

**SUBTHRESHOLD MODEL FOR DUAL MATERIAL SURROUNDING GATE
JUNCTIONLESS TUNNEL FET (DMSG-JTFET)**

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\ An analytical model for Dual Material Surrounding Gate Junctionless Tunnel FET is developed. To analyse the behaviour of short channel device, relevant parameters such as surface potential, electrical field, threshold voltage, drain current transconductance-to-drain ratio a subthreshold slope and subthreshold swing are extracted from 2-D analytical solution of Poisson's equation. The result will show momentous reduction of short channel effect at drain end when compared to Junctionless MOSFETs.the effectiveness of proposed analytical model due to combined supremacy of uniform doping, usage of High K gate dielectric material and work function engineering in the gate metal .

