

### Features:-

- RF Frequency: 2-4GHz
- Noise Figure: 1.2dB
- Small Signal Gain: 28dB
- Output P1dB: 13dBm
- Saturated output power: 23dBm
- DC drain bias voltage: 4V
- DC supply current: 45mA
- 0.1um GaAs pHEMT Technology

### Description:-

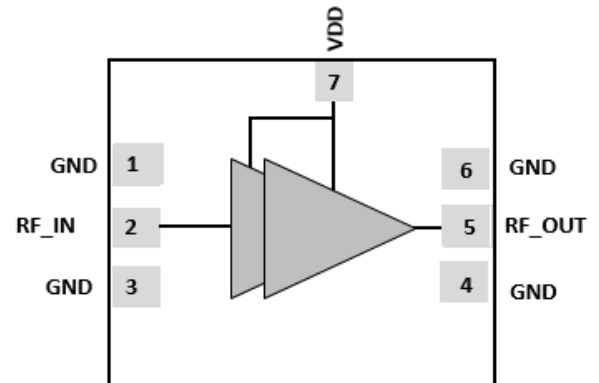
RFLN04 is a two stage low noise amplifier for S band with flat gain over wide bandwidth, low Noise Figure, high isolation, stability and high linearity. The LNA is designed to operate from 2-4 GHz using 0.1um GaAs pHEMT process.

The designed LNA, bias current and gain can be set with the gate bias to allow the user to customize the current, gain and NF value to fit the application.

The LNA offers 1.2 dB noise figure, 28dB of small signal gain, OP1dB of 13dBm with low noise figure along with the flexibility of setting current and gain makes this LNA an ideal front end amplifier in 5G and SATCOM Application.

Results are shown with all parasitic & coupling effects at desire frequency.

### Functional Block Diagram :-



### Pin Configuration: -

Pin No.	Pin Name	Description
1, 3, 4, 6	GND	RF Ground
2	RF_IN	RF Input
5	RF_OUT	RF Output
7	VDD	Drain Bias Voltage

### Applications:-

- 5G RF transceiver.
- Satellite Communication.
- Point to point communication system.
- Radar Application.

### Electrical Specification: -

Freq = 2-4GHz, VDD = 4 V, VGG = 0V, ID= 45 mA, Zo=50 Ω

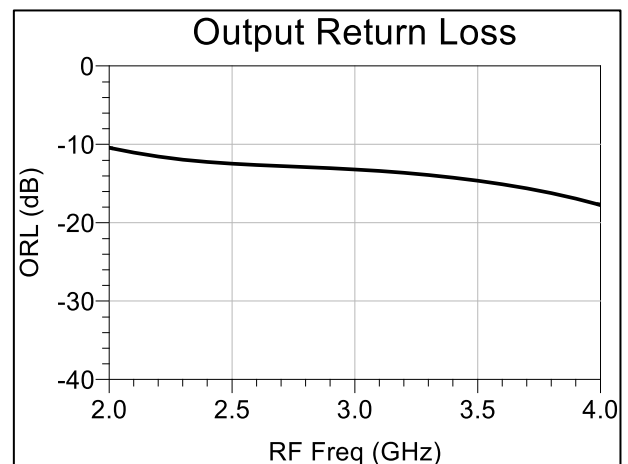
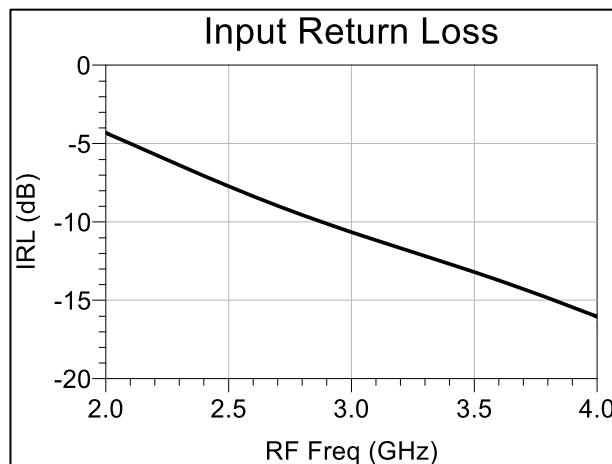
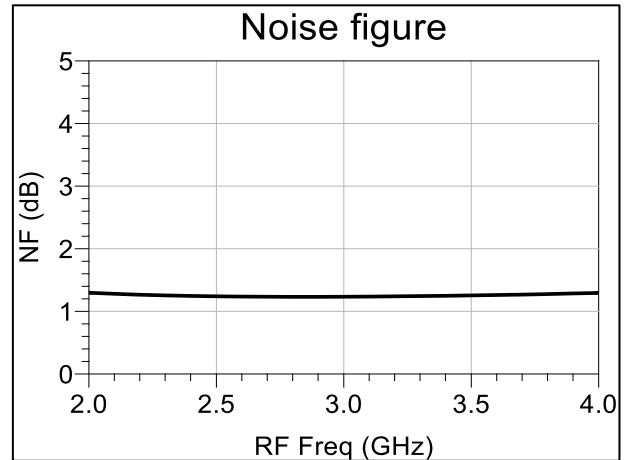
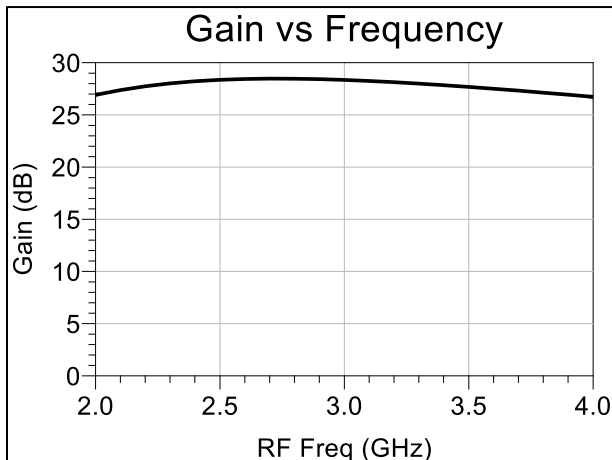
Parameters	Test Condition	Units	Typ
Gain	2 GHz	dB	27
	3 GHz		28
	4 GHz		27
Output P1dB	2 GHz	dBm	13
	3 GHz		
	4 GHz		
OIP3 Pin = -15dBm Δf = 200MHz	2 GHz	dBm	-
	3 GHz		
	4 GHz		
Noise Figure	2 GHz	dB	1.3
	3 GHz		1.2
	4 GHz		1.3
Input Return Loss	2 GHz	dB	4
	3 GHz		11
	4 GHz		16
Output Return Loss	2 GHz	dB	10.2
	3 GHz		13
	4 GHz		18
Drain Current (Id)	-	mA	45
Drain Voltage (VDD)	-	V	4
Gate Voltage (VGG)	-	V	-0.65

# Low Noise Amplifier



PRE-RELEASE DATASHEET RFLN04

## Typical Performance Curve: -



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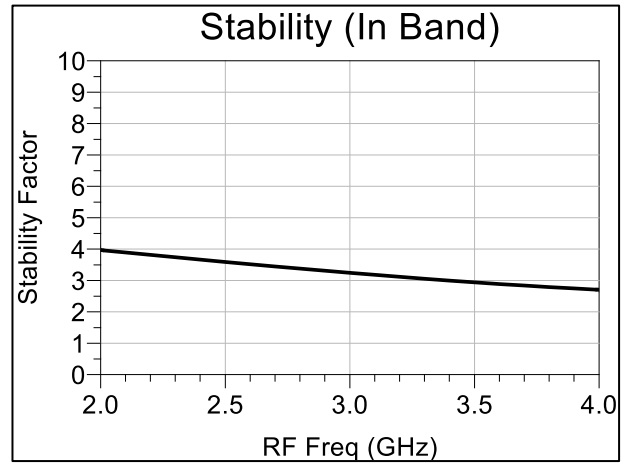
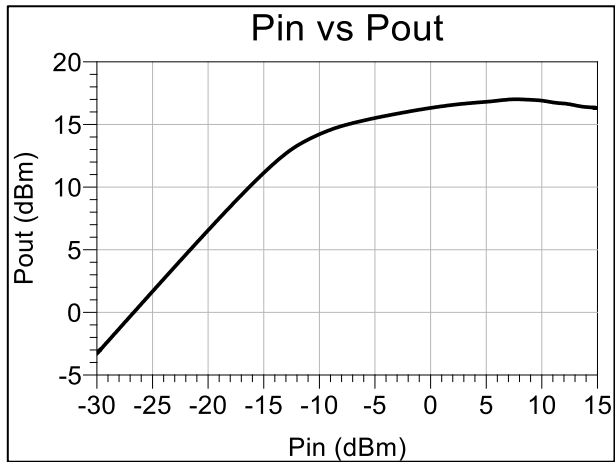
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# Low Noise Amplifier



PRE-RELEASE DATASHEET RFLN04

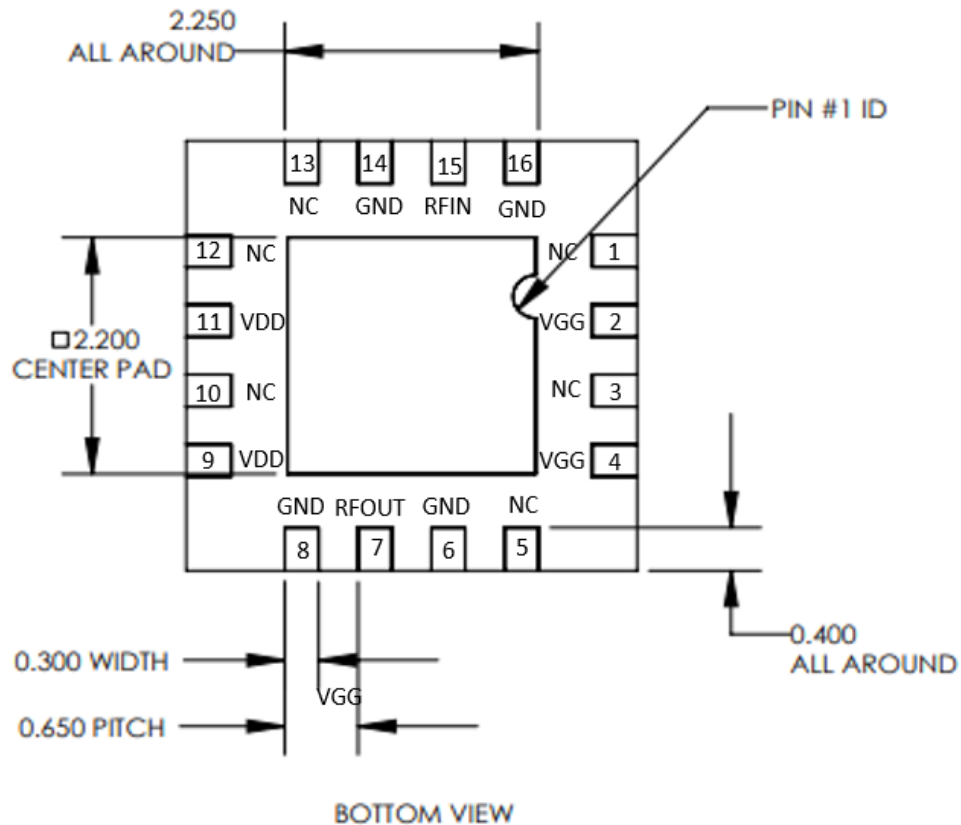


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## Pin Description:-



## Functional Description:-

Pin number	Pin name	Description
1,3,5,10,12,13	NC	Not Connected
6,8,14,16	GND	RF Ground
9,11	VDD	Drain Bias voltage
2,4	VGG	Gate Bias voltage
15	RF_IN	RF Input
7	RF_OUT	RF Output

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