

잉크젯 인쇄기술을 이용한 인쇄회로기판의 에칭 레지스터 패터닝

서상훈, 이로운, 김용식, 김태구, 박성준, 윤관수, 박재찬, 정경진, 정재우

삼성전기 중앙연구소

Etch resist patterning of printed circuit board by inkjet printing technology

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Abstract : Inkjet printing is a non-contact and direct writing associated with a computer. In the industrial field, there have been many efforts to utilize the inkjet printing as a new way of manufacturing, especially for electronic devices. The etching resist used in this process is an organic polymer which becomes solidified when exposed to ultraviolet lights and has high viscosity of 300 cPs at ambient temperature. A piezoelectric-driven inkjet printhead is used to dispense 20-40 μm diameter droplets onto the copper substrate to prevent subsequent etching. In this study, factors affecting the pattern formation such as printing resolution, jetting property, adhesion strength, etching and strip mechanism, UV pinning energy have been investigated. As a result, microscale Etch resist patterning of printed circuit board with tens of μm high have been fabricated.

Key Words : Inkjet, Printing, Etch resist, Patterning, Printhead