Abstracts

High-Frequency Waveform Generation Using Optoelectronic Switching in Silicon

J.M. Proud, Jr. and S.L. Norman. "High-Frequency Waveform Generation Using Optoelectronic Switching in Silicon." 1978 Transactions on Microwave Theory and Techniques 26.3 (Mar. 1978 [T-MTT]): 137-140.

Conversion of dc energy to RF pulses may be accomplished by fast optoelectronic switching in semiconductors. A particular device is described and demonstrated involving the simultaneous activation of an array of silicon switches by a laser pulse. The resultant traveling wave is a short RF pulse burst whose waveshape is determined by the static voltage profile established in the device. The possibility exists for generating megawatt-level pulses at frequencies extending into the higher microwave bands.

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