Abstracts

New Approach to GaAs MESFET Analog Frequency Dividers with Low Threshold Input Power and High Conversion Gain (Dec. 1992 [T-MTT])

H. Amine, O. Llopis, M. Gayral, J. Graffeuil and J.F. Sautereau. "New Approach to GaAs MESFET Analog Frequency Dividers with Low Threshold Input Power and High Conversion Gain (Dec. 1992 [T-MTT])." 1992 Transactions on Microwave Theory and Techniques 40.12 (Dec. 1992 [T-MTT] (1992 Symposium Issue)): 2345-2351.

A new approach to frequency dividers is proposed based on the nonlinear feedback control of MESFET in the forced oscillation mode. The input signal is used to control the MESFET gain, imposing oscillation conditions. A design of frequency dividers based on this approach is proposed and allows the threshold input power to be reduced and the conversion gain to be increased. Frequency division is tested using time domain simulation, and then an X-band experimental MESFET analog frequency divider is achieved and exhibits a high conversion gain and a low threshold input power.

❑ Return to main document.