Nanocrystal Flash Memory Device and Manufacturing Method Therefor

ABSTRACT

A Flash memory [500] is provided having a trilayer structure [512] of rapid thermal oxide/germanium (Ge) nanocrystals [510] in silicon dioxide (SiO_2)/sputtered SiO_2 cap [516] with demonstrated via capacitance versus voltage (C-V) measurements having memory hysteresis due to Ge nanocrystals [510] in the middle layer of the trilayer structure [512]. The Ge nanocrystals [510] are synthesized by rapid thermal annealing of a co-sputtered Ge+SiO_2 layer [516].

FIGURE 6

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