


Part Number:

MR74036

Features:

Key features:

- High 3rd order intercept to point
- High compression point
- Low broadband noise
- Large gain range

Technology:

 Jazz SBC 0.18um
 Standard BiCMOS

Deliverables:

 GDSII
 Abstract
 Design Report
 Verilog- A Models
 Verilog Models

Circuit Status:

Silicon proven

Design rights:

Customer owned.

Overview:

An upconversion mixer for UWB transmission. The circuit takes UWB baseband signals at up to 200MHz, and a Local Oscillator signal at 3GHz to 9GHz, both in complex (I/Q) form, and produces an RF signal for transmission. The gain of the mixer is programmable.

- Supply voltage 2.5V to 2.7V.
- Operating temp -40°C to 125 °C
- Current consumption, 20mA max
- Supply load capacitance 25pF
- Local oscillator frequency 3GHz to 9GHz
- Output signal flatness 0.5dB
- Mixer gain range -7dB to 13dB
- Mixer gain step size 1.25dB typical
- Output DC level of 1.8V
- Peak-to-average power ratio of 12dB
- Output load capacitance of 70fF
- Output referred noise of 17nV/√Hz max (noise level at 1MHz, offset at gain ≤ 10dB)
- Output referred noise of 17nV/√Hz max (noise level at 1.5MHz, offset at gain ≤ 10dB)
- OIP3 of 10dBV min (using complex tones at baseband to get a single sideband RF, 150MHz and 200MHz tones)
- OIP2 of 20dBV min (4MHz - 264MHz)

Symbol View (TO BE PROVIDED):