Glass Enabled Systems Integration

Jeb Flemming, President & CEO – 3D Glass Solutions, Albuquerque, NM

E-Mail: jeb.flemming@3dglasssolutions.com

Abstract

Interposer technologies are gathering more importance in IC packaging as the industry continues miniaturization trends in microfabrication nodes and IC packaging to meet design and utility needs in consumer electronics. Furthermore, IC packaging is widely seen as a method to prolong Moore’s law. Historically, laminates and silicon has been the materials of interest for interposer materials given their prevalence in IC production; however, they present many limitations in material and technical capabilities. In contrast, glass is becoming viewed as an economically and technically viable option for RF-based IC packaging. In this publication we present a novel photo-definable glass ceramic material for the wafer level packaging of RF electronics. Furthermore, we present on our efforts to leverage this materials unique processing capabilities to create High-Q passive devices, such as inductors through an undercutting manufacturing process.

Index Terms - Glass, packaging, dielectric material, through-glass-vias.