〈6-35〉

The Reliable PZT Thin Films with IrO_2/Pt Hybrid Heterostructure Electrode for High Density Nonvolatile Memory Devices

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The purpose of this research is to investigate aspects of device degradations which have been observed in recent experimental results, and to define and suggest various phenomenological explanations and possible solutions. In an approach to address these issues, we have performed an extensive series of experiments on PZT thin films with IrO_2/Pt hybrid electrode. When using such a hybrid electrode system, film properties are influenced by the thickness / partial coverage of the electrode layers. We have therefore optimized the thickness of IrO_2 electrode layer which allows excellent fatigue and minimal leakage current

〈6-36〉

전극과 조성의 변화에 따른 PZT박막의 압전특성 변화

A study on the piezoelectric characteristics of PZT thin films on various bottom electrodes and compositions

변금효,김동국,김일두,김호기

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Pt-Ti기판위에 직접 올린 PZT 박막과 Pt-Ti기판위에 LSCO전극을 입힌 후 그 위에 올린 PZT 박막을 제조하고, 그 전기적 특성, 특히 압전특성을 Pneumatic Loading Method(PLM)으로 측정하였다 또한 MPB근처의 Zirconium과 Titanium의 조성변화에 따른 박막 미세구조의 변화와 전기적 특성에 대하여도 알아 보았다