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(54) Title: **OXIDE-BONDED WAFER PAIR SEPARATION USING LASER DEBONDING**

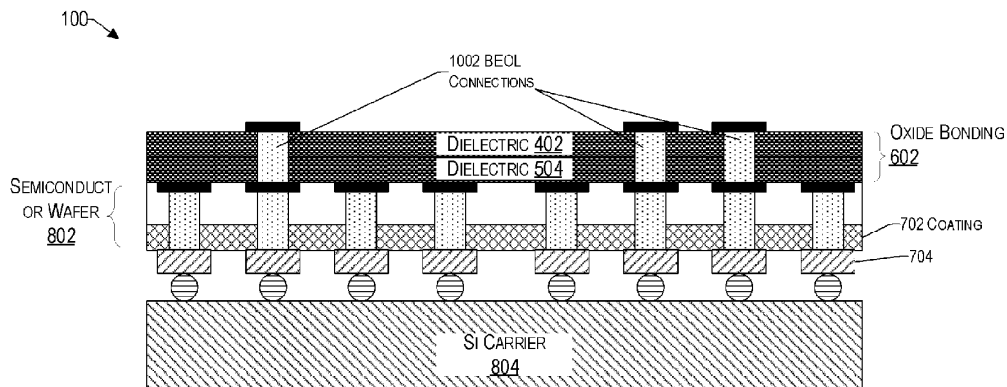


FIG. 1

(57) Abstract: A method of fabricating a semiconductor structure includes forming a scissionable layer that is able to absorb infrared (IR) radiation, below a first carrier wafer. A first hard-dielectric layer is formed below the scissionable layer. A second hard-dielectric layer is formed on a top surface of a semiconductor wafer. The first dielectric layer is bonded with the second dielectric layer. Connectors on a bottom portion of the semiconductor wafer are formed to provide an electric connection to the semiconductor wafer. A second carrier wafer is connected to the connectors on the bottom portion of the semiconductor wafer. The first carrier wafer is separated from the semiconductor wafer by degrading the scissionable layer with an IR, by passing the IR through the first carrier wafer. A back end of line (BEOL) wiring passing from a top surface of the semiconductor wafer through the first and second dielectric layers is provided.

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