Abstracts

A High-Performance 2-18.5-GHz Distributed Amplifier--Theory and Experiment

T. McKay, J. Eisenberg and R.E. Williams. "A High-Performance 2-18.5-GHz Distributed Amplifier--Theory and Experiment." 1986 Transactions on Microwave Theory and Techniques 34.12 (Dec. 1986 [T-MTT] (1986 Symposium Issue)): 1559-1568.

A high-performance 2-18.5-GHz monolithic GaAs MESFET distributed amplifier has been designed and fabricated. The distributed amplifier is analyzed theoretically using a normalized transmission matrix approach and a closed-form gain equation is presented for the MMIC m-derived drain-line case. Theoretical predictions are compared to measured results and more complicated CAD models. The measured small-signal gain is typically 8.0±0.40 dB from 2-18.5 GHz at standard bias. Typical input return loss is greater than 12 dB, and the output return loss is greater than 15 dB. The saturated output power is in excess of 23 dBm over most of the band, and the noise figure is less than 7.5 dB.

❑ Return to main document.