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(54) **SEMICONDUCTOR SWITCHING DEVICES
HAVING FERROELECTRIC LAYERS
THEREIN AND METHODS OF
FABRICATING SAME**

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(57)

ABSTRACT

A semiconductor device includes a substrate, a channel on or
in the substrate, a source/drain pair respectively on opposite
ends of the channel, and a gate structure on the channel
between the source/drain pair, wherein the gate structure
includes an interfacial layer, a ferroelectric layer, a stabili-
zation layer, an oxygen diffusion barrier layer, and a thresh-
old voltage control layer that are sequentially stacked on the
channel.

