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SEMICONDUCTOR PACKAGE SINGULATING SYSTEM AND METHOD

Abstract

Integrated circuit (IC) chips are fabricated with multiple IC chips being typically arranged on a single substrate which is singulated to obtain individually separated packages of IC chips therefrom. Generally, the packages forming the substrate are separated using a saw, a dicing saw or the like cutting devices. The substrate is often supported on a rubber pad which interfaces the substrate and a saw jig or the like support. Air is then extracted through a plurality of holes formed in the rubber pad for creating a vacuum therethrough. The vacuum secures the substrate to the saw jig both before and after the packages are separated and during the sawing thereof. In addition to the use of vacuum, typical methods and systems use adhesive pads for further securing the substrate. However, these conventional methods and systems suffer from the need for an additional step of substrate removal. An embodiment of the invention discloses a saw jig for supporting a substrate on a compressible support pad. A clamp is mountable onto the saw jig for clamping the substrate therebetween without impeding access of a saw blade to the substrate. Vacuum through channels formed in the support pad and saw jig generates suction forces for positionally immobilising the substrate in combination with the clamping forces of the clamp during singulation of the substrate by the saw blade.

Figure 1a

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