



0.4-4GHz Wideband Low Noise Amplifier

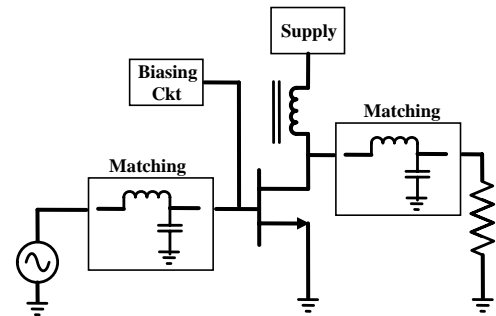
RLN23

Description

The RLN23 is broad band GaAs Enhancement mode pHEMT Low Noise Amplifier IP Block .The device is designed for use in the IEEE 802.11b/g, PCS, PHS and Cellular system.

The die area of RLN23 is 0.7 mm x 0.77 mm, with on chip input and output matching components. This makes it suitable for being packed in small SOT29 Packages. It requires a single +5.0 Volt supply and consumes 60 mA current.

There is good match between the measured and simulated results as shown below.



Applications

- IEEE 802.11 b/g WLAN
- PCS and PHS System
- Cellular System
- WiFi Systems
- ISM Band Systems

Key Features

- Low Cost
- Noise Figure is less than 1 dB
- Can be optimized for a narrow band operation with off chip matching

Electrical Specification

Conditions: Vcc = 5 V & TA=25 °C

Parameter	Min	Typical	Max	Units
Frequency	0.4		4	GHz
Gain				
@0.4 GHz		22		dB
@1.9 GHz		15		dB
@3.5 GHz		12		dB
Noise Figure				
@0.4 GHz		0.6		dB
@1.9 GHz		0.7		dB
@3.5 GHz		1.2		dB
P1dB				
@0.4 GHz		19		dBm

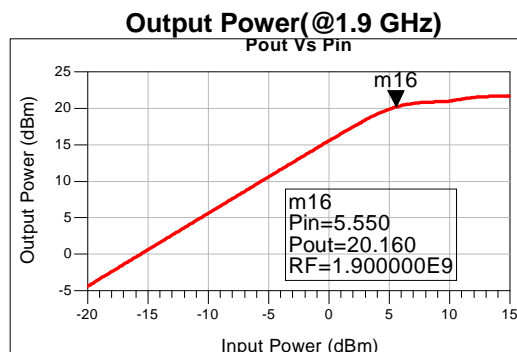
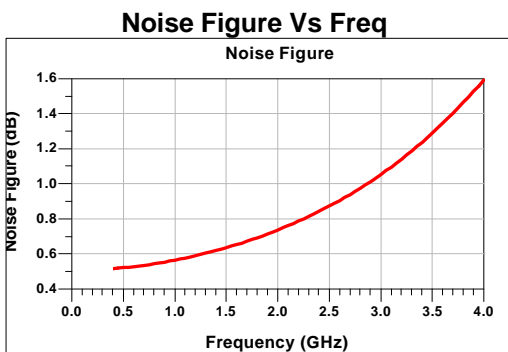
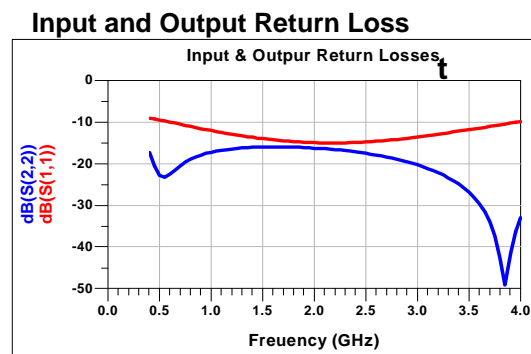
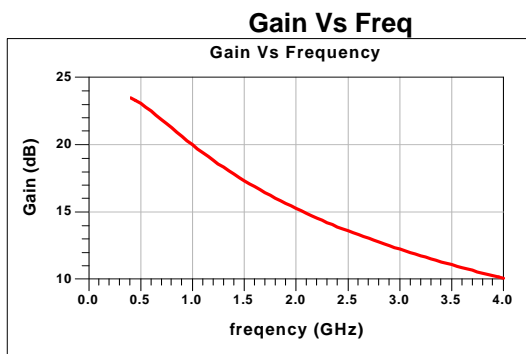


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@1.9 GHz		20		dBm
@3.5 GHz		21		dBm
Input Return Loss		15		dB
Output Return Loss		18		dB
Supply Current		60		mA
DC Voltage		5		V

Simulated Results



Layout (0.7 mm x 0.77 mm)

