

IN-SITU MELT AND REFLOW PROCESS FOR FORMING FLIP-CHIP INTERCONNECTIONS AND SYSTEM THEREOF

Abstract

5 A method for fabricating a flip-chip semiconductor package. The method comprises processing a semiconductor device, for example a semiconductor chip and processing a device carrier, for example a substrate. The semiconductor device comprises bump structures formed on a surface thereof. The substrate comprises bond pads formed on a surface thereof. Processing of the semiconductor chip results in heating of the
10 semiconductor chip to a chip process temperature. The chip process temperature melts solder portions on the bump structures. Processing of the substrate results in heating of the substrate to a substrate process temperature. The method comprises spatially aligning the semiconductor chip in relation to the substrate to correspondingly align the bump structures in relation to the bump pads. The semiconductor chip is then
15 displaced towards the substrate for abutting the bump structures of the semiconductor chip with the bond pads of the substrate to thereby form bonds therebetween. A system for performing the above method is also disclosed.

20 **Figure 1**