Abstract

SEMICONDUCTOR DEVICE AND METHOD OF MOUNTING PRE-FABRICATED SHIELDING FRAME OVER SEMICONDUCTOR DIE

A semiconductor device includes a pre-fabricated shielding frame mounted over a sacrificial substrate and semiconductor die. An encapsulant is deposited through an opening in the shielding frame around the semiconductor die. A first portion of the shielding frame to expose the encapsulant. Removing the first portion also leaves a second portion of the shielding frame over the semiconductor die as shielding from interference. A third portion of the shielding frame around the semiconductor die provides a conductive pillar. A first interconnect structure is formed over a first side of the encapsulant, shielding frame, and semiconductor die. The sacrificial substrate is removed. A second interconnect structure over the semiconductor die and a second side of the encapsulant. The shielding frame can be connected to low-impedance ground point through the interconnect structures or TSV in the semiconductor die to isolate the die from EMI and RFI, and other inter-device interference.

(Fig. 4)