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Process For Making Fine Pitch Connections Between Devices and Structure Made by the Process

Abstract

A semiconductor device structure including fine-pitch connections between chips is fabricated using stud/via matching structures. A stud (20) is provided on the front surface of the chip (2), and a layer with interconnection wiring is formed on a transparent plate. The wiring layer includes a conducting pad on a surface thereof opposite the plate. A second layer is formed on top of the wiring layer, with a via formed to expose the conducting pad. The stud (20) and via are aligned and connected; the front surface of the chip thus contacts the second layer and the stud (20) makes electrical contact with the conducting pad. A chip support is attached to the device. An interface between the wiring layer and the plate is exposed to ablating radiation; the plate is then detached and removed. This method permits interconnection of multiple chips at close proximity and with very high wiring density.

Fig 2A.

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