

Abstract

SEMICONDUCTOR DEVICE WITH OPTICAL SENSOR AND METHOD OF FORMING INTERCONNECT STRUCTURE ON FRONT AND BACKSIDE OF THE DEVICE

A semiconductor package has a semiconductor die with an optically active region which converts light to an electrical signal. An expansion region is formed around the semiconductor die. A through hole via (THV) is formed in the expansion region. Conductive material is deposited in the THV. A passivation layer is formed over the semiconductor die. The passivation layer allows for passage of light to the optically active region of the semiconductor die. A glass layer is applied to the passivation layer. A first RDL is electrically connected between the THV and a contact pad of the semiconductor die. Additional RDLs are formed on a front and back side of the semiconductor die. An under bump metallization (UBM) layer is formed over and electrically connected to the intermediate conduction layer. Solder material is deposited on the UBM and reflowed to form a solder bump. (Fig. 6)