Abstracts

A Comparison of Noise Performance Between a PIN Diode and MMIC HEMT and HBT Optical Receivers

H. Ogawa, S. Banba, E. Suematsu, H. Kamitsuna and D. Polifko. "A Comparison of Noise Performance Between a PIN Diode and MMIC HEMT and HBT Optical Receivers." 1993 MTT-S International Microwave Symposium Digest 93.1 (1993 Vol. I [MWSYM]): 225-228.

The noise performance of MMIC HEMTs and HBTs are experimentally compared with conventional PIN photodiodes. HEMT and HBT are fabricated using a conventional MMIC process. These devices are characterized using a modified electrooptic on-wafer probe station and a LiNbO3 optical external modulator. The attained signal-to-noise ratio of HEMT, HBT and PIN detectors at a signal frequency of 1GHz, an optical carrier of 0.83µm and a frequency bandwidth of 1MHz are 52.3dB, 55.9dB and 54.1dB, respectively.

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