Abstracts

Capacitive transmission lines in coplanar waveguide for millimeter-wave integrated circuit design

A. Bessemoulin, L. Verweyen, H. Massler and M. Schlechtweg. "Capacitive transmission lines in coplanar waveguide for millimeter-wave integrated circuit design." 1999 Microwave and Guided Wave Letters 9.11 (Nov. 1999 [MGWL]): 450-452.

For use in millimeter-wave integrated circuits, theoretical and experimental design data for various useful capacitive transmission lines in coplanar waveguide on gallium arsenide are presented. Multifinger and metal-insulator-metal (MIM) lines enabling low characteristic impedance of the order of 10 /spl Omega/ as well as broadband capacitive coupled transmission lines are investigated. Simple design rules and accurate models validated with measurements up to 120 GHz demonstrate that such planar transmission lines can be used in monolithic microwave integrated circuits (MMICs) to extend the impedance range and the design flexibility with respect to the conventional CPW.

❑ Return to main document.