Abstracts

An Optically Controlled Coplanar Waveguide Phase-Shifter

P. Cheung, D.P. Neikirk and T. Itoh. "An Optically Controlled Coplanar Waveguide Phase-Shifter." 1989 MTT-S International Microwave Symposium Digest 89.1 (1989 Vol. I [MWSYM]): 307-309.

Phase-shift measurements of an optically controlled coplanar waveguide phase shifter are presented. This device is based on the interaction between the guided wave on a coplanar waveguide (CPW) and an optically induced electron-hole plasma in the semiconductor substrate. A prototype device consisting of a CPW on a heterojunction substrate of AlGaAs/GaAs/AlGaAs was fabricated and tested. The measured phase-shift obtained with the total illuminating optical power in the -20 dBm range was as large as 50° for a 1cm long line at 10 GHz.

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