Abstracts

An Analog X-Band Phase Shifter

O.E. Dawson, A.L. Conti, S.H. Lee, G.F. Shade and L.E. Dickens. "An Analog X-Band Phase Shifter." 1984 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 84.1 (1984 [MCS]): 6-10.

A hybrid-coupled phase shifter has been fabricated monolithically using reverse-biased Schottky varactor diodes to continuously vary phase with an analog control voltage. A phase shift of 105° is obtained at X-Band, and wtth design improvements a phase shift of 180° over the full 8-12.4 GHz is expected. Phase shift variation with power level is reduced by using back-to-back varactors on the direct and coupled ports of the coupler. A six-to-one reduction in size compared to a four-bit switched-line phase shifter (also at X-Band) results from this approach.

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