Abstracts

Integrated 1.55 /spl mu/m receivers using GaAs MMICs and thin film InP detectors (1998 Vol. I [MWSYM])

Carl Chun, O. Vendier, E. Moon, J. Lakar, Hyeon Cheol Ki, N.M. Jokerst and M. Brooke. "Integrated 1.55 /spl mu/m receivers using GaAs MMICs and thin film InP detectors (1998 Vol. I [MWSYM])." 1998 MTT-S International Microwave Symposium Digest 98.1 (1998 Vol. I [MWSYM]): 47-50.

A GaAs-based amplifier has been designed and integrated with a large area, high efficiency, thin film InP-based metal-semiconductor-metal photodetector. Thin film integration is a hybrid integration scheme that minimizes the parasitics between the InP detector and the GaAs circuit to the order of integrated circuits. The GaAs integrated circuits are fabricated using a commercial TriQuint Semiconductor foundry process, demonstrating the use of standard GaAs-based foundry circuits for long wavelength, highly integrated, high speed, low cost photoreceivers. Utilizing thin film integration to minimize interconnect parasitics, a 1.55 /spl mu/m wavelength receiver has been demonstrated at 1 GB/s, and initial results for a 10 GB/s receiver under fabrication are presented.

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