

비휘발성 메모리를 위한 실리콘 나노 결정립을 가지는 실리콘 질화막의 전하 유지 특성

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Charge retention characteristics of silicon nanocrystals embedded in SiN_x layer for non-volatile memory devices

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We fabricated floating gate non-volatile memory devices with Si nanocrystals embedded in SiN_x layer to achieve higher trap density. The average size of Si nanocrystals embedded in SiN_x layer was ranging from 3 nm to 5 nm. The MOS capacitor and MOSFET devices with Si nanocrystals embedded in SiN_x layer were analyzed the charging effects as a function of Si nanocrystals size.

Key Words : floating gate non-volatile memory, si nanocrystals, SiN_x