

“110-GHz high-gain flip-chip InP HEMT amplifier with resin encapsulation on an organic substrate”, pp.73-77

Satoshi Masuda, Hidehiko Kira, Tatsuya Hirose

Abstract – A high-gain amplifier monolithic microwave integrated circuit (MMIC) was developed using InP HEMT technology with inverted microstrip lines. The six-stage amplifier demonstrated a gain of 30 dB at 110 GHz. We also fabricated a resin-sealed flip-chip MMIC on a highly isolated cost-effective glass-epoxy substrate, achieving a gain of 28 dB at 110 GHz. To the best of our knowledge, this is the highest gain in the W-band for a flip-chip MMIC sealed with resin.