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Binding Site Design for The Micro Conductive Bead Assembly in Flip Chip Bonding

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Abstract

This paper presents a high-density assembly technology and design rules of micro-conductive-bead (4-10μm) assembly. The technology uses photoresist as a non-conductive binding adhesive for beads binding. With resolution quality limited only by photolithography, the method can significantly decrease the bonding pad size of up-to-date circuit chips and PCB boards, thus, it can lead to an increased interconnection density and a reduction in cost. Due to the randomized nature of the bead distribution on bonding pads in the process, we also develop a MATLBR based design tool to provide a guideline for the quality control of the assembly process.

Key words：Micro bead;Assembly