# Abstracts

## MOTT SiGe SIMMWICs

*K.M. Strohm, J.-F. Luy, T. Hackbarth and S. Kosslowski. "MOTT SiGe SIMMWICs." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1691-1694.*

Mixer diodes in SIMMWIC (silicon millimeter wave integrated circuit) technology with barrier height reducing n/sup +/ cap layers and SiGe top layers are investigated. The standard Mott diode with Ti-metallization has a barrier height of 0.5 V. By introducing an n/sup +/ cap layer of 10 nm thickness and a doping concentration of 2*10/sup 18/ cm/sup -3/ a barrier height reduction of 0.08 V is achieved, while a 8 nm thick SiGe layer with 30% Ge increases the barrier height about 0.06 V. Conversion loss of 6.5 dB is measured in single ended mixers with an LO power of 10 dBm. The 1/f noise corner frequency is at 3 kHz for diode currents of 1 mA.

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