Abstracts

Suppression of multi-path couplings in MCM with a flip-chipped SiGe-MMIC

T. Nishino, K. Maeda, M. Shimozawa, T. Ikushima, K. Sadahiro, T. Katsura, N. Suematsu, K. Itoh, H. Oohashi, T. Takagi and O. Ishida. "Suppression of multi-path couplings in MCM with a flip-chipped SiGe-MMIC." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1385-1388 vol.3.

Techniques to obtain a high isolation property in a multi-chip module (MCM) between pads of a SiGe-MMIC flip-chipped on a low temperature co-fired ceramic (LTCC) are discussed. In such an MCM, there are two coupling paths. One is a path through the LTCC and the other is a path through the MMIC. To improve the total isolation property, structures to reduce the two coupling paths are required because the paths of such leakage are not in series but in parallel. We examined the disposition of several kinds of ground patterns on the LTCC. Also, we devised a metal plate on a bias circuit as a shielding structure on the SiGe-MMIC. The effectiveness of the isolating structures was verified by measuring IIP2 in a receiver MCM with a direct conversion SiGe-MMIC. The IIP2 property has been improved successfully as well as the isolation property.

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