Abstracts

40 Gb/s 4:1 multiplexer and 1:4 demultiplexer IC module using SiGe HBTs

T. Masuda, K. Ohhata, N. Shiramizu, E. Ohue, K. Oda, R. Hayami, H. Shimamoto, M. Kondo, T. Harada and K. Washio. "40 Gb/s 4:1 multiplexer and 1:4 demultiplexer IC module using SiGe HBTs." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 1697-1700 vol.3.

A 4:1 multiplexer and a 1:4 demultiplexer IC module were developed by using 0.2 /spl mu/m self-aligned selective-epitaxial-growth SiGe HBTs. For the data retiming, the multiplexer and the demultiplexer include a frequency divider that operates at over 40 GHz. 50-Gb/s operation for the multiplexer and 48-Gb/s operation for the demultiplexer were observed by measurements using on-wafer probes. We concluded that these modules, which mounted the IC on a ceramic substrate with a brass block, are applicable to transmitter and receiver functions of a 40-Gb/s optical transmission system.

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