

## **Abstract**

Recently, there has been a lot of research with electronic products because more and different functions are integrated into devices and the final product sizes have to be small to meet the market demand. A lot of research has been done on the (TSVs) Through Silicon Vias. In this paper, through silicon via liners are investigated. The liners: silicon dioxide, polystyrene and polypropylene carbonate are exposed to pressure on their inner surfaces and this yielded hoop stresses within their thickness. Deflections too occurred and this is a proof that deformation really took place. In one of our papers, hoop stresses for the same materials were investigated. The values were a little higher but different for each material used. In this paper, we use global cylindrical, partial cylinder model with different theta in Analysis system 14 to model the through silicon via liners. The values are lower meaning the reliability of the liners have been optimized and boosted. However, silicon dioxide liner had the lowest hoop stress around its circumference and lowest deflection value meaning that it's still one of the most reliable materials in the manufacture of through silicon via liners in the industry; but overdependence can be avoided if the other liners are used too.