Abstracts

MMIC development for millimeter-wave space application

T. Takagi, K. Yamauchi, Y. Itoh, S. Urasaki, M. Komaru, Y. Mitsui, H. Nakaguro and Y. Kazekami. "MMIC development for millimeter-wave space application." 2001 Transactions on Microwave Theory and Techniques 49.11 (Nov. 2001 [T-MTT] (Special Issue on the 2000 Asia-Pacific Microwave Conference)): 2073-2079.

The latest millimeter-wave monolithic-microwave integrated-circuit (MMIC) developments and technologies at the Mitsubishi Electric Corporation, Kanagawa, Japan, concerning high power amplifiers, low-noise amplifiers and phase shifters have been summarized. It has been shown that high-efficiency, low-noise, and low-loss performance for millimeter-wave space applications can be achieved by employing pseudomorphic high electron-mobility transistor (p-HEMT) MMIC technology. The investigation for gamma-ray irradiation hardness has cleared that millimeter wave p-HEMT MMICs have over a 100 years of life against gamma-ray irradiation in the space environment.

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