Abstracts

40 GHz-narrow band photoreceiver for clock recovery in 40 Gbit/s optical transmission systems

A. Miras, E. Legros, S. Vuye, G. Wanlin and L. Giraudet. "40 GHz-narrow band photoreceiver for clock recovery in 40 Gbit/s optical transmission systems." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1709-1712.

Tunable microwave narrow band amplifiers have been realized on a 38-45 GHz band, for clock recovery in 40 Gbit/s optical transmission systems. These amplifiers are also useful for radio applications on the fiber, by adjusting the center frequency on the 38-42.5 GHz band allocated for communication networks in Europe. Based on a fully stabilised GaAs PHEMT 0.2 /spl mu/m gate length technology, the amplifiers are designed to match the impedance of a side illuminated AlGaInAs/InP PIN photodiode at their input, and 50 /spl Omega/ at their output. The center frequency is tunable by 2 GHz steps, the bandwidth is typically 3 GHz and the maximum gain is 29 dB on a 50 /spl Omega/ load. A photoreceiver module has been assembled by cascading such amplifiers tuned for 39.8 GHz. The photoreceiver transimpedance is 78.5 dB/spl Omega/, and the average equivalent input noise is 37 pA//spl radic/Hz.

❑ Return to main document.