Abstracts

Coplanar passive elements on Si substrate for frequencies up to 110 GHz

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This paper provides both modeling and design information on coplanar passive elements on a silicon substrate. The influence of substrate resistivity on coplanar waveguide (CPW) loss is discussed, and elements of a cell library for coplanar monolithic microwave integrated circuits (MMIC's) on high-resistivity substrates are presented. The elements include discontinuities, junctions, and spiral inductors. The models are based on field-theoretical simulations and verified by S-parameter measurements up to 110 GHz.

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