Abstracts

A low noise NMOSFET with overlaid metal gate

C.-C. Hsiao, M.-S. Chen and Y.-C. Chiang. "A low noise NMOSFET with overlaid metal gate." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1711-1714.

A new MOSFET device structure which adopts a overlaid-metal over poly-Si gate is proposed for using in RF low-noise amplification. Measurement result shows the minimum noise figure as well as the noise resistance of overlaid-metal gate MOSFET (OMGMOS) are smaller than conventional MOSFET. The equivalent circuit model of this OMGMOS device is generated and compared to that of the conventional MOSFET with same physical geometry. It shows the better noise characteristic of OMGMOS is mainly due to the decrease of the gate resistance.

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