Chapter 4

Conclusions

This thesis proposes the techniques to reduce the non-uniform brightness of display images caused by the variation of poly-Si TFTs. Two different circuits are proposed in this thesis. (1) A new source-follower-type analogue buffer with an active load is proposed to eliminate the output unsaturated phenomenon and the output variation from poly-Si device characteristics, and meanwhile, increase the driving capability of a source-follower structure. The output target voltage is settled perfectly with a short charging time, so the proposed circuit is suitable for large-sized and high-resolution displays. Furthermore, the deviation is less dependent on the input voltage, reflecting the good compensation of the proposed circuit. (2) A new voltage driving pixel circuit for the AMOLED is developed to improve the non-uniform brightness of display images. The simulation results indicate that these proposed circuits successfully compensate for the variation of poly-Si TFTs