Abstracts

X-band Si bipolar transistor single-chip transceiver using three-dimensional MMIC technology (1998 Vol. I [MWSYM])

I. Toyoda, K. Nishikawa, K. Kamogawa, C. Yamaguchi, M. Hirano, K. Onodera and T. Tokumitsu. "X-band Si bipolar transistor single-chip transceiver using three-dimensional MMIC technology (1998 Vol. I [MWSYM])." 1998 MTT-S International Microwave Symposium Digest 98.1 (1998 Vol. I [MWSYM]): 337-340.

The three-dimensional (3-D) MMIC technology significantly improves the operating frequency of Si MMICs and offers highly integrated masterslice MMICs. This paper introduces a newly developed X-band Si bipolar transistor transceiver MMIC which integrates 13 function blocks on a 2.3/spl times/2.3 mm chip; it offers 20 dB receiver gain and 13 dB transmitter gain. Its design uses a novel function-block-library concept based on the 3-D masterslice MMIC technology.

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