Abstracts

Compact differential InP-based HBT VCO's with a wide tuning range at W-band

Y. Baeyens, R. Pullella, C. Dorschky, J.-P. Mattia, R. Kopf, H.-S. Tsai, G. Georgiou, R. Hamm, Y.C. Wang, Q. Lee and Y.-K. Chen. "Compact differential InP-based HBT VCO's with a wide tuning range at W-band." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 349-352.

Compact monolithic integrated differential VCO's operating in W-band were realized using InP-based HBT's. The oscillators, with a total chip size of 0.6 mm by 0.35 mm, are based on a balanced Colpitts-type topology with a coplanar transmission line resonator. By varying the voltage across the base-collector junction of the HBT in the current mirror and by changing the current in the VCO, the oscillation frequency can be tuned between 84 and 106 GHz. At 100 GHz, a differential voltage swing of 400 mV is obtained, which should be sufficient to drive 100 Gb/s digital logic.

❑ Return to main document.