

ABSTRACT

A semiconductor device including a transistor on a substrate, the transistor including a conductive pattern; a first metal layer on the transistor, the first metal layer including a first wiring line and a first via below the first wiring line; and an etching stop layer between the transistor and the first metal layer. The first via penetrates the etching stop layer and connects the conductive pattern and the first wiring line. The first via includes a first barrier pattern, a second barrier pattern on the first barrier pattern, and a side barrier pattern between the second barrier pattern and the etching stop layer. The side barrier pattern includes a transition metal oxide.

FIG. 6A