Abstracts

Time domain characterization of multichip module elements

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The development of multichip modules (MCM) or multichip packages (MCP) is an important step towards the miniaturization of integrated circuits. In this technique two or more chips without housing are mounted on a single substrate and connected by each other, resulting in very small and compact elements. An important role for the quality of this modular concept is the performance of the connecting structures and external devices like DC-blocks or line crossings between the ICs. In this contribution various elements are analysed by the TLM method. A deembedding technique for the S-parameter calculation is presented and windowing functions for the time-domain signals are investigated in order to decrease the computation time. Results are demonstrated for the S-parameters of interdigital capacitors and a balun transformer and compared to measurements.

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