Abstracts

A GaAs MHEMT distributed amplifier with 300-GHz gain-bandwidth product for 40-Gb/s optical applications

M.S. Heins, C.F. Campbell, M.-Y. Kao, M.E. Muir and J.M. Carroll. "A GaAs MHEMT distributed amplifier with 300-GHz gain-bandwidth product for 40-Gb/s optical applications." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1061-1064 vol.2.

A distributed amplifier with greater than 13.4 dB gain and 65 GHz bandwidth has been demonstrated using 0.15 /spl mu/m metamorphic GaAs HEMT technology. The amplifier has an average noise figure of 3.1 dB from 2-40 GHz and an output 1-dB compression point of 11 dBm at 22 GHz. The group delay variation from 1 to 40 GHz is /spl plusmn/7.5 ps. The amplifier may be biased with a single supply voltage, and consumes only 105 mW. With these characteristics, the amplifier is ideally suited for 40-Gb/s optical networks.

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