Abstracts

A Power Reflection Technique for Characterization of High Quality Varactor Diodes (Dec. 1966 [T-MTT])

G.D. Vendelin and S.A. Robinson. "A Power Reflection Technique for Characterization of High Quality Varactor Diodes (Dec. 1966 [T-MTT])." 1966 Transactions on Microwave Theory and Techniques 14.12 (Dec. 1966 [T-MTT]): 603-608.

High quality varactor diodes are currently characterized by either a "relative impedance" or a "transmission" technique. In view of the present limitations of these methods, a third method, a "reflection" technique, has been proposed. This method requires measuring the power reflected from a diode near its series resonant frequency. The diode is located as the termination of a low impedance coaxial line.The primary virtue of the power reflection technique is the possibility of accurate determination of the diode series resistance. Both the reflection method and the transmission method offer the advantage of microwave characterization near the diode series resonant frequency. The power reflection technique is presently limited to diodes that series resonante below 24 GHz. The accuracy of the technique is limited by possible impedance transformations due to the diode mount and diode package.

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