# Abstracts

## Analysis of Optically Controlled Microwave/Millimeter Wave Device Structures

*R.N. Simons and K.B. Bhasin. "Analysis of Optically Controlled Microwave/Millimeter Wave Device Structures." 1986 MTT-S International Microwave Symposium Digest 86.1 (1986 [MWSYM]): 551-554.*

The light-induced voltage and the change in the source-to-drain channel current under optical illumination higher than the semiconductor bandgap for GaAs MESFET, InP MESFET, A1/sub 0.3/Ga/sub 0.7/As/GaAs high electron mobility transistor (HEMT) and GaAs permeable base transistor (PBT) were analytically obtained. The GaAs PBT and GaAs MESFET have much higher sensitivity than InP MESFET. The A1/sub 0.3/Ga/sub 0.7/As/GaAs HEMT is observed to have the highest sensitivity. Variation in device parasitic due to optical illumination and its effect on the cutoff frequencies f/sub T/ and f/sub max/ are also investigated.

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