Abstracts

High-frequency circuit modeling of large pin count packages

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In this paper, a technique is presented for the high-frequency circuit modeling of coupled conductor structures. The method is, in particular, very useful for the modeling of structures with a varying signal/ground configuration. Structures with a large number of conductors (N+1, N>100) are also easy to model, as the method reduces the modeling of the 2N-port to the modeling of two- and four-port structures. Two- and four-port structures are much easier to model since their equivalent circuit model has fewer parameter values. Examples of multiconductor structures are high-density connectors and large pin count electronic packages. The model accurately simulates the electrical properties, such as reflection and transmission of all conductors, and the backward and forward crosstalk to all other conductors.

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