

정렬된 다공질 산화알루미늄을 이용한 새로운 다결정 실리콘 결정화 방법

김종연, 김미정, 김병용, 오병윤, 한진우, 한정민, 서대식
연세대학교

Novel Method of Poly-silicon Crystallization using Ordered Porous Anodic Alumina

Jong-Yeon Kim, Mi-Jung Kim, Byoung-Yong Kim, Byeong-Yun Oh, Jin-Woo Han,
Jeong-Min Han and Dae-Shik Seo
Yonsei Univ.

Abstract : Highly ordered pore structures as a template for formation of seeds have been prepared by the self-organization process of aluminum oxidation. The a-Si films were deposited on the anodic alumina films and crystallized by laser irradiation. It was found that un-melted part of fine poly-Si grain formed by explosive crystallization (EX) lead super lateral growth (SLG) and occluded with neighbor grains. The crystallized grains along the distribution of seeds were obtained. This results show a great potential for use in novel crystallization for decently uniform polycrystalline Si thin film transistors (poly-Si TFTs).

Key Words : anodic alumina, crystallization, poly-silicon, excimer laser