

Poster Presentation

[AMDp1]Oxide TFTs

Thu. Nov 28, 2019 10:40 AM - 1:10 PM Main Hall (1F)

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[AMDp1-1]Improvement in carrier mobility of ZnON transistor by tantalum encapsulation

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Keywords:Thin-film transistors, Zinc Oxynitride, Tantalum oxide, Encapsulation, Metal-oxynitride semiconductors

The TaOx/ZnON thin-film stack showed a more uniform distribution of nanocrystalline ZnON with an increased stoichiometric anion lattice compared to control ZnON thin-films. Significantly, improved mobility of 89.4 cm²/Vs were achieved for TaOx/ZnON TFTs. This improvement can be explained by the removal and passivation effect of TaOx film on ZnON.