

Thermal imprint를 이용한 고밀도 line패턴 형성방법

이상문, 곽정복, 이환수

삼성전기 중앙연구소

High density line patterns fabricated by thermal imprint

Sangmoon Lee, Jungbok Kwak and Hwan-Soo Lee

Central R&D, Samsung Electro-Mechanics

Abstract : We present details of experimental results in the fabrication of high density line patterns, using imprint technique that can provide a simple and comparatively cost-effective manufacturing means. Barrier array structures for display or interconnects for semiconductor applications were the aims of this study. For pattern fabrication, a polymer layer (Ajinomoto GX-13 dielectric film) with a thickness of 38um that can act as either an insulating or a dielectric layer was laminated on a substrate. Fine tracks were then formed using a patterned stamp under isostatic pressure. The line width was ranged between 10 to 60 mm. A self-assembled monolayer (SAM) of fluorinated alkylchlorosilane [CF₃(CF₂)₅(CH₂)₂SiCl₃] as an anti-sticking layer was coated on the surface of the stamp prior to thermal imprint to improve the de-molding characteristic.

Key Words : BaTiOimprint, SAM