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## Environmental reliability study of solution processed oxide transistor

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**A** morphous Indium-Zinc-Oxide Thin Film Transistors (a-IZO TFTs) have attracted considerable attention because they exhibit excellent electrical properties, such as high field-effect mobility and a large on-current along with a small leakage current. Its low sub-threshold swing enables fast on/off switching. The uniformity of a-IZO TFTs is also good. TFT-LCDs and AMOLEDs employing a-IZO TFTs suggest that an oxide semiconductor is a good candidate for switching devices in displays. However, the oxide semiconductor TFTs is very sensitive to environments such as moisture and oxygen. It has been reported that the gaseous molecules are strongly associated with characteristics of oxide semiconductor. It is necessary that the oxide semiconductor should be passivated with a dense passivation material. In this presentation, we investigated the effects of polymethyl methacrylate (PMMA) grown by sol-gel process, as a protection layer of an oxide semiconductor against environments such as moisture and oxygen induced damages. Accordingly, we expect that the PMMA passivation can be a promising protection layer to suppress the environments such as moisture and oxygen damages to the oxide semiconductor.

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