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(54) **APPARATUS AND CIRCUITS WITH DUAL
POLARIZATION TRANSISTORS AND
METHODS OF FABRICATING THE SAME**

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(57)

ABSTRACT

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Apparatus and circuits with dual polarization transistors and methods of fabricating the same are disclosed. In one example, a semiconductor structure is disclosed. The semiconductor structure includes: a substrate; an active layer that is formed over the substrate and comprises a first active portion having a first thickness and a second active portion having a second thickness; a first transistor comprising a first source region, a first drain region, and a first gate structure formed over the first active portion and between the first source region and the first drain region; and a second transistor comprising a second source region, a second drain region, and a second gate structure formed over the second active portion and between the second source region and the second drain region, wherein the first thickness is different from the second thickness.

