

Abstract

A semiconductor device has a substrate. A conductive via is formed through the substrate. A plurality of first contact pads is formed over a first surface of the substrate. A plurality of second contact pads is formed over a second surface of the substrate. A dummy pattern is formed over the second surface of the substrate. An indentation is formed in a sidewall of the substrate. An opening is formed through the substrate. An encapsulant is deposited in the opening. An insulating layer is formed over second surface of the substrate. A dummy opening is formed in the insulating layer. A semiconductor die is disposed adjacent to the substrate. An encapsulant is deposited over the semiconductor die and substrate. The first surface of the substrate includes a width that is greater than a width of the second surface of the substrate.

(Fig 6)