

Recent Progress in the Development of Printed Thin-Film Transistors and Circuits with High-Resolution Printing Technology

Datenbank

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Freie Begriffe

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Abstract

Printed electronics enable the fabrication of large-scale, low-cost electronic devices and systems, and thus offer significant possibilities in terms of developing new electronics/optics applications in various fields. Almost all electronic applications require information processing using logic circuits. Hence, realizing the high-speed operation of logic circuits is also important for printed devices. This report summarizes recent progress in the development of printed thin-film transistors (TFTs) and integrated circuits in terms of materials, printing technologies, and applications. The first part of this report gives an overview of the development of functional inks such as semiconductors, electrodes, and dielectrics. The second part discusses high-resolution printing technologies and strategies to enable high-resolution patterning. The main focus of this report is on obtaining printed electrodes with high-resolution patterning and the electrical performance of printed TFTs using such printed electrodes. In the final part, some applications of printed electronics are introduced to exemplify their potential.

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