Abstracts

Reactively Matched Optoelectronic Transceivers on InP Substrate for 6 GHz Operation

S. Maricot, J.P. Vilcot, D. Decoster, J.C. Renaud, D. Rondi, P. Hirtz, R Blondeau and B. de Cremoux. "Reactively Matched Optoelectronic Transceivers on InP Substrate for 6 GHz Operation." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 1067-1070.

We present the monolithic integration of optoelectronic devices with microwave impedance matching networks. Those are a GaInAs photodiode and a GaInAsP Buried Ridge Stripe structure laser emitting at 1.3 µm; both are fabricated on semi-insulating InP substrate. The matching networks, constituted of reactive components, have been designed to match these devices to 50 Omega at 6 GHz with a bandwidth close to 10%. Compared to an unmatched link, an improvement of 12 dB at 6 GHz is theoretically obtained; experimentally, it has been measured to 11.4 dB at 5.6 GHz.

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