Abstract

SEMICONDUCTOR DEVICE AND METHOD OF FORMING SEMICONDUCTOR DIE WITH ACTIVE REGION RESPONSIVE TO EXTERNAL STIMULUS

A semiconductor device has a first semiconductor die including an active region formed on a surface of the first semiconductor die. The active region of the first semiconductor die can include a sensor. An encapsulant is deposited over the first semiconductor die. A conductive layer is formed over the encapsulant and first semiconductor die. An insulating layer can be formed over the first semiconductor die. An opening is formed in the insulating layer over the active region. A transmissive layer is formed over the first semiconductor die including the active region. The transmissive layer includes an optical dielectric material or an optical transparent or translucent material. The active region is responsive to an external stimulus passing through the transmissive layer. A plurality of bumps is formed through the encapsulant and electrically connected to the conductive layer. A second semiconductor die is disposed adjacent to the first semiconductor die.

(Fig 5)