Abstracts

Multi-Octave Performance of Single-Ended Microwave Solid-State Amplifiers

K.B. Niclas. "Multi-Octave Performance of Single-Ended Microwave Solid-State Amplifiers." 1984 Transactions on Microwave Theory and Techniques 32.8 (Aug. 1984 [T-MTT] (Special Issue on Electromagnetic-Wave Interactions with Biological Systems)): 896-908.

The computed performances of multi-stage single-ended GaAs MESFET amplifiers are compared when employing one and the same transistor type. The circuit principles studied are of the reflective match the lossy match, the feedback, the distributed, and the active-match amplifier variety. It was found that the gain characteristics of the single-stage modules using either passive or active matching do not conclusively identify the optimum circuit type in the band of interest (2-18 GHz). For the case of multistage devices, however, the gain and the VSWR performance clearly favor the distributed amplifier principle. In addition to the data reported in the literature, the paper discusses recent experimental results obtained from a 3-17.5-GHz reflective match module, a two-stage 2-18-GHz and a four-stage 0.5-18.5-GHz feedback amplifier, as well as a two-stage 2-20-GHz and a four-stage 2-18-GHz distributed amplifier.

❑ Return to main document.