Abstracts

Characterization of Microwave Variable Capacitance Diodes

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This paper will describe the electrical characterization of microwave variable capacitance diodes. The importance of some of the diode parameters is discussed from the application point of view, and suitable measurement techniques for these parameters are described, together with actual measurement data on some diodes. First, a general four-terminal transformation method is used, and some approximations lead to a fairly easy and accurate method of studying device characteristics. A resonant-cavity method is also considered, and it is explained under what condition it leads to a very simple test of the diode Q. Finally, a method is presented which is based upon modifications of the Weissfloch canonical network. These simplifications can be used to get an easy interpretation of the junction impedance or the diode Q.

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