Abstract

SEMICONDUCTOR DEVICE AND METHOD OF FORMING CONDUCTIVE VIAS THROUGH INTERCONNECT STRUCTURES AND ENCAPSULANT OF WLCSP

A semiconductor device has a semiconductor die mounted over the carrier. An encapsulant is deposited over the carrier and semiconductor die. The carrier is removed. A first interconnect structure is formed over the encapsulant and a first surface of the die. A second interconnect structure is formed over the encapsulant and a second surface of the die. A first protective layer is formed over the first interconnect structure and second protective layer is formed over the second interconnect structure prior to forming the vias. A plurality of vias is formed through the second interconnect structure, encapsulant, and first interconnect structure. A first conductive layer is formed in the vias to electrically connect the first interconnect structure and second interconnect structure. An insulating layer is formed over the first interconnect structure and second interconnect structure and into the vias. A discrete semiconductor component can be mounted to the first interconnect structure.
(Fig. 3j)