Abstracts

Lossy Model of Diode Packages: An Alternative Method for Exact Evaluation of Active Chip Parameters

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A systematic method of obtaining accurate models of microwave active device packages is reported. Using a set of offset shorts as coaxial line extensions the effect of the lossy elements of the package can be determined with high accuracy. In the next step encapsulated varactor diode chips are investigated. The Q factor of the encapsulated device calculated by applying the model to experimental measurements shows a high degradation depending on the ratio of the package parasitic to the device parameters. Experimental results compared with calculated model show good agreement up to 20 GHz on S4 type packages.

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