

20th World Summit on Nanotechnology and Expo

October 05-06, 2018 | Los Angeles, USA

Characterization of nano-floating gate memory with ZnO nanoparticles embedded in a polymeric matrix

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Metal chemical compound nanoparticles square measure embedded in a very polyimide matrix by a reaction between a metal skinny film and polyamic acid. The electrical characteristics of the ZnO nanoparticles square measure investigated with a floating gate condenser structure by capacitance-voltage (C-V) measure. The C-V characteristics ensuing from metal deposition modulation and also the existence of a SiO₂ layer also are investigated. As a result, ZnO particles with a SiO₂ tunneling barrier show a C-V physical phenomenon voltage gap of 2.8V at three hundred K. ZnO particles directly set on a Si substrate show a C-V physical phenomenon dimension of 1.5V at 80K. This electrical characterization is mentioned for applications to nano floating-gate memory devices.

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