Abstracts

A Novel MMIC PHEMT Low Noise Amplifier for GPS Applications

H. Morkner, M. Frank and R. Kishimura. "A Novel MMIC PHEMT Low Noise Amplifier for GPS Applications." 1992 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 92.1 (1992 [MCS]): 13-16.

A monolithic two stage PHEMT low-noise amplifier has been developed for the GPS and Spread Spectrum Bands (covering 0.5 to 3.0 GHz). This amplifier uses Avantek's advanced pseudomorphic HEMT (PHEMT) devices with sub 0.2-um gate-length and 0.25 dB noise figures in this band. The amplifier is unique in its usage of a source follower second stage, resistive feedback, and on-chip matching. Gain of 15 dB and noise figure of 1.7 dB have been measured. Designed to fit into a plastic 86 or SOT-143 surface mount package, the die is small (0.375 mm sq.), draws low current (<15mA), utilizes low voltage (3.3V), and has no bias choke requirement. This MMIC LNA has the best noise figure-to-gain-to-match-to-DC power performance of any product known, advertised or published.

❑ Return to main document.