Abstracts

10 and 26 GHz Differential VCOs Using InP HBTs

R.K. Montgomery, D.A. Humphrey, R. Hamm, F. Ren, R.J. Malik, R.F. Kopf, A. Tate, P.R. Smith, R.W. Ryan, J. Lin and Y.K. Chen. "10 and 26 GHz Differential VCOs Using InP HBTs." 1996 MTT-S International Microwave Symposium Digest 96.3 (1996 Vol. III [MWSYM]): 1507-1510.

We have built 10 and 26 GHz differential VCOs using InP HBTs. Both oscillators use a 3 stage emitter coupled pair ring section. The 10 GHz VCO is connected in the well known fashion but the 26 GHz circuit uses a patented summed output from each of the three ECP (Emitter Coupled Pair) stages. The circuits are powered from a single 5V supply consuming 250 mW. The chip size is 870X975 μm^2. The phase noise at a 100 kHz offset for the 10 and 26 GHz oscillators is -83 dBc/Hz and -70 dBc/Hz respectively.

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