LNA24-19

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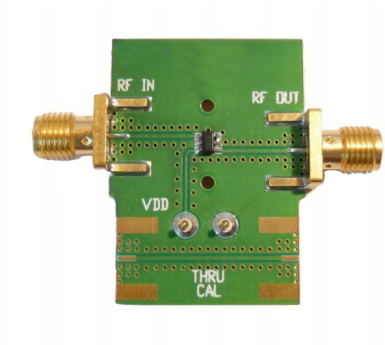
LNA Series — 2400 – 2500MHz Low Noise Amplifier

Features

- Frequency Range: 2400 – 2500MHz
- Gain: 19dB
- P_{1dB}: +6dBm
- Noise Figure: 1.7dB
- DC Power: +3V
- SMA Connectors

Picture



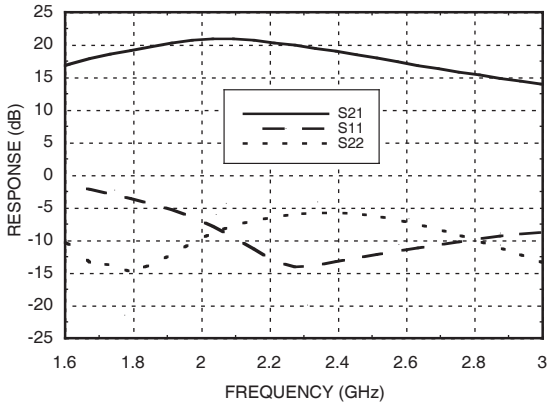
Description

LNA24-19 is a Low Noise Amplifier operates in 2.4GHz ISM frequency band from 2400 to 2500MHz. The LNA provides 19dB of gain and a 1.7dB noise figure from a single positive +3V power supply that consumes only 8.5mA. The typical output 1dB compression point is +6dBm at 2.4GHz.

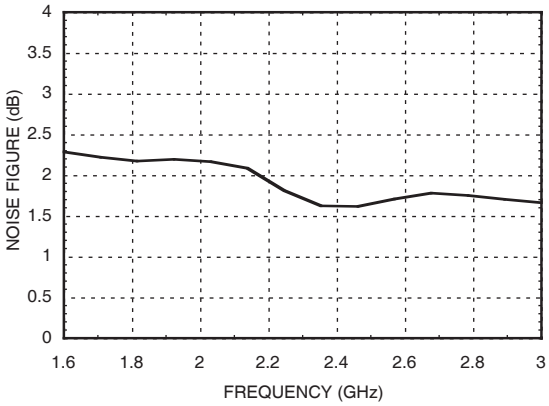
Electrical Specifications, T_A =25°C, V_{DD} = +3V

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2.3		2.5
Gain	dB	16	19	
Gain Variation Over Temperature	dB/°C	0.015	0.03	
Gain Flatness	dB		±1.25	
Noise Figure	dB		1.7	2.5
Input Return Loss	dB		12	
Output Return Loss	dB		4.5	
Output 1dB Compression (P1dB)	dBm	2	6	
Output Third Order Intercept (IP3)	dBm	9	12	
Supply Current (Idd)	mA		8.5	12.5

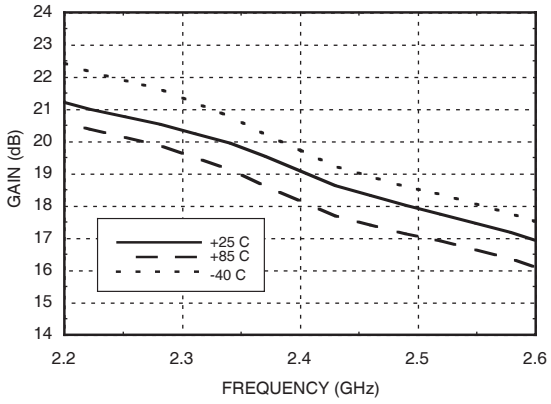
Broadband Gain and Return Loss



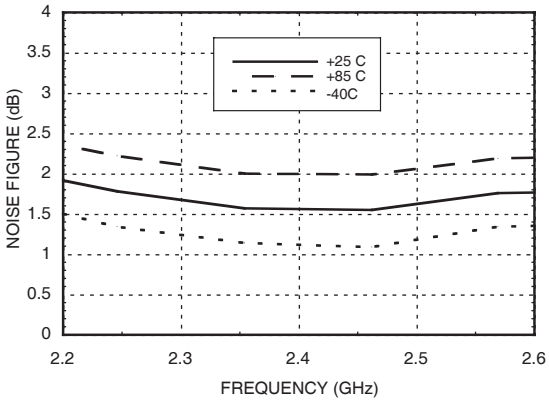
Broadband Noise Figure



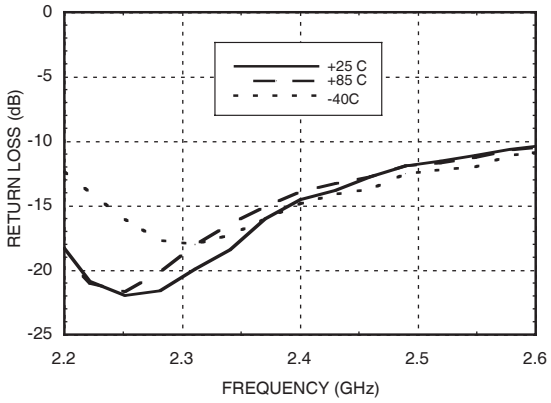
Gain vs. Temperature



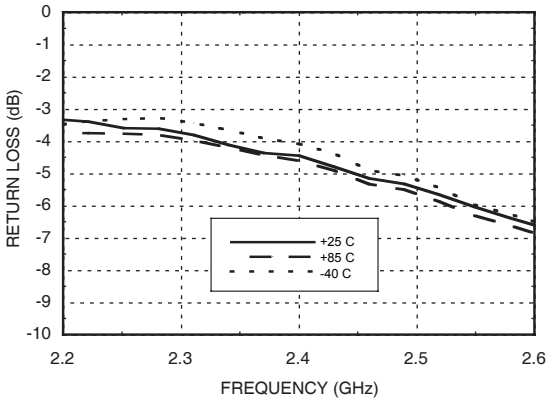
Noise Figure vs. TemperatureFigure



Input Return Loss vs. Temperature



Output Return Loss vs. Temperature



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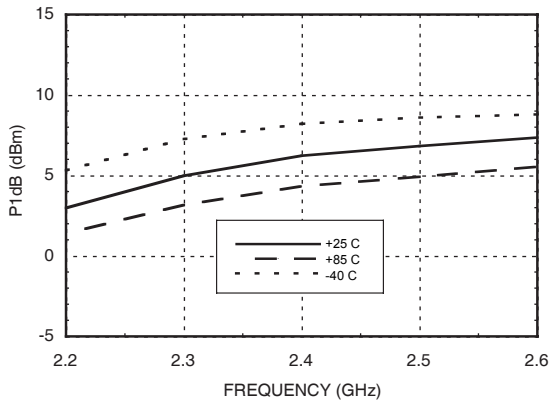
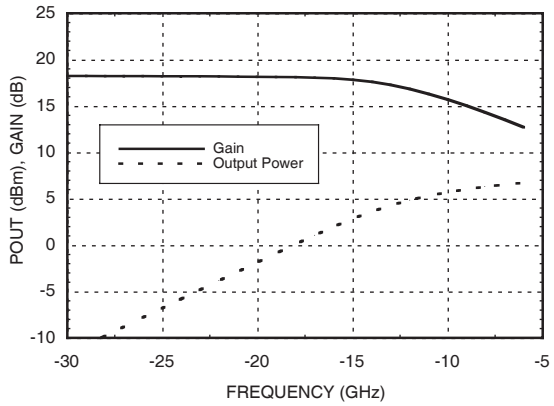
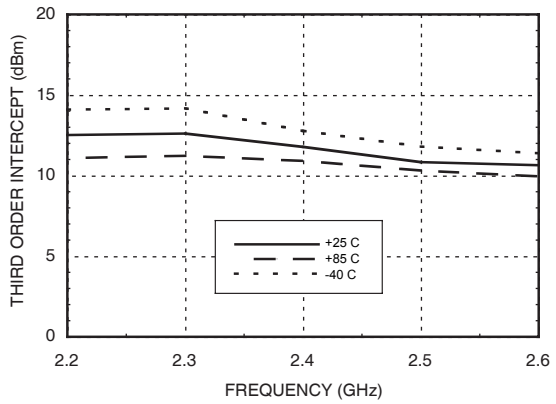
Output P1dB vs. Temperature



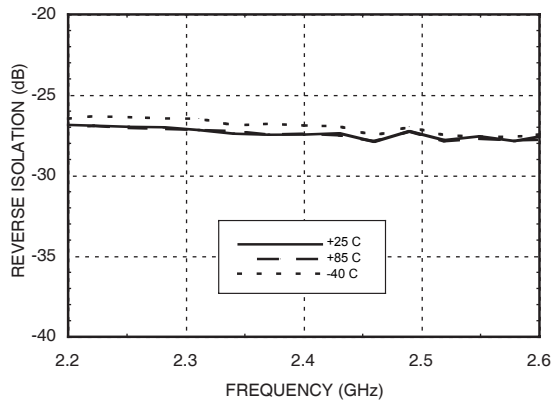
Power Compression @ 2.4GHz



Output IP3 vs. Temperature



Reverse Isolation vs. Temperature



Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+7.0V DC
RF Input Power (RFin)(Vdd=+3V DC)	0dBm
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C

Handling Procedures

Gallium Arsenide Integrated Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Mechanical Specifications

Parameter	Unit	
RF Connectors		SMA female
Vdd Connector		Solder Pin
PCB Material		RO4350
Dimensions	mm	45 x 36 x 8
Weight	Kg	0.01

PCB Footprint