Abstracts

Bias free optical control of microwave circuits and antennas using improved optically variable capacitors

A.S. Nagra, O. Jerphagnon, P. Chavarkar, M. VanBlaricum and R.A. York. "Bias free optical control of microwave circuits and antennas using improved optically variable capacitors." 2000 MTT-S International Microwave Symposium Digest 00.2 (2000 Vol. II [MWSYM]): 687-690.

Monolithic optically variable capacitors (OVC's) consisting of photovoltaic arrays integrated with varactor diodes are used in bias free optical control of microwave circuits and antennas. The improved OVC's presented here required only 450 /spl mu/W of optical power for a 2.2:1 change in capacitance, a threefold reduction in optical power compared to previous results. Using these improved OVC's, bias free optical control of phase shifters and slot antennas has been demonstrated with the lowest reported optical power.

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