



## Low Temperature Polycrystalline Silicon Integrated Analogue and Digital Display Drivers

By Fabio Pieralisi

Shaker Verlag Dez 2012, 2012. Buch. Book Condition: Neu. 208x148x12 mm. Neuware - The active-matrix OLED (AMOLED) technology has emerged as the most promising candidate for the next generation of largearea highresolution flat panel displays. And, to date, excimerlaserannealed low temperature polysilicon (LTPS) is the primary thin film transistor (TFT) technology for the realization of AMOLED display backplanes. Still, for LTPS TFT AMOLED displays to establish themselves against the ubiquitous liquid crystal displays, superior image quality and affordable costs must be achieved. The picture requirements demanded by high-quality display applications can be achieved by overcoming the spatial nonuniformities of LTPS TFT electrical characteristics, which affect the uniformity of OLED driving currents on the backplane. Fabrication costs can be greatly reduced through the monolithic integration of row and column drivers on the backplane, allowing to spare the peripheral chips and leading to higher production yields. Further manufacturing cost reductions can be achieved by employing singlechannel (either NMOS or PMOS) LTPS TFT processes, which require a reduced number of fabrication process steps compared to the complementary (CMOS) approach. In the present work advanced single-channel LTPS TFT devices and electronic circuits for the realization of high-performance AMOLED backplanes and integrated digital and analogue...



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