# Abstracts

## Design techniques of reducing chip area and highly integrated MMIC for W-band application

*Y. Mimino, K. Nakamura, K. Sakamoto, Y. Aoki, S. Kuroda and T. Tokumitsu. "Design techniques of reducing chip area and highly integrated MMIC for W-band application." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 2167-2170 vol.3.*

In this paper, several novel techniques for minimizing chip area are presented. In order to demonstrate these features, we have developed a three stage W-band amplifier. This MMIC exhibits more than 15 dB gain from 75 GHz to 90 GHz, and size of this MMIC is less than 0.5 mm/sup 2/. We have also designed and fabricated a single chip 77 GHz T/R MMIC for automotive radar. This MMIC includes 25 active circuits in one chip, and size of this MMIC is less than 8.5 mm/sup 2/.

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