Abstracts

A New Design Method for Maximum Gain Formulation of a Microwave Amplifier Subject to Noise Figure and Input VSWR

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This paper presents a graphic design method for the low-noise, low input VSWR amplifiers, where all necessary design information is placed in the input impedance plane. As a consequence of the bilinear tranformations involved, all parameters can be represented by circles which centers and radii are in the input impedance plane. For a given set of the noise figure and input VSWR the maximum achievable gain and corresponding terminations can be determined by inspection of the graph. Furthermore not only the analytic expressions make the calculations very fast but the results of changes in the noise figure, input VSWR and gain can be viewed directly.

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