



Single Stage Low Noise Amplifier

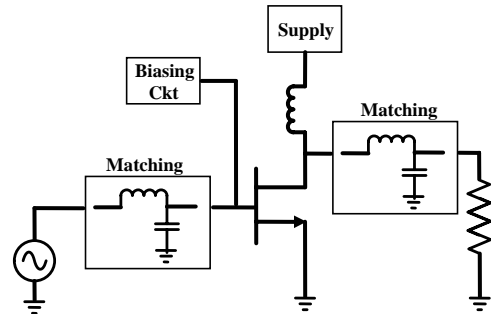
RS01

Description

The **RS01** is 1.7 to 2.7 GHz; high efficiency Single stage Low Noise Amplifier designed on 0.18μm SiGe BiCMOS technology. The device is designed for 802.11b/g standard and WLAN MIMO system. The simulated noise figure is as low as 1.2 dB at 2.0 GHz and 14 dBm Pout (P1 dB).

The noise figure is 1.2 dB and it has small die area of 0.6 mm x 0.57 mm. The device works with single 1.8 V supply voltage and draws 11.6 mA of current. No external input or output matching components required.

Functional Diagram



Applications

- IEEE 802.11 a/b/g WLAN
- Cellular System
- WiFi Systems
- ISM Band Systems

Key Features

- Low Current
- Low Cost
- Low noise as low as 1.2 dB

Electrical Specification

Conditions: Vcc = 1.8 V & TA=25 °C

Parameter	Min	Typical	Max	Units
Frequency Range	1.7		2.7	GHz
Gain	13		14.7	dB
Pout at 2 GHz		11.32		dBm
Input Return Loss		9		dB
Output Return Loss		18		dB
Noise Figure		1.2		dB
Supply voltage		1.8		V
Current		11.6		mA

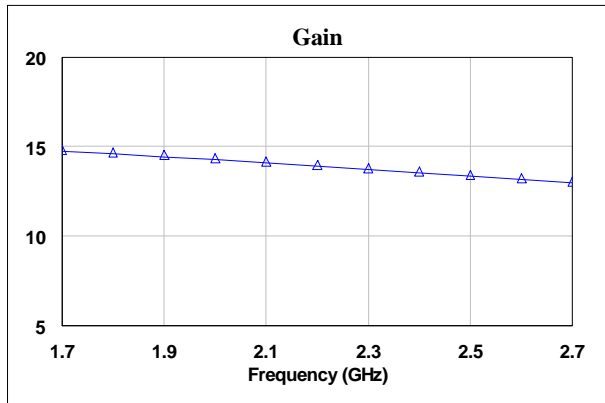


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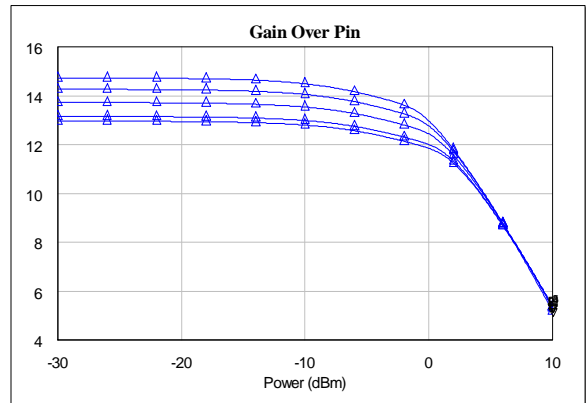
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Simulated Results

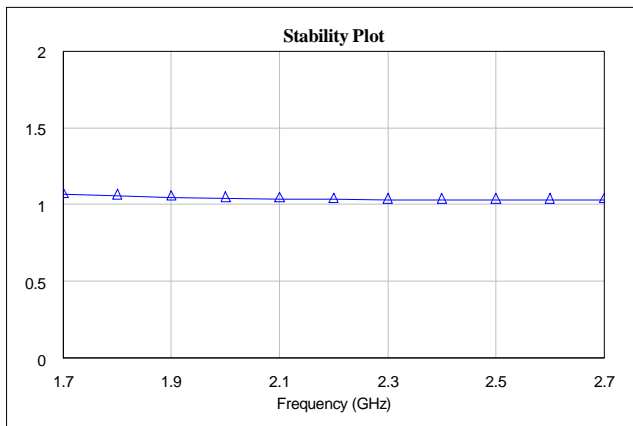
Gain Vs Freq



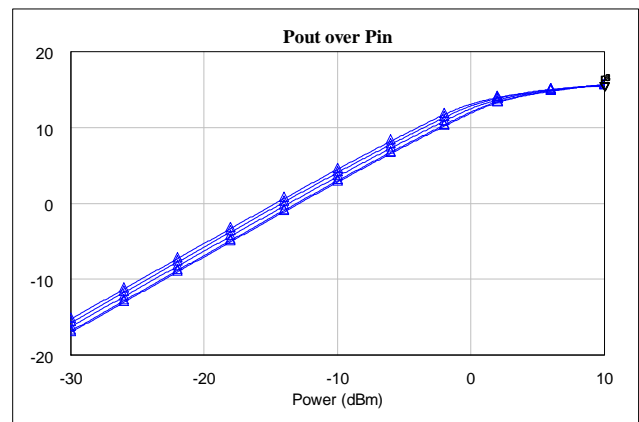
Gain Vs Pin



Stability Vs Freq



Pout Vs Pin

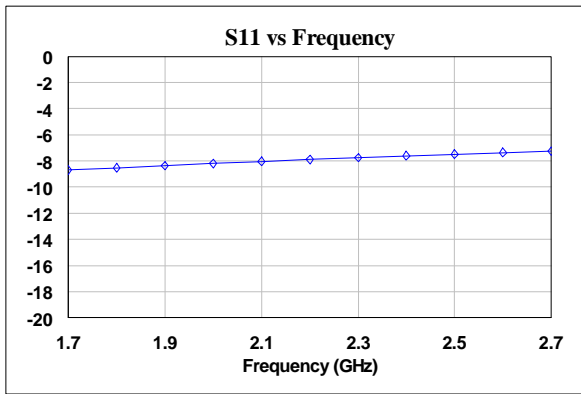




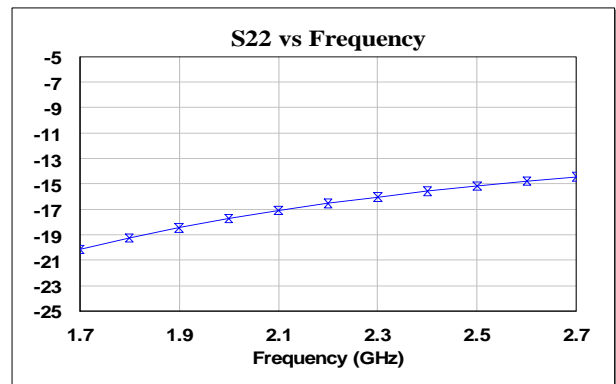
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Input Return Loss Vs Freq



Output Return Loss Vs Freq



Layout

