



Avago Technologies Completes Next Generation of Low Noise Amplifiers for Cellular and LTE Base Stations with MGA-635P8

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0.56 dB Noise Figure and 35.9 dBm Third Order Intercept at 2500MHz

SAN JOSE, Calif. & SINGAPORE, Aug 19, 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-635P8 ultra low-noise amplifier (LNA) for base station (BTS) RF front-end design. The MGA-635P8 can be used in a variety of cellular applications, such as: first stage of cellular base station transceiver radio cards, tower mounted amplifiers (TMA), combiners, repeaters and remote/digital radio heads. The new MGA-635P8 LNA adds to Avago's high linearity, ultra low-noise amplifier family series, which includes the previously released MGA-633P8 (450 MHz up to 1.5GHz) and MGA-634P8 (1.5 GHz up to 2.3 GHz). With the addition of the 2300 to 4000 MHz MGA-635P8, Avago has a complete family of production ready LNAs ready for high volume 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-635P8 has a best-in-class noise figure (NF) of 0.56 dB, 0.75 dB maximum, at 2500 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 2500 MHz and operating from 5 V with a 56 mA bias current, Avago's MGA-635P8 delivers a superior OIP3 performance of 35.9 dBm.

Adjustability and Common Pinout for Design Optimization and Flexibility

With built-in active bias circuitry, the MGA-635P8 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-635P8 is housed in a quad flat no-lead plastic (QFN) package with a small 2 mm by 2 mm footprint and slim 0.75 mm thickness.

Key MGA-635P8 Features (Typical at 2.5 GHz, 5 V and 56 mA bias)

- 2300 MHz to 4000 MHz operation
- Low NF: 0.59 dB @ 2500 MHz
- Excellent linearity: 35.9 dBm OIP3
- High and Consistent gain: 18 dB
- High P1 dB: 22 dBm
- Single 5 V power supply and 56 mA bias for low power operation
- Common footprint, pinout, package and matching network for the MGA-633P8, MGA-643P8 and MGA-653P8 devices
 - Simplifies PCB design and engineering
- Proprietary process for low noise and excellent linearity: 0.25-micron, GaAs Enhancement-mode pHEMT

Packaging and Temperature Range

The MGA-635P8 is available in a compact 2.0 x 2.0 x 0.75 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-635P8 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://cts.businesswire.com/ct/CT?id=smartlink&url=http%3A%2F%2Fwww.avagotechwireless.com%2F&sheet=6400425&lan=en-US&anchor=http%3A%2F%2Fwww.avagotechwireless.com%2F&index=1&md5=9a93986d48e38496fa4a8168a309eaae>.

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 nearly 50 years to its

Hewlett-Packard roots. Information about Avago is available on the Web at <http://cts.businesswire.com/ct/CT?id=smartlink&url=http%3A%2F%2Fwww.avagotech.com%2F&esheet=6400425&lan=en-US&anchor=www.avagotech.com&index=2&md5=cf2a0124f0be4e4d00b54a4c52d7b1d2>

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