Abstracts

Compact 10-Gbit/s Optical Transmitter and Receiver Circuit Packs

Y. Kobayashi, Y. Akatsu, K. Nakagawa, H. Kikuchi and Y. Imai. "Compact 10-Gbit/s Optical Transmitter and Receiver Circuit Packs." 1995 Transactions on Microwave Theory and Techniques 43.8 (Aug. 1995 [T-MTT]): 1916-1922.

Compact wideband 10-Gbit/s optical transmitter and receiver circuit packs are realized using high speed analog and digital GaAs IC's as well as a highly thermally conductive board and appropriately designed small function block modules that employ multichip packaging and resonant cavity mode damping. To achieve a compact receiver, the receiver circuit employs a clamp and peak-detector IC in the high speed analog equalizer amplifier to obtain a constant output direct current level for any mark density imbalance in the number of ones and zeros in the signal and a variable phase-shifter IC in the timing circuit. Realized circuit pack size is 200 x 280 x 15.24 mm and the power consumption of each pack is about 25W.

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