

### Active-Matrix Organic Light-Emitting-Display using a-Si TFT or Organic TFT

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Many researchers working on organic devices are planning on using them for display applications. One of the major reasons is because the technology of organic devices has tremendous potential for large area substrate and low-cost display fabrication. However, if the marketplace for flat panel displays were not as large as it is, many researchers would not have had the opportunity to work on that field since the funds provided to organic devices can not be collected back until the technology can successfully be applied to flat panel displays. Recently, active-matrix organic light-emitting-display (AM-OLED) has received much attention because of its attractive features such as a thin thickness, a wide viewing angle, and high contrast in the dark. However, since the target applications are completely overlapping to that of existing LCD technology, a major price reduction is necessary to surpass LCD in the marketplace. In order to achieve this, a-Si TFT backplane technology is more attractive than that of low temperature poly-silicon (LTPS) technology. We will show an example of how to apply an a-Si TFT backplane to an AM-OLED and discuss the issues when an OTFT backplane is applied to an AM-OLED.