Abstracts

Transparent Emitter Contact HBT's for Direct Optical Injection Locking of Oscillators

M. Karakucuk, W. Li, P. Freeman, J. East, G.I. Haddad and P. Bhattacharya. "Transparent Emitter Contact HBT's for Direct Optical Injection Locking of Oscillators." 1994 MTT-S International Microwave Symposium Digest 94.3 (1994 Vol. III [MWSYM]): 1391-1394.

Direct optical injection locking and tuning of high frequency oscillators made with GaAs/AIGaAs Heterojunction Bipolar Transistors (HBT's) have been investigated. A new HBT technology using transparent Indium-Tin-Oxide (ITO) emitter contacts for convenient optical access has been developed. Optical injection locking and tuning experiments have been performed on 6 GHz HBT oscillators. A locking range up to 2.5 MHz and a tuning range up to 25 MHz have been measured with the injection of optical RF power at 30 dB below the oscillator power level.

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