Three dimensional simulation of thermal pad using nanomaterial, nano-silver in semiconductor and electronic component application.

Abstract

Thermal pad is new technology in this world that been used in PLCC in order to reduce junction temperature to the minimum level in electronic components. In electronic industry, the electronic components that exceed 70°C will malfunction and damage due to the overheated. The design is used nano-silver as main material in thermo pad because it has high value of thermal conductivity and enables to dissipate heat very efficiently. The simulation of thermal pad in semiconductor is using FLUENT^{TM} software. The results from simulation is been compared to the results from experiment. The differences between those results are less than 10%. The advantages of thermal pad are enables to reduce junction temperature of PLCC 20-30%. It also had constant thickness in order to get constant and accurate results.