

A Microstrip Re-Entrant Mode Quadrature Coupler for Hybrid and Monolithic Circuit Applications

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The re-entrant mode TEM coupling method allows the MMIC design engineer to fabricate low loss couplers on either GaAs or Al/sub 2/O/sub 3/ substrates without the problems encountered in fabricating long fine line structures. In addition, since the odd mode energy is mainly contained in a high dielectric region rather than in air, the even and odd mode velocities are closely matched thus enabling the coupler to exhibit excellent VSWR and differential phase performance.

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