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Characteristic of Lower Hydrogenated Oxide Films Deposited by the Higher Energy Assisting Deposition Systems Using the with Precursor Siloxane Species

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In this paper we studied the application of inter-poly dielectric as silicon dioxide-like film was deposited by the higher energy assisting deposition (HEAD) process the modified CCP process, which enables low temperature (LT) process and improving film density. In these experiments the relative hydrogen concentration of SiO₂-like films deposited on silicon substrate were analyzed by the secondary ion mass spectroscopy (SIMS) and it was shown that our lower hydrogenated oxide (LHO) film prepared by HEAD process with the precursor contained the siloxane species had lower hydrogen concentration, $8 \times 10^{-22} \text{cm}^{-3}$ than that of the commercial undoped silicon glass (USG) film ($1 \times 10^{-21} \text{cm}^{-3}$) prepared by the high density plasma-chemical vapor deposition (HDP-CVD). We consider that the LHO film deposited by HEAD process used as high performance material into Flash memory devices.

Keywords: higher energy assisting deposition, low temperature, lower hydrogenated oxide, secondary ion mass spectroscopy

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대면적 터치스크린용 Index Matching ITO Glass 개발

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한화L&C 음성사업장 TSP소재 P&D

터치패널은 저항막 방식, 정전용량 방식, 적외선방식, Camera방식 등을 사용하고 있으며 현재 널리 상용화 되어 있는 방식은 정전용량 방식이다. 최근 터치스크린의 면적이 점점 커지게 되면서 점차 저저항, 고투과율을 가지는 IM ITO (Index matching ITO)를 요구하고 있다. 본 연구에서는 중대형 사이즈(15inch 이상)의 Cover glass 일체형 터치센서 구현을 위한 저저항(60ohm/sq이하), 고투과(88% 이상)의 IMITO Glass를 제작하여 전기적,광학적 특성을 분석하여 IMITO 성막조건을 최적화시키는 연구를 하였다. 또한 TSP의 Pattern 시인성을 향상시키기 위해 Index matching층을 고굴절재료와 저굴절 재료를 사용한 다층박막을 형성하여 반사율(0.5% 이하)을 최소화시켜 구현하였다.

Keywords: Index matching, TSP, TCO, ITO