Abstracts

GaAs Ultra-High-Frequency Dividers with Advanced SAINT FET's (Dec. 1986 [T-MTT])

K. Osafune, T. Enoki, K. Yamasaki and K. Ohwada. "GaAs Ultra-High-Frequency Dividers with Advanced SAINT FET's (Dec. 1986 [T-MTT])." 1986 Transactions on Microwave Theory and Techniques 34.12 (Dec. 1986 [T-MTT] (1986 Symposium Issue)): 1528-1532.

The circuit design, fabrication, and performance of ultra-high-frequency dividers with buffer FET logic (BFL) circuits are described. Using air-bridge technology and a new, self-aligned-gate, GaAs FET process, called advanced SAINT, which avoids excess gate metal overlap on the dielectric film, 10.6-GHz operation at 258 mW is achieved. This performance is made possible by a reduction of gate and interconnection parasitic capacitance. Furthermore, the possibility of operation above 20 GHz for GaAs MESFET frequency dividers is predicted on the basis of circuit optimization and FET improvements including parasitic capacitance reduction and transconductance enhancement.

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