

Abstract

Through Silicon Via are the widely used interconnects in the semiconductors industry. They are designed in different ways to meet the market demands. These interconnect need protection from both internal and external pressures. The pressures result from heating of the components on the chip which enhances expansion and contraction. Silicon dioxide has been the commonly used Through Silicon Via liner. We propose the use of polystyrene and polypropylene carbonate as liners to reduce overdependence on silicon dioxide. We compare deformations and stresses among the materials and noted that silicon dioxide had the least deformation and hoop stress values. We did further research and realized that the latter two materials have some good properties not found in silicon dioxide so they can also serve as better liners.