Abstract

SEMICONDUCTOR DEVICE AND METHOD OF MOUNTING DIE WITH TSV IN CAVITY OF SUBSTRATE FOR ELECTRICAL INTERCONNECT OF FI-POP

A semiconductor device has a substrate with a cavity formed through first and second surfaces of the substrate. A conductive TSV is formed through a first semiconductor die, which is mounted in the cavity. The first semiconductor die may extend above the cavity. An encapsulant is deposited over the substrate and a first surface of the first semiconductor die. A portion of the encapsulant is removed from the first surface of the first semiconductor die to expose the conductive TSV. A second semiconductor die is mounted to the first surface of the first semiconductor die. The second semiconductor die is electrically connected to the conductive TSV. An interposer is disposed between the first semiconductor die and second semiconductor die. A third semiconductor die is mounted over a second surface of the first semiconductor die. A heat sink is formed over a surface of the third semiconductor die.
(Fig. 4)