

Abstracts

The Matched Feedback Amplifier: Ultrawide-Band Microwave Amplification with GaAs MESFET's

K.B. Niclas, W.T. Wilser, R.B. Gold and W.R. Hitchens. "The Matched Feedback Amplifier: Ultrawide-Band Microwave Amplification with GaAs MESFET's." 1980 Transactions on Microwave Theory and Techniques 28.4 (Apr. 1980 [T-MTT]): 285-294.

An ultrawide-band amplifier module has been developed that covers the frequency range from 350 MHz to 14 GHz. A minimum gain of 4 dB was obtained across this 40:1 bandwidth at an output power of 13 dBm. The amplifier makes use of negative and positive feedback and incorporates a GaAs MESFET that was developed with special emphasis on low parasitics. The transistor has the gate dimensions 800 by 1 μ m. The technology and RF performance of the GaAs MESFET are discussed, as are the design considerations and performance of the single-ended feedback amplifier module.

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