Standard and Nonstandard W-parameters of Microwave Active Quadripole on a Bipolar Transistor for Devices of Infocommunication Systems

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Abstract

Characteristics of devices of the microwave range can be improved by applying both new elemental base and new circuitry decisions. Perspective direction is applying reactive properties of transistors and transistor structures with negative resistance for constructing information-measuring systems, operational and computing devices of microwave range. In order to substantiate proposed methods experimental research results should be compared using the proposed methods and measuring equipment for W-parameters of real potentially unstable quadripoles. Bipolar transistors having potential instability in a wide frequency range are suggested to be used as such quadripoles. In the paper mathematical models of W-parameters for such structures are developed and their parameters are estimated in frequency range.

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