Abstracts

A 3.2 GHz, 26 dB Wide-Band Monolithic Matched GaAs MESFET Feedback Amplifier Using Cascodes

W.T. Colleran and A.A. Abidi. "A 3.2 GHz, 26 dB Wide-Band Monolithic Matched GaAs MESFET Feedback Amplifier Using Cascodes." 1988 Transactions on Microwave Theory and Techniques 36.10 (Oct. 1988 [T-MTT]): 1377-1385.

Feedback around cascode stages is demonstrated to be a useful means of making matched direct coupled amplifiers with higher bandwidths than afforded by conventional common source topologies. Design techniques are described for an amplifier which is capable of operation to dc and which exhibits a measured gain of 26 dB, a 3.2 GHz bandwidth, and a 2.5:1 VSWR in a 1 µm GaAs MESFET process. A novel adjustment scheme is introduced whereby the amplifier's frequency response can be modified via a dc bias voltage to ensure stable circuit operation in spite of MESFET modeling inaccuracies and GaAs processing variations.

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