Abstracts

Characterization of a Dual-Plane Microstrip Interconnect with Reduced Pulse Distortion and Crosstalk

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Interconnects with low signal distortion and crosstalk are important for high-density, high-speed integrated circuits. In this paper we describe a dual-plane, multi-conductor interconnect which exhibits superior propagation characteristics over conventional coplanar structures. Distortion and crosstalk of picosecond pulses in a four-line structure are investigated by combining the full-wave spectral domain method with an FFT algorithm. For the special case of four coplanar microstrips, we obtain identical results with those in the literature. Meanwhile, for the newly proposed dual-plane structure, our simulation shows only slight distortion in the signal pulse, and a substantial reduction in crosstalk to the neighboring lines.

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