Abstracts

MIC Overlay Coupler Design Using Spectral Domain Techniques

D.D. Paolino. "MIC Overlay Coupler Design Using Spectral Domain Techniques." 1978 Transactions on Microwave Theory and Techniques 26.9 (Sep. 1978 [T-MTT]): 646-649.

A quasi-TEM analysis of dielectric overlay microstrip is described for an overlay extending several conductor linewidths beyond the coupled lines. This method permits the analysis of numerous variations of overlay coupler geometries. The relevant spectral domain Green's function is given and used to generate a set of design curves when the overlay is identical in thickness and dielectric constant to the main substrate. A trial 8.34-dB coupler was built. Significant improvement in isolation was noted with the overlay when compared to the equivalently designed uncompensated coupler. The measured values of isolation agree very well with predicted values.

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