



Avago Technologies MGA-634P8 LNA Offers Ultra Low Noise Figure and Increases Linearity Performance for Cellular Infrastructure Applications

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0.44 dB Noise Figure and 36 dBm Third Order Intercept

SAN JOSE, Calif. & SINGAPORE, Jul 13, 2010 (BUSINESS WIRE) --

Avago Technologies (Nasdaq: [AVGO](#)), a leading supplier of analog interface components for communications, industrial and consumer applications, today announced the availability of its MGA-634P8 ultra low-noise amplifier (LNA) for base station (BTS) RF front-end design. With the addition of the 1500 MHz to 2300 MHz MGA-634P8, Avago expands its LNA series to cover new GSM, TDS-CDMA and CDMA cellular infrastructure applications.

The wireless infrastructure industry must provide optimum coverage with the best signal quality in a crowded spectrum. Receiver sensitivity is the most critical requirement in a BTS receiver's design. LNA selection, in particular the first-stage LNA, greatly affects the BTS receiver's performance. Low noise figure is a key design goal. The MGA-634P8 has a best-in-class noise figure (NF) of 0.44 dB, 0.69 dB maximum, at 1900 MHz.

Another key design factor is linearity, which affects the receiver's ability to distinguish between closely spaced wanted and spurious signals. Output third-order intercept, OIP3, is used to specify linearity. At 1900 MHz and operating from 5 V with a 48 mA bias current, Avago's proprietary GaAs Enhancement-mode pHEMT process technology gives a noise figure of 0.48 dB and an OIP3 of 36 dBm. The low NF and high OIP3 of Avago's MGA-634P8 gives designers more margin for the BTS receiver path than available from previous amplifiers. The added performance is achieved with very low quiescent power, approximately 240 mW.

Adjustability and Common Pinout for Design Optimization and Flexibility

With built-in active bias circuitry, MGA-634P8 operating current is adjustable. This allows designers to make tradeoffs between operating current and output linearity while maintaining an optimum noise figure. BTS designers can meet various design needs and regional requirements with the same Avago LNA.

Since more communication channels must now fit onto a transmit/receive card, PCB real estate has become a key design challenge for BTS engineers. The MGA-634P8 is housed in a quad flat no-lead plastic (QFN) package with a small 4 mm² footprint and slim 0.75 mm thickness.

In addition, the new MGA-634P8 LNA shares the same package footprint, pinout and external matching network of the existing 900 MHz MGA-633P8 LNA. A common PCB design can therefore be used for BTS RF front-end designs that operate in different frequency bands allowing different geographic markets to be served by one basic PCB design.

Key MGA-634P8 Features: High Linearity Low Noise Amplifier

- 1500 MHz to 2300 MHz operation
 - Best in class NF: 0.44 dB @ 1900 MHz
 - High linearity: 36 dBm OIP3
 - High gain: 17.4 dB
 - 21 dBm OP1dB @ 1900 MHz
- Single 5 V power supply and 48mA low power consumption
 - 240 mW
- Common footprint and matching network across Avago's MGA-63xP8 series
 - Simplifies PCB design and engineering
- Proprietary process: 0.25-micron, GaAs Enhancement-mode pHEMT

The MGA-634P8 LNA targets cellular infrastructure base station applications, such as transceiver radio cards, tower mounted amplifiers, combiners, repeaters and remote/digital radio heads. It sets new standards for low noise figure, linearity and quiescent power.

Package and Temperature Range

The MGA-634P8 is available in a compact 2.0 x 2.0 x 0.85 mm, 8-lead, surface mount QFN package that is RoHS compliant. The operating temperature range is -25° to +85° C.

U.S. Price and Availability

The Avago MGA-634P8 is priced at \$2.31 each in 10,000 piece quantities. Samples, production quantities and an evaluation board are available now through Avago's direct sales channel and worldwide distribution partners. More information about Avago's wireless and mmWave products can be found at <http://www.avagotechwireless.com/>.

About Avago Technologies

Avago Technologies is a leading supplier of analog interface components for communications, industrial and consumer applications. By leveraging its core competencies in III-V compound and silicon semiconductor design and processing, the company provides an extensive range of analog, mixed signal and optoelectronics components and subsystems to approximately 40,000 end customers. Backed by strong customer service support, the company's products serve four diverse end markets: wireless communications, wired infrastructure, industrial and automotive electronics, and consumer and computing peripherals. Avago has a global employee presence and heritage of technical innovation dating back 40 years to its Hewlett-Packard roots. Information about Avago is available on the Web at www.avagotech.com

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