Low-Cost Inkjet Printable Flexible Display Driver Electronics

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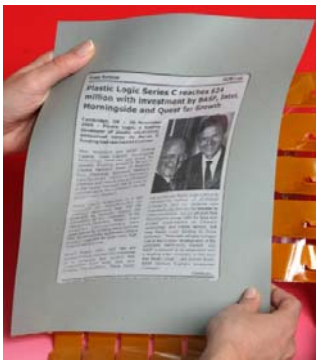
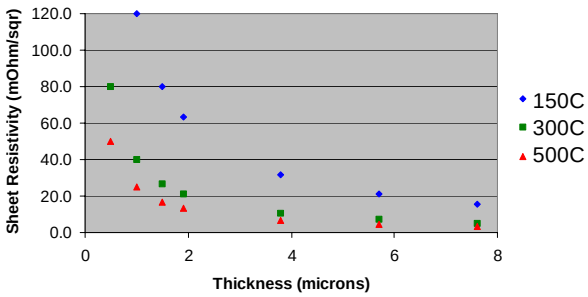
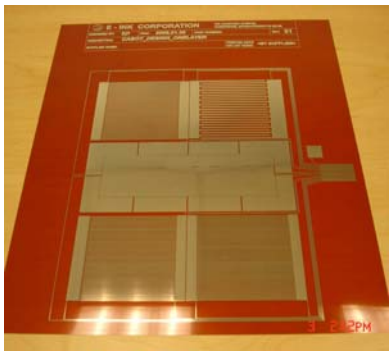
Inkjet printing displays has benefits resulting in a lower cost of ownership process. This process allows for the low-cost manufacture of cost-sensitive backplane driver electronics for flexible displays.



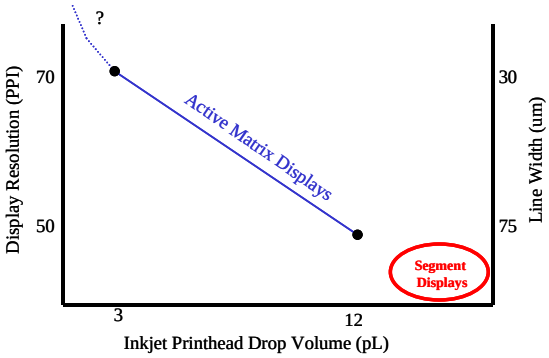
Cabot has developed inkjet electronic materials, namely an inkjet printable silver conductor. This material has excellent inkjet print reliability and low sheet resistivity at low temperatures, making it suitable for use on flexible polymeric display backplane media as shown below.



Inkjet printing has been shown to produce workable low-resolution active matrix displays with resolutions greater than 100PPI and flexible segment displays.



In principle, inkjet printing of flexible display backplanes is limited mainly by native inkjet printhead resolution, or droplet volume, as described below.



As future inkjet technology results in finer nozzle printheads with smaller drop volumes and related resolution control technologies, higher resolution active matrix flexible display backplanes can be produced.