Abstracts

A 10-50 GHz Micromachined Directional Coupler

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A 20 dB directional coupler has been designed and fabricated on a thin dielectric membrane using micromachining techniques. Design of the asymmetric tapered coupled line coupler relies on readily available models and ideal transmission line theory. The use of membrane technology results in less than 0.4 dB insertion loss in the coupler from 10 to 50 GHz. In addition, a micromachined packaging technique creates a shielded circuit which is extremely compact and lightweight.

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