Abstracts

A Wide-Band UHF Traveling-Wave Variable Reactance Amplifier

R.C. Honey and E.M.T. Jones. "A Wide-Band UHF Traveling-Wave Variable Reactance Amplifier." 1960 Transactions on Microwave Theory and Techniques 8.3 (May 1960 [T-MTT]): 351-361.

The techniques developed for designing periodically loaded traveling-wave parametric amplifiers using variable-reactance diodes are described in detail. An amplifier was built and tested with two different sets of eight diodes. The performance of the amplifier with each set of diodes agrees substantially with the theoretical predictions, the measured noise figures being about 1.2 db higher than the theoretical values in each case. The gain of the second amplifier varied from a minimum of 6.7 db to more than 13 db over the band from 550 to 930 mc, with a measured noise figure of 2.3 db for wide-band noise inputs in the middle of the band, corresponding to about 4.9 db for single-frequency inputs.

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