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Wire Bond Shear Test Simulation on Sharp Groove Surface Bond Pad

Abstract

Wire bonding process is first level interconnection technology used in the semiconductor packaging industry. The wire bond shear tests are used in the industry to examine the bond strength and reliability of the bonded wires. Hence, in this study thesimulation on wire bond shear test is performed on a sharp groove surface bond pad. ANSYS ver 11 was used to perform the simulation. The stress response of the bonded wires are investigated.The effects of three wire materials gold(Au), aluminum(Al) and copper(Cu) on the stress response during shear test were examined. The simulation results showed that copper wire bond induces highest stress and gold wire exhibits the least stress response.

Keywords; ANSYS, Sharp Groove Surface, Shear Test, Wire Bond