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CHALLENGE IN FREE AIR BALLS FORMATION OF COPPER DURING THERMOSONIC WIRE BONDING PROCESS

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ABSTRACT

Copper wire ball bonding has gained popularity recently due to its economic advantages and superior electrical and mechanical performances. Although it has great advantages compared to gold, however, it still not been widely used in industry because of some challenges that need to be addressed. One of the main challenges in this copper wire bonding process is to form a free air ball (FAB) without being oxidized. This paper reviews the difficulties and challenges that the semiconductor industries faced during copper wire bonding process in order to get the perfectly spherical and bright surface of FAB without signs of oxide scales.

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