

Abstract

SEMICONDUCTOR DEVICE AND METHOD OF FORMING PENETRABLE FILM ENCAPSULANT AROUND SEMICONDUCTOR DIE AND INTERCONNECT STRUCTURE

A semiconductor device has a plurality of bumps formed over a carrier. A semiconductor die is mounted to the carrier between the bumps. A penetrable film encapsulant layer having a base layer, first adhesive layer, and second adhesive layer is placed over the semiconductor die and bumps. The penetrable film encapsulant layer is pressed over the semiconductor die and bumps to embed the semiconductor die and bumps within the first and second adhesive layers. The first adhesive layer and second adhesive layer are separated to remove the base layer and first adhesive layer and leave the second adhesive layer around the semiconductor die and bumps. The bumps are exposed from the second adhesive layer. The carrier is removed. An interconnect structure is formed over the semiconductor die and second adhesive layer. A conductive layer is formed over the second adhesive layer electrically connected to the bumps.

(Fig. 5)