Low-Noise-Amplifier
SIGE-0.8µm RF-Library

DATA SHEET

Key Features

- 2.7 – 3.6V supply
- 2.4 – 2.5 GHz operating frequency range
- 16 dB voltage gain
- 3 dB noise figure
- -10 dBm IIP3
- 3 mA current consumption
- Size: 0.3 x0.5 mm

General Description

The Low-Noise-Amplifier (LNA) is designed for minimum noise figure and can be used for low power 2.4 GHz solutions. It requires an external matching network to match to the antenna – typ. 50 ohm.

Applications

- LNA for wireless 2.4GHz solutions such as Bluetooth, WLAN, ISM

Functional Description

The LNA has a single-ended input and output and uses a cascoded transistor configuration (Figure1).
An integrated inductor represents the load of the LNA.
A separate bias pin is available to set the gain.
An external matching network is requited to match to the antenna – typ. 50 ohm.
Figure 2 shows the layout of the LNA.

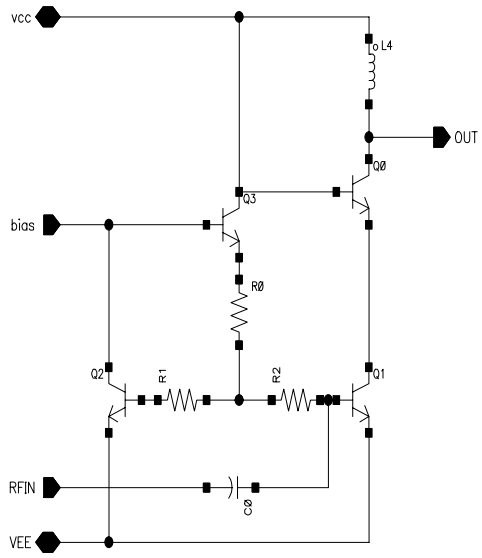

Figure1: Schematic of the LNA

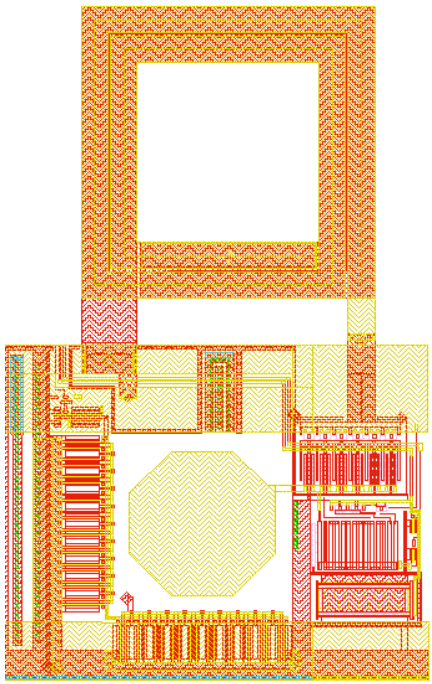

Figure2: Layout picture

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