Abstracts

S-Band Integrated Parametric Amplifier Having both Flat-Gain and Linear Phase Response (Correspondence)

H.C. Okean and H. Weingart. "S-Band Integrated Parametric Amplifier Having both Flat-Gain and Linear Phase Response (Correspondence)." 1968 Transactions on Microwave Theory and Techniques 16.12 (Dec. 1968 [T-MTT]): 1057-1059.

This correspondence describes the design of a simple integrated S-band parametric amplifier that combines very low-noise performance at room temperature with the realization of very broad-band flat-gain and linear phase response. This amplifier therefore satisfies a need for broad-band, low-noise microwave preamplification in high-resolution radar receivers and high-quality microwave communication systems. Previously, the achievement of such a high level of parametric amplifier performance generally required the use of the ultimate in high-quality varactors and of intricate and expensive varactor mounting structures, even when the remainder of the amplifier components were integrated. In this design, the integration of virtually all of the essential amplifier components with respect to design and fabrication, utilizing printed circuit techniques and eliminating all intercomponent connectors and superfluous transmission lines, make the realization of such precise amplifier performance possible in a potentially low-cost mass-reproducible structure, using only moderately high-quality varactors.

❑ Return to main document.