



MC13821: Low Noise Amplifier with Bypass Switch

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Overview

The MC13821 is a high gain LNA with extremely low noise figure, designed for cellular, GPS and ISM band applications. An integrated bypass switch is included to preserve input intercept performance. The input and output match are external to allow maximum design flexibility. The MC13821 is fabricated using Motorola's advanced RF BiCMOS process using the SiGe:C option and is packaged in the QFN12 leadless package.

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Features

- RF Input Frequency: 1000 MHz to 2.4 GHz
- Gain: 16.4 dB (typ) at 1960 MHz and 15.7 dB (typ) at 2140 MHz
- Output 3rd Order Intercept Point (IIP3): 17.4 dBm (typ) at 1960 MHz and 19.7 dBm (typ) at 2140 MHz
- Noise Figure (NF): 1.25 dB (typ) at 1960 MHz and 1.3 dB (typ) at 2140 MHz
- 1dB Compression Point (P1dB): -6 dBm (typ) at 1960 MHz and -5 dBm (typ) at 2140 MHz
- NXP's IP3 Boost Circuitry
- Bypass Mode Included for Improved Intercept Point Performance
- Total Supply Current:
2.8 mA @ 2.7 Vdc per Active LNA
10 μ A (typ) in Bypass Mode

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