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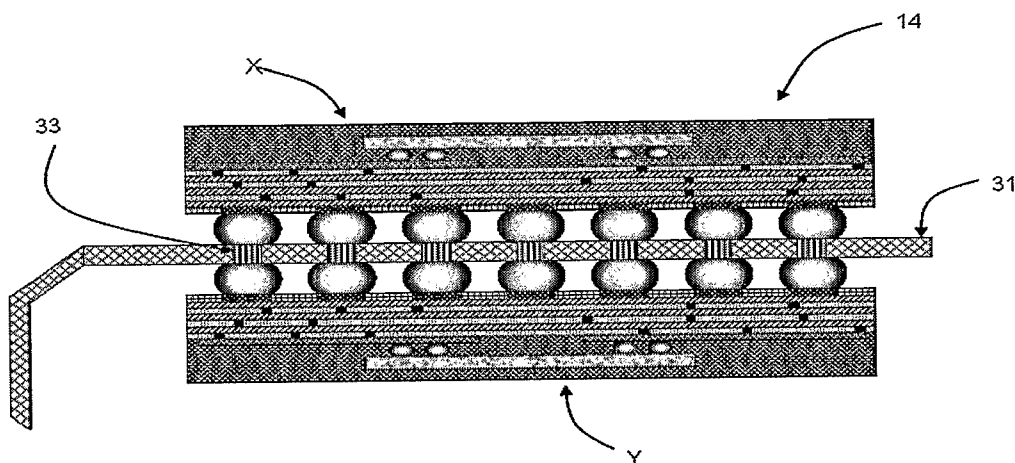
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(54) Title: INTEGRATED CIRCUIT DEVICE AND METHOD OF MANUFACTURING THEREOF



(57) Abstract: A method of manufacturing an integrated circuit (IC) device is disclosed. A wafer including multiple dies is processed to form solder bumps at the bond pad locations. A conductive substrate is patterned for routing traces and connection pads and partially etched. Routers are formed to electrically route a connection pad to the interior of its corresponding routing terminals. The etched connection pads corresponds to the plurality of bond pad locations of the IC chip. The bumped IC chip is aligned and attached to the conductive substrate through the connection pads and solder bumps. The attached IC chip and the first side of the conductive substrate are then encapsulated. Un-processed conductive material is then removed from a second side of the substrate, opposite the first side, to expose the routers and routing terminals. Contacts are formed on the second side of the substrate that electrically connect with the routers in the interior of the connection pads to thereby electrically connect with the connection terminals on the first side of the IC chip. The packaged IC are then separated along the separation lines to produce individualized dies. An IC device including a separated die is also disclosed.

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