Abstracts

Uniplanar MMIC's and Their Applications (Dec. 1988 [T-MTT])

M. Muraguchi, T. Hirota, A. Minakawa, K. Ohwada and T. Sugeta. "Uniplanar MMIC's and Their Applications (Dec. 1988 [T-MTT])." 1988 Transactions on Microwave Theory and Techniques 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1896-1901.

A new "Uniplanar" MMIC configuration is proposed. The uniplanar MMIC consists of coplanar waveguides, slotlines, air bridges, and lumped circuit elements (GaAs FET's, capacitors, inductors, resistors, etc.), which are integrated on a single side of the GaAs substrate. The uniplanar MMIC has no via holes and no thin polished substrates. As an application of the uniplanar MMIC configuration, key monolithic circuits for a 26 GHz full MMIC receiver are designed and fabricated. The developed uniplanar MMIC's, i.e., a 26 GHz low-noise amplifier, a 26 GHz medium-power amplifier, a 6.5 GHz dual-output voltage-controlled oscillator, 6.5/13 GHz and 13/26 GHz fre-quency doublers, and a 26 GHz/ 1 GHz FET mixer, provide improved RF performance with a simplified fabrication process.

❑ Return to main document.