

ABSTRACT

**METHOD FOR MANUFACTURING OXIDE SEMICONDUCTOR FILM,
METHOD FOR MANUFACTURING SEMICONDUCTOR DEVICE, AND
SEMICONDUCTOR DEVICE**

In an oxide semiconductor film formed over an insulating surface, an amorphous region remains in the vicinity of the interface with the base, which is thought to cause a variation in the characteristics of a transistor and the like. A base surface or film touching the oxide semiconductor film is formed of a material having a melting point higher than that of a material used for the oxide semiconductor film. Accordingly, a crystalline region is allowed to exist in the vicinity of the interface with the base surface or film touching the oxide semiconductor film. An insulating metal oxide is used for the base surface or film touching the oxide semiconductor film. The metal oxide used here is an aluminum oxide, gallium oxide, or the like that is a material belonging to the same group as the material of the oxide semiconductor film.

Fig. 2C