Abstracts

A novel ultrawideband microwave differential phase shifter

F.V. Minnaar, J.C. Coetzee and J. Joubert. "A novel ultrawideband microwave differential phase shifter." 1997 Transactions on Microwave Theory and Techniques 45.8 (Aug. 1997, Part I [T-MTT]): 1249-1252.

Wideband microwave phase shifters are usually constructed using cascaded coupled-fine sections connected together at their far ends. By utilizing the unique frequency-independent quadrature property of symmetric couplers, a new class of phase shifter is proposed. The use of ultrawideband couplers in its realization results in a device which offers greater freedom with respect to bandwidth and ripple. The tendency of symmetrical networks to cancel small errors due to manufacturing tolerances is also exploited in order to improve its high-frequency performance.

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