

ABSTRACT

A semiconductor device may include a semiconductor substrate, a channel pattern on a first surface of the semiconductor substrate, source/drain patterns on the first surface of the semiconductor substrate and on both sides of the channel pattern, a contact electrode electrically connected to the source/drain patterns, a lower wiring structure on the second surface of the semiconductor substrate, and a through via penetrating the semiconductor substrate and connecting the contact electrode and the lower wiring structure to each other. The lower wiring structure may include a first metal line connected to a first voltage, a second metal line connected to a second voltage, and an auxiliary electrode electrically connected to one of the first metal line and the second metal line. The auxiliary electrode may overlap and be insulated from an other of the first metal line and the second metal line.

FIG. 1