

ABSTRACT

A semiconductor device and a data storage system including the same are provided. The semiconductor device includes: a lower structure having a memory cell array area and an outer peripheral area outside the memory cell array area; and an upper structure on the lower structure. The upper structure includes: a pad including a first lower conductive pattern provided on the outer peripheral area and an upper conductive pattern on the first lower conductive pattern; and an inductor portion extending from the upper conductive pattern and overlapping the memory cell array area, and having a spiral coil shape at a level farther from the lower structure than the first lower conductive pattern.

FIG. 6C