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Abstract:

The significance of device performance of Gallium Nitride based double gate metal-oxide- semiconductor field-effect-transistor has been executed. The simulations were done by Silvaco Atlas simulation software with focusing on non-equilibrium green function (NEGF). Multiple gate length (LG=9.1 nm) was observed to distinguish the transfer characteristics curve. The other concentration was observed for device ON-State Current (ION), OFF-State Current (IOFF), Drain Induced Barrier Lowering (DIBL), Sub Threshold Slope (SS) and Electric Field (EF).

Keywords: Transfer characteristics curve, Double gate MOSFETs, ION, DIBL, SS