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(54) **SEMICONDUCTOR DEVICE AND
MANUFACTURING METHOD OF
SEMICONDUCTOR DEVICE**

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ABSTRACT

A semiconductor device includes a gate stack with conduc-
tive layers and insulating layers that are stacked alternately
with each other, a first channel pattern passing through the
gate stack, a second channel pattern coupled to the first
channel pattern, the second channel pattern protruding
above a top surface of the gate stack, an insulating core
formed in the first channel pattern, the insulating core
extending into the second channel pattern, a gate liner with
a first portion that surrounds a top surface of the gate stack
and a second portion that surrounds a portion of a sidewall
of the second channel pattern, and a barrier pattern coupled
to the gate liner, the barrier pattern surrounding a remaining
portion of the sidewall of the second channel pattern.

