Abstracts

K/sub u/- and K-Band GaAs MMIC Varactor-Tuned FET Oscillators Using MEV Ion-Implanted Burried-Layer Back Contacts (1990 Vol. I [MWSYM])

P.J. McNally, T. Smith, F.R. Phelleps, K.M. Hogan, B. Smith and H. Deitrich. "K/sub u/- and K-Band GaAs MMIC Varactor-Tuned FET Oscillators Using MEV Ion-Implanted Burried-Layer Back Contacts (1990 Vol. I [MWSYM])." 1990 MTT-S International Microwave Symposium Digest 90.1 (1990 Vol. I [MWSYM]): 189-192.

An all ion-implant, planar process has been used to fabricate high-Q, hyper-abrupt carrier profile, varactor diodes as components of GaAs MMIC VCOs with state-of-the-art performance. These GaAs varactor-tuned FET oscillators operate up to 24 GHz with a tuning bandwidth of 5 GHz in K-band. The high-Q varactors feature a buried N/sup +/ layer created by ion-implantation at up to 6 MEV. Separately masked implanted N/sup +/ areas connect the buried layer to ohmic contacts at the surface. Varactor f/sub c/ of 1600 GHz was obtained at 0.09 pF.

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