Abstracts

Design and Performance of Clock-Recovery GaAs ICs for High-Speed Optical Communication Systems

Y. Imai, E. Sano, M. Nakamura, N. Ishihara, H. Kikuchi and T. Ono. "Design and Performance of Clock-Recovery GaAs ICs for High-Speed Optical Communication Systems." 1993 Transactions on Microwave Theory and Techniques 41.5 (May 1993 [T-MTT]): 745-751.

Design and performance of clock-recovery GaAs ICs are presented. Four kinds of ICs were developed: a limiting amplifier, a tuning amplifier, a rectifier, and a differentiator. The cascaded limiting amplifier together with a tuning amplifier achieved a 58-dB gain and a 10-degree phase deviation with 20dB input dynamic range at 10 GHz. A clock-recovery circuit successfully extracts a low-jitter 11-GHz clock signal of 1-dBm constant power from 10-Gb/s NRZ pseudorandom bit streams using a pulse pattern generator.

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