed Module
- Field Replaceable 2.4 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
- Fiber Optics
- Test Instrumentation
- R&D Labs
- Communication Systems
- Radar Systems
- Electronic Warfare
- Wireless Communications
- Unmanned Systems
- Power Amplifier
- Low Noise Amplifier
- RF Front Ends

Description

LNA5026 is a broadband PHEMT GaAs MMIC based medium output power and low noise amplifier, operating in the 2 GHz to 50 GHz frequency range. The amplifier offers 5 dB typical Noise Figure, 12 dBm of P1dB and 8.5 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 = 75mA)

Parameter	Units	Minimum	Typical	Maximum
Frequency Range	GHz	2		50
Gain	dB		8.5	
Gain Flatness	dB		± 0.75	± 1.5
Output 1dB Compression (P1dB)	dBm		+12	
Noise Figure	dB		5	7
Operating DC Voltage	V	7		15
Operating DC Current	mA		75	

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	V
RF Input Power	+20	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperature	-65 to +150	°C

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Typical Performance

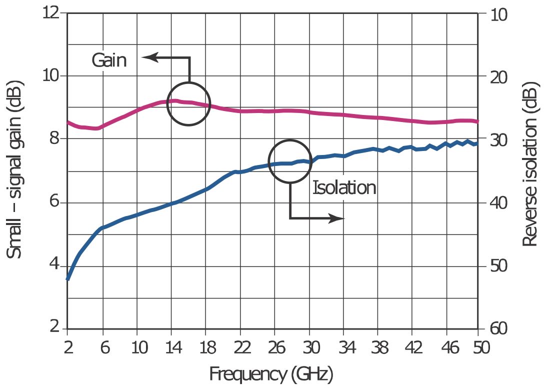

Figure 1. Typical Gain and Reverse isolation vs. Frequency

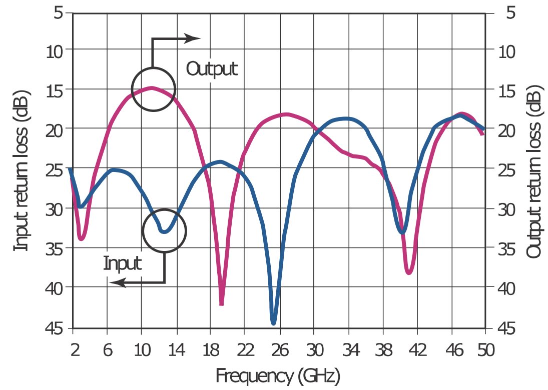

Figure 2. Typical Input and Output return loss vs. Frequency

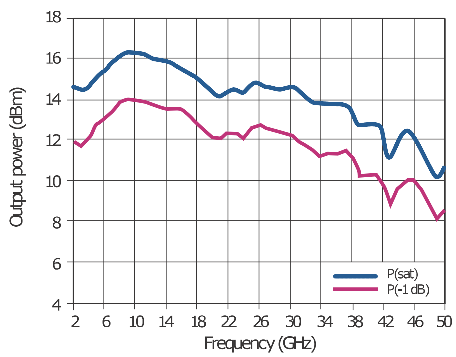

Figure 3. Typical 1 dB Gain compression and Saturated output power vs. Frequency

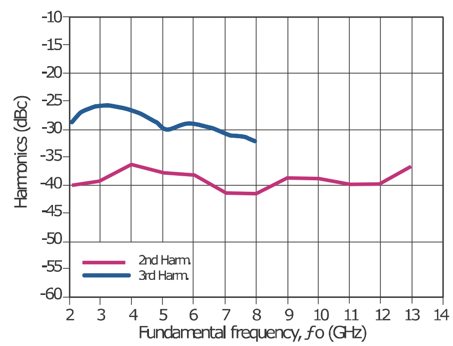

Figure 4. Typical Second and Third harmonics vs. Fundamental frequency at P_{out} = 10 dBm

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Package Outline Drawing