Abstracts

Monolithic, Photoconductive Ultra-Wideband RF Device

A. Kim, L. Di Domenico, R. Youmans, A. Balekdjian and M. Weiner. "Monolithic, Photoconductive Ultra-Wideband RF Device." 1993 MTT-S International Microwave Symposium Digest 93.3 (1993 Vol. III [MWSYM]): 1221-1224.

A new monolithic, photoconductive ultra-wideband RF radiating device has been successfully demonstrated. The new device integrates the functions of energy storage, switch, and antenna onto a single semi-insulating (SI)-GaAs wafer substrate, so that the electrostatic energy stored in the device directly converts into ultra-wideband RF radiation. Pulse biasing the device to +2kV and -2kV, and subsequently triggering the device resulted in peak power intensities as high as 14.8 watt/cm at a distance of 40 cm.

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