Abstracts

Suppression of the parasitic modes in CPW discontinuities using MCM-D technology-application to a novel 3-dB power splitter

E.A. Soliman, P. Pieters, E. Beyne and G.A.E. Vandenbosch. "Suppression of the parasitic modes in CPW discontinuities using MCM-D technology-application to a novel 3-dB power splitter." 1998 Transactions on Microwave Theory and Techniques 46.12 (Dec. 1998, Part II [T-MTT] (1998 Symposium Issue)): 2426-2430.

In this paper, a new method for the suppression of the parasitic modes in the coplanar waveguide (CPW)-based microwave circuits is presented. The proposed method replaces the costly and mechanically unstable air-bridges, It uses tunnels (bridges) running below (above) the CPW and isolated from it using a thin film layer. This method is convenient for MCM-D technology in which thin films are deposited over the substrate to support the required interconnects. The method is applied to the band reject filter presented in an earlier paper by Rittweger et al. (1991) and compared with the case of air-bridges. The effects of the tunnel parameters on the filter performance are presented and discussed. The new suppression mechanism is also applied on a novel 3-dB power splitter. Experimental and theoretical results of the new power splitter are presented and compared. The agreement between theory and measurements ensures the efficiency of the proposed suppression mechanism.

❑ Return to main document.