

Introduction of Printable Flexible Electronics

DKN Research

Printable Flexible Electronics

Developed by DKN Research and NY Industry the Advanced Screen-Printing Technology offers more functionality at a lower price than the flexible circuits made by traditional subtractive processes. This innovative printing process produces not only conductors on substrates but also dielectrics, capacitances, resistors, coils, diodes, transistors and more. Multiple printing passes combined with appropriate via hole technologies are able to produce double and multi-layer circuits. Combing the printing process with the other technologies generates more value.

Advantages of Printable Flexible Electronics

***Simple processing**

--- Reduced manufacturing cost

***Flexible**

--- Complete electronic systems on a flexible substrate

***No wet processing or wet waste**

--- Reduced environmental waste products

--- Friendly to the environment

***Roll to Roll applicable**

--- Low cost for volume applications

Process Comparison

Screen-printing process is much simpler compared to the traditional photolithography and etching.

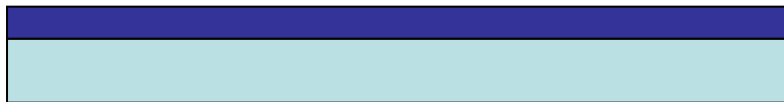
(See the following figures.)

Screen-printing is more adaptive to new functional electronic materials than traditional copper etching process.

Screen-printing process is a Green process friendly to the environment with no wet chemicals or wet waste.

Process Comparison

Photolithography requires numerous steps.



Copper laminate

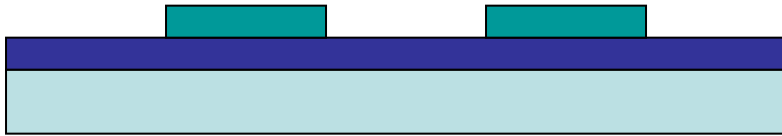


Coat resist



Expose patterns





Develop resist



Etch copper foil



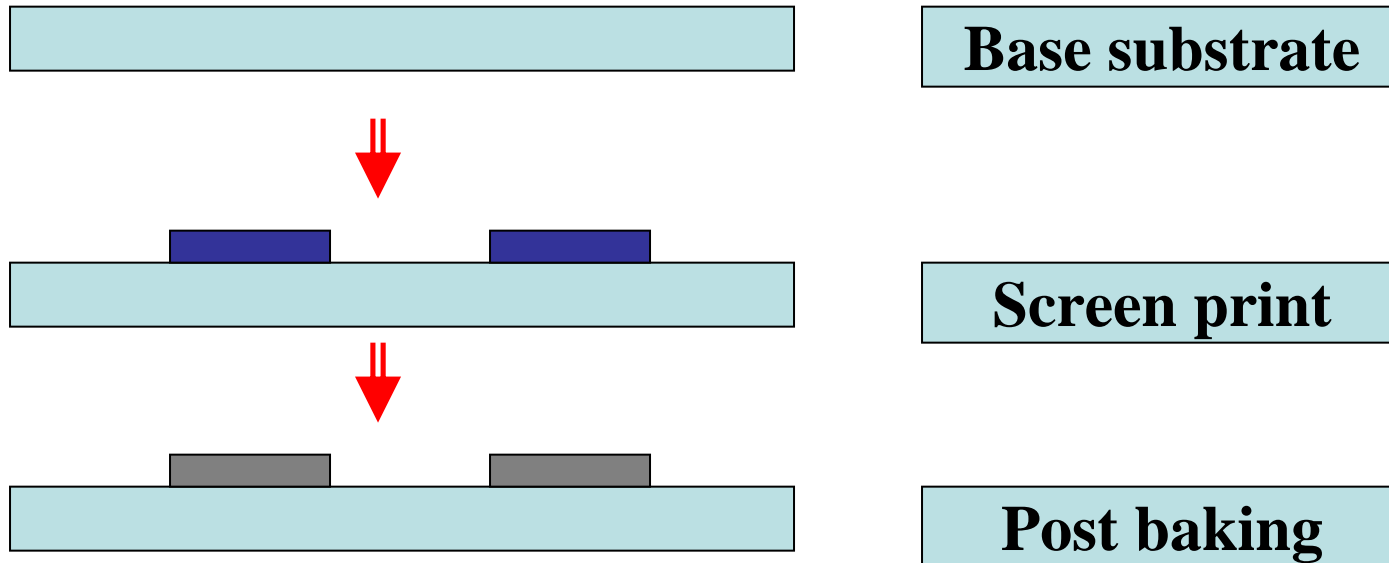
Strip resist



Surface finish

Process Comparison

Screen printing process is very simple



Advanced Screen Printing Provide More Value

Fine lines less than 60 micron pitches

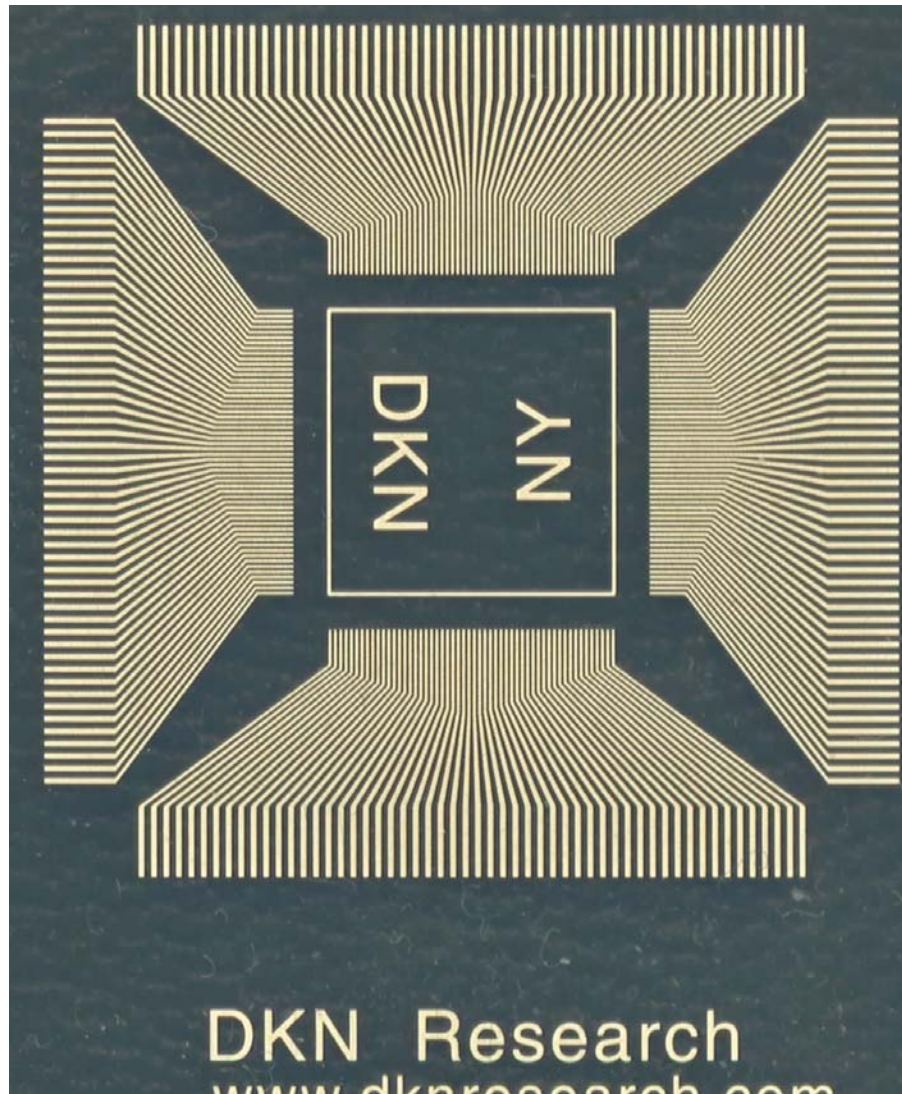
Multiple conductor layers with micro via holes

Low manufacturing cost with RTR

Fine pitch interconnections

Embedded passive and active components

Switches



Example of IC Substrate (150 micron pitch)

Printable Flexible Electronics

Come join the team, we welcome your unique ideas.

DKN Research
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