

ABSTRACT

SEMICONDUCTOR DEVICE

The concentration of impurity elements included in an oxide semiconductor film in the vicinity of a gate insulating film is reduced. Further, crystallinity of the oxide semiconductor film in the vicinity of the gate insulating film is improved. A semiconductor device includes an oxide semiconductor film over a substrate, a source electrode and a drain electrode over the oxide semiconductor film, a gate insulating film which includes an oxide containing silicon and is formed over the oxide semiconductor film, and a gate electrode over the gate insulating film. The oxide semiconductor film includes a region in which the concentration of silicon is lower than or equal to 1.0 at.%, and at least the region includes a crystal portion.

Fig. 1B