Abstracts

Stability and Gain Prediction of Microwave Tunnel-Diode Reflection Amplifiers

J.W. Bandler. "Stability and Gain Prediction of Microwave Tunnel-Diode Reflection Amplifiers." 1965 Transactions on Microwave Theory and Techniques 13.6 (Nov. 1965 [T-MTT]): 814-819.

The Nyquist approach to stability is used in a form suitable for representation on a chart having conventional Smith chart scales. It is shown how the gain and stability of negative conductance reflection amplifiers of the tunnel-diode type can be simultaneously predicted on this chart. The technique described is particularly useful in the practical design of these amplifiers embedded in networks having complicated functions of frequency, as it involves predominantly graphical computations. A procedure is outlined for constructing immitance curves for the tunnel-diode, viewed either as a series or as a parallel circuit. An example of a 3-Gc/s amplifier operating in a rectangular waveguide is given.

❑ Return to main document.