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A high performance MIM LCDs for AM-LCDs

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The origin of image-sticking in metal-insulator-metal type thin-film-diode(TFD) LCDs is the asymmetric current-voltage(I-V) characteristic of TFD element. We developed that MIM-LCDs have reduced-image-sticking and perfect symmetry characteristic. One-Time-Post-Annealing(OPTA) heat treatment process was introduced to reduce the asymmetry and the shift of the I-V characteristics, respectively. OPTA means that the whole layers of lower metal, insulator, and upper metal are annealed at one time. The treatment temperatures and fabricated process of TFD element were under 200°C. Also, this low temperature fabrication process allows the application of plastic substrates.

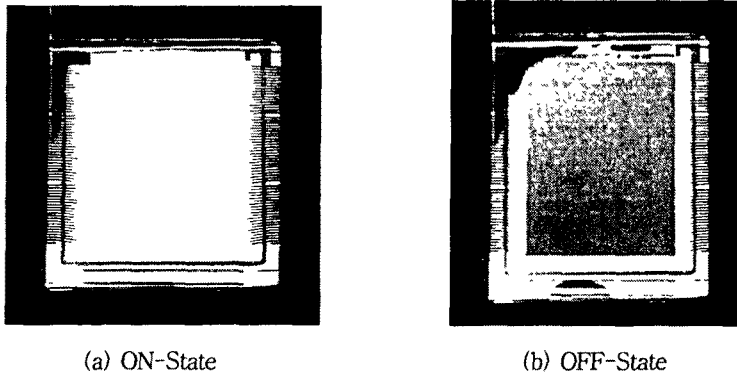


Fig. 1. Operation of 2-inch MIM-LCDs developed with OPTA process

[References]

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