Abstracts

Full Monolithic Sampling Head IC

A. Miura, S. Kobayashi, T. Yakihara, S. Uchida, H. Kamada and S. Oka. "Full Monolithic Sampling Head IC." 1990 MTT-S International Microwave Symposium Digest 90.2 (1990 Vol. II [MWSYM]): 845-848.

In this paper we describe a full monolithic sampling head IC with a bandwidth of up to 26GHz. It consists of Resonant Tunneling Diodes [RTDs] for a sampling pulse generator and Schottky barrier diodes for a sampling bridge. The RTD is made using an InGaAs/AIAs pseudomorphic superlattice system. For this type RTD, we obtained a peak to valley ratio of 9 at 202°C with switching voltages up to 1.5Voltp-p. The Schottky barrier diode is made from an (InGaAs)/sub 0.5/(InAlAs)/sub 0.5/ mixing crystal. The RTD and Schottky barrier diodes are monolithically constructed on a Fe-doped InP substrate.

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