

ABSTRACT

A semiconductor device is provided. The semiconductor device includes: a bit line provided on a substrate and extending along a first horizontal direction; a mold structure provided on the bit line, extending along a second horizontal direction crossing the first horizontal direction, and including a metal layer; an active semiconductor layer extending along a vertical direction on a side wall of the mold structure and including an oxide semiconductor; and a word line provided on a side wall of the active semiconductor layer and extending along the second horizontal direction. At least a portion of the side wall of the active semiconductor layer is in contact with the metal layer.

FIG. 3