

ABSTRACT

A semiconductor device including high-integrated memory cells and a method for fabricating the semiconductor device is provided.

- 5 The semiconductor device includes a vertical arrangement and a horizontal arrangement of nano sheets; horizontal conductive lines horizontally oriented while surrounding the horizontal arrangement of the nano sheets; pads coupled to edge portions of the horizontal conductive lines; and inter-pad dielectric layers disposed between the
- 10 pads, each inter-pad dielectric layer including an air gap.

FIG. 4D