
Poster Presentation

[AMDp1]Oxide TFTs

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

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[AMDp1-4]Stable and High-mobility Oxide TFTs using Low-temperature Processed ZTO/IZO Stacked Channels

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Keywords:Low-temperature, high-mobility, UV anneal, stacked channel, TFT

We fabricated Zn-Sn-O (ZTO)-based oxide and In-Zn-O (IZO) stacked channel thin-film transistors (TFTs) by experimentally using ultraviolet (UV) annealing for activation. The field-effect mobility was about $30 \text{ cm}^2/\text{Vs}$, and the threshold voltage (V_{th}) was -3.5 V at the UV annealing temperature of 200°C . These TFTs improved the reliability of the negative gate bias illumination stress (NBIS) test more than the In-Ga-Zn-O (IGZO) TFTs did. The ZTO/IZO stacked channel TFTs are promising candidates for next-generation flexible devices.