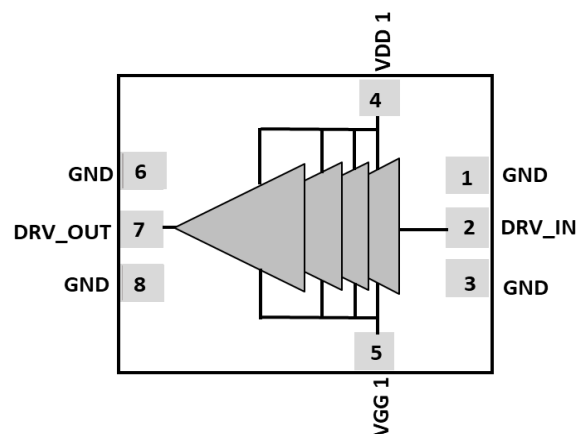


Features: -

- RF Frequency: 20-40GHz
- Noise Figure: 1.7 dB
- Small Signal Gain: 26 dB
- Output Power P1dB: 16.7dBm
- OIP3: 24dBm
- Biasing: VDD=4V, VGG1=-0.55, ID= 194mA
- Die Size: 1715 um x 630 um
- 0.1um GaAs pHEMT Technology

Functional Block Diagram: -



Description: -

RFLN05A is a four stage low noise amplifier with Lange Coupler at input & output side for perfect input and output matching to 50 ohm. It provide high gain over wide bandwidth, low Noise Figure, high isolation, stability. The LNA is designed to operate from 20 - 40GHz 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 1.7db noise figure, 22dB of small signal gain, OP1dB of 16.7dBm with low noise figure along with the flexibility of setting current and gain makes this LNA an ideal front end amplifier in 5G, Terrestrial communication system and Radar Application.

Pin Configuration: -

Pin No.	Pin Name	Description
1,3,6,8	GND	Ground
2	DRV_IN	Driver Input
5	VGG 1	Gate Bias Voltage 1
4	VDD 1	Drain bias Voltage 1
7	DRV_OUT	Driver Output

Application:

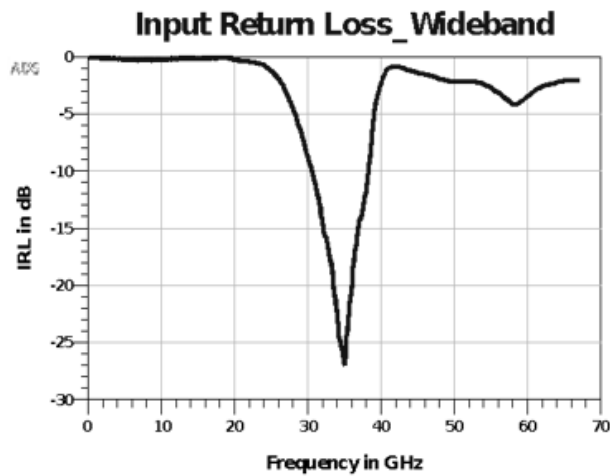
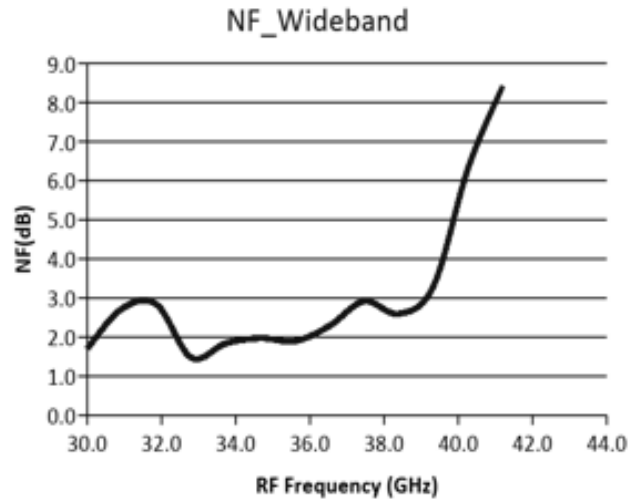
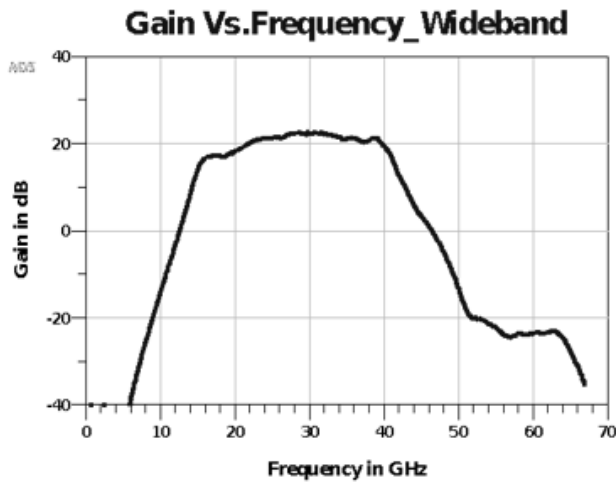
- 5G mobile system.
- Satellite Communication.
- Point to point communication system.
- Backhaul application.

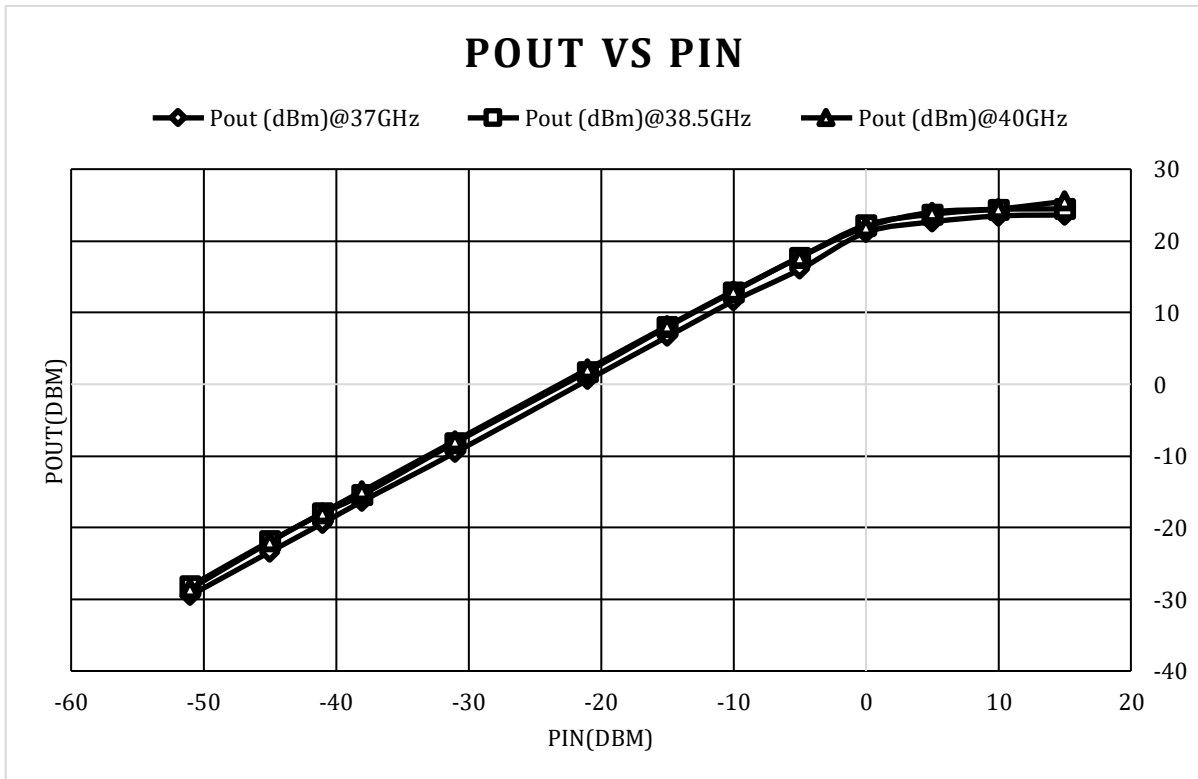
Electrical Specification:

Freq = 20 - 40GHz, VDD=4V, VGG1=-0.55V, ID= 194mA, Zo=50 Ω

Parameters	Freq (GHz)	Units	Typ
Gain	20	dB	18
	30		22
	40		20
Output P1dB	20	dBm	20
	30		16.7
	40		18.4
OIP3 Pin = -10dBm Δf = 200MHz	20	dBm	28
	30		24
	40		28.6
Noise Figure	20	dB	6.2
	30		1.7
	40		4.9
Input Return Loss	20	dB	0.2
	30		9.5
	40		3
Output Return Loss	20	dB	8.3
	30		8.5
	40		13.5
Isolation	20	dB	58.2
	30		
	40		
Drain Current (IDD)	-	mA	194
Drain Voltage (VDD)	-	V	4
Gate Voltage (VGG)	-	V	-0.55

Typical Performance Curve: -





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