Abstracts

High Gain Monolithic P-HEMT W-Band Four-Stage Low Noise Amplifiers

D.-W. Tu, W.P. Berk, S.E. Brown, N.E. Byer, S.W. Duncan, A. Eskandarian, E. Fischer, D.M. Gill, B. Golja, B.C. Kane, S.P. Svensson and S. Weinreb. "High Gain Monolithic P-HEMT W-Band Four-Stage Low Noise Amplifiers." 1994 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 94.1 (1994 [MCS]): 29-32.

Two monolithic W-band four-stage LNA's based on 0.1 µm AlGaAs/InGaAs/GaAs pHEMT technology were developed. One with integral waveguide coupling probes has achieved a noise figure of 4.0 dB with a gain of 30.8 dB at 94 GHz; the other has a gain of 31.7 dB with a noise figure of 5.9 dB at 102 GHz. This is the highest gain yet reported for a single chip W-band amplifier. The chips features CPW circuit elements and compact size for low-cost production, single-polarity bias requirement, and a minimum of DC bonding pads.

❑ Return to main document.