

Abstract

A semiconductor device has a substrate where a portion of the substrate constitutes a blank area absent a conductive layer. A first insulating layer is formed over the blank area. A second insulating layer is formed over the first insulating layer. A plurality of first openings is formed in the first insulating layer over the blank area. A plurality of second openings is formed in the second insulating layer over the blank area. The first openings and second openings can be arranged in parallel rows, oval, circular, serpentine, random, or other geometric shape. A portion of the second openings is aligned with the first openings. A portion of the second openings is offset with respect to the first openings. A third insulating layer, arranged as a plurality of islands of insulating material, can be formed over the substrate within the blank area.

(Fig.2i)