Abstracts

Microwave and MM Wave Photo-Conductive Three-Wave Mixers for Coherent Detection and Dowconversion of Optical Signals

J.K.A. Everard and R. Thomas. "Microwave and MM Wave Photo-Conductive Three-Wave Mixers for Coherent Detection and Dowconversion of Optical Signals." 1990 MTT-S International Microwave Symposium Digest 90.1 (1990 Vol. I [MWSYM]): 237-240.

Results are presented for lnP and GaAs MMIC photo-conductive 3-wave mixers. In these mixers two optical signals offset by 33 GHz are multiplied together with a microwave signal, all within the same device, to produce a low frequency IF signal of a few hundred MHz. The results are compared with the theory in which it is shown that these detectors are capable of operation up to mm wavelengths with 10% bandwidths and ideal sensitivities often better than ideal photo-diodes. These mixers can be used for coherent detection and downconversion of optical signals and as optoelectronic phase detectors.

❑ Return to main document.