Abstracts

Transferred Electron Logic Devices (TELDs) for Gigabit Rate Signal Processing (1976 [MWSYM])

L.C. Upadhyayula, R.E. Smith, J.F. Wilhelm, S.T. Jolly and J.P. Paczkowski. "Transferred Electron Logic Devices (TELDs) for Gigabit Rate Signal Processing (1976 [MWSYM])." 1976 MTT-S International Microwave Symposium Digest of Technical Papers 76.1 (1976 [MWSYM]): 164-165.

Planar GaAs transferred-electron logic devices (TELDs) have been fabricated and their performance studied. The devices are evaluated as threshold logic elements. The parameters studied are (1) switching characteristics, (2) shortest pulses that can be processed, and (3) device delay and dissipation. Pulses as small as 80 ps wide can be processed through transferred electron logic gates (TELGs) with device delays of the order of 50 ps and delay dissipation product of 5-10 pJ which makes it suitable for gigabit rate signal processing.

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