Si nano dots growth using pulse-type gas feeding with Si₂H₆ in LPCVD

Chan Park, Soonjae Jung, Kyoungmun Kim, Moonsup Han*, Junghyun Sok, and Kyoungwan Park

Department of Nano Science & Technology, University of Seoul
*Department of Physics, University of Seoul

During the last few years, Si nano dots have been studied as the candidate of nanoscale storage node(1). A lot of people suggested several methods for growing the high density nano-dots(2). But we have controlled the density and size of Si nano dots by using pulse-type gas feeding with Si₂H₆ in LPCVD. Formation of the Si nano dots was reproducible, and we obtained high density (7.5x1011#/cm-2) and small size (5nm) of the nano dots. New process was used in the fabrication of MOS diode containing the storage node of Si nano dots, and the threshold voltage shift of ~5V was measured in C-V plot.

[참고문헌]