

Abstracts

A Study on the Negative Photoresponse of AlGaAs/GaAs MODFETs

M.A. Romero and P.R. Herczfeld. "A Study on the Negative Photoresponse of AlGaAs/GaAs MODFETs." 1993 MTT-S International Microwave Symposium Digest 93.3 (1993 Vol. III [MWSYM]): 1403-1406.

A model for the mechanism of negative photoresponse, i.e., the decrease of drain current under illumination, in AlGaAs/GaAs MODFETs is presented. Also, a comprehensive experimental study discussing the dependence of this phenomena on gate to source bias voltage and optical power is reported. The negative photoresponse is attributed to trapping of photogenerated carriers in the GaAs buffer layer, causing a change in the potential profile and consequent reduction in the number of carriers in the 2-DEG channel.

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