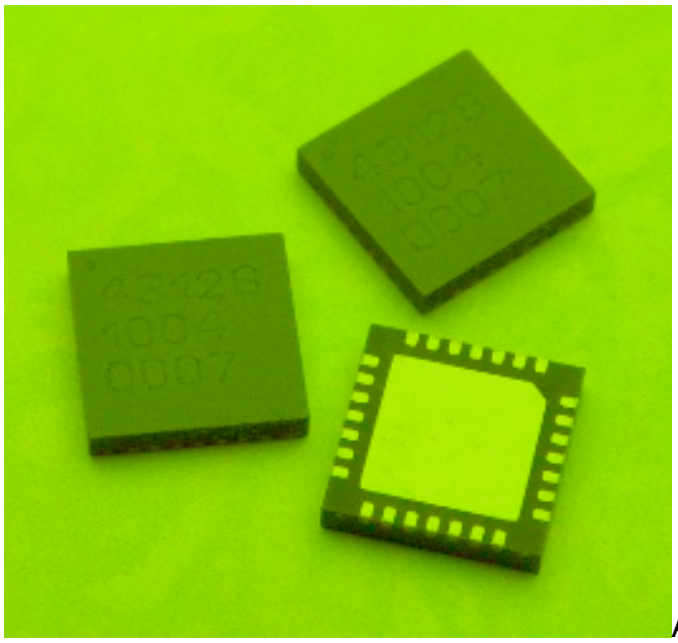
High-Gain Linear Power Amplifier for 4G LTE Cellular Infrastructure Equipment



Avago Technologies announced a high-gain, high-linearity power amplifier for high-data-rate applications found in 700-800 MHz cellular infrastructure equipment. The new MGA-43128 amplifier provides superior signal transmission quality with low power consumption for LTE AP, CPE, and Picocell equipment and can also serve as a base station driver amplifier.

Designed for superior signal quality while transmitting at high data rates, the MGA-43128 amplifier features low distortion and high power added efficiency (PAE) that help reduce power consumption. RF input is fully matched while the output includes integrated pre-match circuitry for matching and application simplicity. An integrated bypass switch controlled attenuator provides up to 18.0 dB attenuation, and the device also has a temperature-compensated power detector on chip.

The new MGA-43128 device’s very linear output power is achieved by using an Avago proprietary 0.25 µm GaAs Enhancement-mode pHEMT process, which allows single 5V supply operation and useable performance down to 3.3V. The 700 MHz MGA-43128 joins Avago’s 29 dBm linear power amplifier family, following the released MGA-43228 and MGA-43328 power amplifiers that cover 2300 to 2500 MHz and 2500 MHz to 2700 MHz, respectively. All devices in the series have a common package footprint to further simplify design.

The MGA-43128 is offered in a miniature 5.0 x 5.0 x 0.85 mm surface mount, 28-lead QFN package and operates over a temperature range of -40° C to +85° C. The QFN package is lead free and halogen free, and it has a moisture sensitivity rating of MSL-2a to permit a floor-life of four weeks out of the bag.

Additional MGA-43128 Product Features
• High gain of 33.4 dB
• High linearity performance of 29.1 dBm Linear Pout at 2.5% error vector magnitude (EVM)
• High 750 MHz efficiency: 22% PAE at Linear Pout
• Switchable gain: 18 dB attenuation using one single CMOS compatible switch pin
• 3GPP spectral mask complaint at 29 dBm output power
• Power shutdown feature with <50 uA shutdown current
• Built-in output power detector

U.S. Pricing and Availability
The MGA-43128 is priced at $8.03 each in 10,000 piece quantities. Samples and production quantities are available now through the Avago direct sales channel and via worldwide distribution partners. An evaluation board is also available.

Information about Avago is available on the Web at www.avagotech.com [1]

Posted by Janine E. Mooney, Editor

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[1] http://www.avagotech.com